Report Of The 2016 Workers' Compensation Task Force

Research Memorandum No. 521

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(2016 House Concurrent Resolution 185)

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Foreword

The Workers' Compensation Task Force was established by the 2016 General Assembly with the enactment of House Concurrent Resolution 185. The task force was charged with studying the current workers' compensation system in Kentucky, providing an analysis, and developing consensus recommendations regarding proposed legislation related to the improving the delivery of workers' compensation benefits to injured workers.

The task force co-chairs would like to thank the task force members, all the speakers who presented information, the Workers' Compensation Research institute for its presentation and study, and the Department of Workers' Claims for its presentation and statistics.

The task force was directed to report its findings to the Legislative Research Commission by December 1, 2016. This is the report of the task force.

David A. Byerman
Director

Legislative Research Commission
Frankfort, Kentucky
November 2016

Contents

Appendices

Summary

The General Assembly of 2016 adopted House Concurrent Resolution 185, which established the Kentucky Workers' Compensation Task Force. The 24-member task force, made up of legislators and citizen members and 2 ex officio members from the Labor Cabinet, was required to study the current workers' compensation system in Kentucky and to make consensus recommendations for proposed legislation.

The task force met four times in 4 months to gather information regarding Kentucky's workers' compensation system and determine whether consensus recommendations could be reached. In addition, the members were asked to provide answers to four questionnaires about current issues in the workers' compensation system to determine whether a consensus could be reached.

Report Of The 2016 Workers' Compensation Task Force

The Kentucky Workers' Compensation Task Force was required to study and analyze Kentucky's current workers' compensation system. In addition, the task force was to develop consensus recommendations concerning possible procedural and substantive changes to the workers' compensation system in Kentucky. The task force was required to meet at least three times and to prepare this report with a detailed analysis of Kentucky's workers' compensation system and recommendations regarding proposed legislation. (See Appendix A.) The task force met four times and obtained a significant amount of information regarding Kentucky's current workers' compensation system. The task force also sent four questionnaires to members to determine whether any consensus could be reached.

At the first meeting, Commissioner Dwight T. Lovan of the Department of Workers' Claims (DWC) presented a historical view and the current status of Kentucky's workers' compensation system. Dr. John Ruser and Laure Lamy of the Workers Compensation Research Institute presented information regarding a study on Kentucky at the first meeting, held on August 19, 2016.

The second meeting of the task force was held on September 16, 2016. Three speakers were present: Scott Miller, an attorney from Shepherdsville who presented from the viewpoint of an injured worker's attorney; Terri Smith Walters, an attorney from Pikeville who presented from the viewpoint of an employer's attorney; and Donna Terry, a retired workers' compensation administrative law judge and current mediator, who provided her viewpoint as a retired adjudicator in the compensation system. Each speaker was asked to provide insight on the Kentucky Workers' Compensation System and to make recommendations to improve it.

At the third meeting, held on October 21, 2016, Gen. Reuben Jones, executive director of the Kentucky Workers' Compensation Funding Commission, spoke regarding workers' compensation fund assessments. In addition, three neurosurgeons—Dr. John J. Guarnaschelli, Dr. Russell L. Travis, and Dr. James R. Bean—presented information and provided their expertise regarding medical issues in the workers' compensation system.

Jason Bailey, executive director of the Kentucky Center for Economic Policy, Ed O'Daniel, attorney and former legislator, and Landon Overfield, former administrative law judge and current mediator, spoke at the fourth and final meeting of the task force, held on November 18, 2016. The speakers presented statistics on workers' compensation insurance carriers and claims in system as well as examining the good qualities of the current system versus needed changes to the system.

This report summarizes the information presented to the task force. Documents presented to the task force members, questionnaires with results, and members' comments on the report are attached as appendices.

History And Current Status Of Kentucky's Workers' Compensation System

Lovan, an ex officio member of the task force, presented a short history and primer on workers' compensation in Kentucky, noting that Kentucky's workers' compensation system was 100 years old in 2016. The first Workers' Compensation Act was effective in 1914, but that statute was declared unconstitutional. Kentucky's workers' compensation system is purely a statutory creation. The Kentucky Workers' Compensation Act is found in KRS Chapter 342. (See Appendix B.)

As the country started to become more industrialized, the workers' compensation system began as an agreement between labor and industry to place the responsibility for workplace injuries and diseases with the industry in which they occurred rather than with the general public. Both employee and employer gained and lost something with the creation of workers' compensation. The employee gained the expediency and certainty of benefits being delivered but lost certain aspects of a personal injury claim that an injured worker would no longer receive, such as consideration of pain and suffering. For the employer, workers' compensation is the exclusive remedy, and Kentucky has historically been strong in upholding the exclusive remedy provisions. An employer cannot have tort liability to an employee, and even if an employer is negligent, the employee cannot file suit in Circuit Court. Workers' compensation is state specific and varies from state to state, which makes interstate comparisons difficult because indemnity benefits, medical benefits, length of benefits, definitions of injury, and almost all other components of the system differ from state to state.

In Kentucky, any person or entity with one or more employees is considered an employer and must provide workers' compensation coverage through either an insurance company or a self-insurance group, or must be authorized to self-insure its liability. Failure to do so results in a citation from the Department of Workers' Claims. Exemptions to the Workers' Compensation Act include agriculture employees, some domestic workers in private homes, those working for sustenance for a charitable or religious organization, those covered by federal law, and certain religious organizations, among others. Lovan said up-the-ladder coverage can become an issue particularly in the construction industry when there may be a number of subcontractors. In Kentucky, six self-insurance groups participate in the workers' compensation system and 108 self-insured employers are certified through the Department of Workers' Claims. The state has 213 licensed insurance companies providing workers' compensation to employers as well a competitive state fund, which is a mutual insurance company, Kentucky Employers Mutual Insurance Company (KEMI), which was created in 1994.

There have been several major changes to the state's workers' compensation system. In 1973, major statutory changes were made that included all income benefits becoming lifetime benefits with both permanent partial disability and permanent total disability. The definitions of what constitutes an injury were also modified. At that time, the occupational disease portion of the law became more significant. In Kentucky, the foremost occupational disease is coal workers' pneumoconiosis, better known as black lung disease. The 1973 modifications were in effect until more changes were made in 1980. Weekly income benefits increased, and permanent partial disability was limited to 425 weeks instead of lifetime. A task force formed in 1987 altered the adjudicatory system itself, changing from a part-time workers' compensation board to an

administrative law judge system with an appellate body known as the Workers' Compensation Board. This system remained in force without major changes until 1994, when permanent partial disability was addressed substantially and retraining incentive benefits were added to the portion of the law covering black lung disease. In 1996, a special session addressed black lung disease and made permanent partial disability follow a more strict mathematical formula involving guidelines from the American Medical Association. Generally, Kentucky is still operating under the 1996 law. Although small changes were made in 2000 and 2002, the workers' compensation system in the state has been fairly stable for about 20 years.

The National Council on Compensation Insurance (NCCI) conducts a yearly review of Kentucky's workers' compensation system. NCCI receives data from every insurance carrier that writes workers' compensation insurance in Kentucky. It performs an annual loss cost filing and presents to the Kentucky Department of Insurance for its approval. Insurance companies receive the opportunity to review the Department of Insurance's loss cost recommendations to determine whether they want to alter their premiums. On August 18, 2016, NCCI presented its annual state advisory forum for Kentucky when it recommended a 5 percent reduction on the loss cost for industrial classes. (See Appendix C.) The Kentucky Department of Insurance approved the rate filing, and it was effective on October 1, 2016, which is the 10th year in which there has been a recommended loss cost reduction. Overall, from 2006 to the current year, the recommended total loss cost reduction is 53.5 percent. There is not an automatic direct reduction in premiums because premiums are based on different factors and are employer specific. For example, KEMI may decide not to reduce its premiums by 5 percent based on its research, data, and experience.

NCCI does a separate rate filing for the coal industry. The recommendation for the coal industry was a 25 percent increase on underground mining and an 18 percent increase on surface mining. There are unique issues concerning the coal industry and workers' compensation that warrant a separate filing.

Lovan highlighted that NCCI reported that medical expenses are 57 percent of every workers' compensation dollar, compared to 68 percent 9 years ago. In response to questions, he indicated that NCCI has done a study on pharmaceuticals in particular, and within the last 10 years pharmaceuticals have moved from 6 percent to about 20 percent of the total medical dollar.

Lovan mentioned Oregon's biennial workers' compensation study, which reviews all states' workers' compensation systems. It compares about 50 employment codes that are considered to be consistent across all states and compares them in terms of cost per dollar in workers' compensation. The Oregon study makes a rating of 1 to 50, with 1 being the worst and 50 being the best. In 2014, Kentucky was rated at 44, compared to a rating of 27 in 2012, with regard to cost to employers. Lovan said other states look to Kentucky as an exceptional example for a stable workers' compensation system.

Lovan said that, in recent years, the most significant change to the workers' compensation system was due to *Vision Mining, Inc. v. Gardner*, 364 S.W.3d 455 (Ky. 2011), which found the provisions of KRS 342.316 regarding the consensus process and panel process used to determine eligibility for black lung benefits to be unconstitutional under the Equal Protection Clause. This ruling completely changed how black lung claims are handled. There are several provisions in

KRS 342.316 that are now unconstitutional but are still on the books. Co-Chair Chris Harris suggested the removal of those unconstitutional laws from statute through recommendations of the task force.

Lovan also provided various statistics compiled by the Department of Workers' Claims to task force members. (See Appendix D.) The statistics related to attorney fees, first report of injuries, claims filed, fatalities, safety penalties, as well as other subjects. The commissioner also provided a copy of the department's quarterly report, titled *The Link,* and the workers' compensation benefit schedule. Included in Lovan's information was a breakdown of formal hearings and benefit review conferences by county for 2014 and 2015.

Dr. John Ruser, CEO and president, and Laure Lamy, regional director, of the Workers Compensation Research Institute (WCRI) presented findings from the institute's 2016 CompScope benchmarking study and injured worker outcome study relating to Kentucky's workers' compensation system. (See Appendix E.) WCRI is a not-for-profit public policy organization with an objective to research important public policy issues in workers' compensation systems. WCRI does not make policy recommendations or take positions on issues. Its quality of research is assured through external peer reviews.

Ruser presented information from the 16th edition of the CompScope study, which compares workers' compensation delivery systems. This was the first year that the study included Kentucky. Every member of the task force received a copy of the study courtesy of WCRI. The study includes 18 states that account for 70 percent of the workers' compensation benefits in the United States.

Compared to other states, Kentucky had a system that was typical (meaning it fell in the middle of the distribution of values for other states) in overall payment per claims, in claims with 7 days of lost time, and in overall expenses to deliver medical and indemnity costs to injured workers. Kentucky was lower than typical with regard to medical payments per claim. Kentucky was higher than typical with regard to medical and legal expenses, which involves medical and legal examinations, reports, testimonies, and depositions of medical experts.

The study showed that Kentucky's costs for all paid claims was 23 percent lower than the 18-state median. Kentucky's average cost per all paid claims was $7,636, compared to a median of $9,940. In Kentucky, no income benefits are paid for the first 7 days of a disability unless the disability continues for more than a week. Therefore, Kentucky has fewer claims with more than 7 days of lost time, at only 18 percent of all claims while the median is 21 percent.

Kentucky's total payments per claim with more than 7 days of lost time were typical, with an average of $38,299 and a median of $39,273. Ninety percent of these claims are over 7 days of disability. Kentucky has a higher number of weeks of temporary disability. The duration at 16 weeks for Kentucky of temporary total disability was 3 weeks longer than that of median states. Another contributing system feature is that fewer claims in Kentucky receive permanent disability or lump sum payments.

Ruser discussed Kentucky's medical costs. Over a 12-month period, Kentucky's average medical payment per claim was 13 percent lower than that of the median state at $10,655. Factors that affected medical payments per claim were prices paid for medical services, outpatient facility payments, and ambulatory surgery center facility payments. In Kentucky, prices paid for professional services were 14 percent lower than the median.

Ruser noted that most of Kentucky's expenses per claim were typical, such as medical cost containment expenses per claim, percentage of claims with defense attorneys, and defense attorney payments per claim; however, Kentucky's medical and legal expenses per claim were 23 percent higher than those of the median state at $2,142 compared to $1,738.

Overall, the study showed that Kentucky's costs per claim have changed little from 2009 until 2014, only a 2.3 percent increase. In Kentucky, total costs per claim grew slightly more slowly than in the median study state.

Ruser said that WCRI did a telephone survey with injured workers who had more than 7 days of lost time, 3 years after their injury, about key outcomes of physical recovery, speed and sustainability of return to work, earnings recovery, and satisfaction and access to medical care. WCRI found that Kentucky workers reported typical results for most key outcomes except speed and sustainability of return to work. There were 18 percent of Kentucky workers who did not experience a substantial return to work, which is categorized as work sustained for more than 30 days. The 15-state median percentage of workers who had a substantial return to work was 14 percent. Injured workers also reported major issues getting their desired primary provider and desired services, but those findings were within 1 percentage point of the median.

Jason Bailey, executive director of the Kentucky Center for Economic Policy, provided an update on the financial condition of the workers' compensation insurance industry in Kentucky. (See Appendix F.) The commercial workers' compensation insurance industry constitutes about three-fourths of the workers' compensation market in Kentucky, with self-insured employers making up the remainder of the market. The quasi-public provider, Kentucky Employers Mutual Insurance Authority, currently holds approximately 31 percent of the commercial market, with private for-profit insurers making up the balance. No private for-profit individual carrier holds more than 3.71 percent of the market.

Bailey noted that losses in the commercial market decreased by 22 percent between 2005 and 2010. Direct premiums also declined by 22 percent in that same period. In recent years, the environment for workers' compensation carriers has been favorable. KEMI's net income per year averaged $11.2 million between 2004 and 2015. That income has allowed KEMI to build up a policyholder surplus, which totaled $196 million in 2015, an amount that exceeded its total underwriting expenses of $171 million that year. KEMI was able to build the surplus while paying more than $45 million in dividends to policyholders between 2010 and 2014.

Bailey noted that the commercial market has remained consistently profitable since 2006. Profitability was at 19 percent in 2012 and has remained around 10 percent since 2012. In 2014, premiums were only 26.2 percent of the net worth of Kentucky workers' compensation insurers; only three states had a lower ratio. Bailey concluded that the net worth of the carriers is

substantial. He did not have a breakdown of the other commercial market participants with KEMI excluded, but he indicated that the data was likely to be similar. Regarding self-insureds, Bailey noted that the improved environment has translated into growth in net assets from $38 million in 2005 to $132 million in 2015.

Bailey concluded that improved underwriting environment for all writers of workers' compensation insurance in Kentucky has led to consistent profitability, premium reductions, and accumulation of net assets for the insurance industry.

Ed O'Daniel, an attorney who represents several insurance interests including NCCI and several workers' compensation carriers, provided an overview of the Kentucky workers' compensation program from an insurance industry perspective. (See Appendix G.) He noted that loss cost filings have gone down for 11 consecutive years. However, the average indemnity claim severity has risen since the year 2000. The frequency of Kentucky's lost time claims has fallen since 2001. O'Daniel indicated that the number of claims filed has decreased, mainly because of increased safety efforts by employers and employees. He pointed to a well-managed workers' compensation system and fewer severe injuries as reasons for this decline. This reduction in claims has allowed for the total loss costs to go down; however, the value of each of the claims has increased. O'Daniel also pointed out that the applicable state average weekly wage has increased from $571.42 in 2001 to $835.04 in 2015, increasing the cost of indemnity benefits.

O'Daniel said that when he started handling workers' compensation claims in 1970, indemnity benefits were approximately two-thirds of the total costs. However, medical expenses now outpace indemnity benefits. The average medical claim severity remains more than $30,000 per claim. He noted that lifetime medical coverage inflates medical costs, as well as the lack of treatment guidelines or drug formularies. He suggested some cap on medicals in permanent partial disability cases and referred to recent changes in Georgia imposing a specific time frame for medical benefits. O'Daniel said while there is not a significant amount of data available since Georgia's change, savings have been realized since medical benefits were limited there.

O'Daniel mentioned two recent court decisions that have affected the insurance industry. He noted that the courts have loosened the 4-year window for reopening, allowing reopenings well past the 4-year period. This change has resulted in a greater number of reopenings and uncertainty for the insurance industry as it tries to set reserves for its claims. In addition, O'Daniel noted the case law regarding subrogation, pointing out that employers obtain limited recovery, if any, in third-party tortfeasor claims.

O'Daniel mentioned that the Funding Commission is not earning nearly as much on its investments as in the past. In the past, the Funding Commission earned an average of $23 million per year; however, its investment program was changed 4 years ago, and the earnings have dropped significantly. O'Daniel also noted the possibility of allowing for privatization to get rid of the liabilities of the special fund through potential legislation. However, he emphasized that the surcharge would continue as it is used to pay for the workers' compensation adjudicatory system through the Department of Workers' Claims and other labor cabinet agencies.

O'Daniel also mentioned that a greater effort must be undertaken for the retraining of workers through vocational rehabilitation, not just in workers' compensation cases, but statewide. He said the cost to employers should be considered with any changes to vocational rehabilitation in the workers' compensation system.

Gen. Reuben Jones, executive director of the Kentucky Workers' Compensation Funding Commission, provided an update on the Funding Commission and the 2017 assessment rates. (See Appendix H.) The purpose of the Funding Commission is to manage, invest, and control the assessments that are collected to pay the special fund liabilities and fund the workers' compensation adjudicatory system through the Department of Workers' Claims and part of the Labor Cabinet pursuant to KRS 342.122.

The special fund must be fully funded by 2029, and it is on track to meet that deadline. The Funding Commission must annually set assessment rates on workers' compensation insurance premiums. When the board of directors was setting the rates, an actuary presented calculations that included an optimistic estimate and a point estimate. For 2017, the board of directors has adopted the point figure of 6.29 percent for assessment on premiums for the special fund.

Jones discussed the legal basis of the coal workers' pneumoconiosis fund, which differs from the special fund. It requires the Funding Commission to fully fund and prefund all claim liabilities and administrative expenses through December 31 of the next year of operations. The assessment rate authorized for premiums received and tons of coal severed must be set so as to receive 50 percent of the needed revenue from each assessment. In 2015, an optimistic scenario of 5.18 percent was chosen, and such a scenario was chosen again in 2016, nearly tripling the rate to 14.82 percent. The recommended rates for 2017 range from an optimistic scenario of 62.12 percent to a pessimistic scenario of 172.81 percent.

The funding commission researched the causes of the significant impact on the assessment rates of the coal workers' pneumoconiosis fund. One factor driving the increase was the assessment history. For a period of 16 years, the assessment rates ranged from 0 to 1 percent. There have been decreases in coal employers, coal severance tonnage, and coal employees. As a result, there has been an increase in the number of claims and awards with an increase in the severity of the claims. Other factors included investment returns, Environmental Protection Agency regulations, decrease in coal purchases, the Chinese influence in the coal market, and political impacts. Jones said that 23 coal operating companies have gone out of business since 2015, but the amount that the remaining operators are responsible for does not increase because the rates are set for each year.

Jones provided a historical perspective of the changes in the coal industry and the coal workers' pneumoconiosis fund over the years. There has been a 46.83 percent decrease in active coal companies and a 43.78 percent decrease in severed coal tonnage since 2010. Since 2010, the number of coal employees has declined by 44.53 percent. Also since that time, coal workers' pneumoconiosis claims filed have increased by 302 percent, while the increase in actual awards has increased by 6,500 percent. He also pointed out that from 2013 to 2016 the known liability has increased from $12.3 million to $26.9 million. A primary concern for the Funding Commission is the return on investment that is used for the payment of workers' compensation

and the administration of the program. In 2011, there was a 16.41 percent return on investment, but 2016 shows a return on investment of 1.46 percent.

Jones reported that, after considering the options, the board of directors adopted the alternative optimistic rate of 49.50 percent for the coal workers' pneumoconiosis fund. It was the lowest rate that would meet the legal requirement for funding the coal workers' pneumoconiosis fund. The board also adopted an alternative optimistic assessment on coal tonnage of $0.4174.

The assessments for 2017 were approved on September 30, 2016, and become effective January 1, 2017. The first payments are due April 30, 2017. Jones said there have been no recent discussions about getting rid of the liability by moving it to the private sector.

Practitioners' And Former Administrative Law Judges' Perspective

Shepherdsville attorney Scott Miller expressed that workers' compensation should not be a partisan issue or a business and labor issue, but rather an issue that relates to Kentucky families and injured workers. The workers' compensation system in Kentucky is a social system that should provide timely indemnity and medical benefits. The challenge of the system is serving the interests of injured workers while also balancing the competing interests of employers. The last time any changes were made to the system was in 2000, which was supposed to balance out the changes that were made in 1996. No major changes have been made since 2000.

Miller mentioned that one area of concern was the current number of administrative law judges. There is a 35 percent shortage of judges, which puts a larger workload on the current judges, does not allow for each case to be carefully examined, and may lead to more appeals. Miller preferred filling the current open administrative law judge positions with persons experienced in workers' compensation or administrative law, but he felt that the most important goal was the judges be smart and capable. Miller said he did not think it was necessary to require administrative law judges and board members to have at least 5 years of experience exclusively with workers' compensation law. Donna Terry, a retired workers' compensation administrative law judge and current mediator, said that workers' compensation is a very specialized area of law with its own statutes, but that the rules of evidence still apply. Terry said there have been many excellent judges who did not have a background in workers' compensation.

Miller suggested a change to KRS 342.730(4) to increase the age limit upon which income benefits terminate. Currently, income benefits stop once the workers reaches Social Security retirement age. Miller pointed out that people are now working longer, well past Social Security age, according to recent statistics. Therefore, the age at which benefits can be terminated should be moved to 70 years or a minimum of 5 years after the work-related injury. This change would cost the system less than half a percent.

Miller indicated that attorney fees should be increased. There has not been an increase in attorneys' fees in 20 years, which causes some difficulty for parties as well as attorneys. There are many claimants who do not seek legal counsel; however, some complex issues warrant legal assistance. Miller said that it may be difficult for some plaintiffs with claims with a low

impairment rating to obtain representation because of the attorney fee structure. Attorneys may have to advance costs in small cases that end up being a third of the recovery. For higher cases, an attorney can expect a fee of 1 percent to 2 percent because of the $12,000 maximum. An attorney begins to work for free when a settlement of at least $145,000 is reached. An attorney can also expect a 1- to 2-year period before receiving a fee. The cost of litigating complex issues has increased over the years. Miller proposed that, as an incentive to current and future attorneys, attorneys' fees be increased to 20 percent of the first $50,000 and 15 percent of the next $50,000, with cost of living being taken into account with regard to the attorney fee maximum. According to Miller, if the cost of living had been taken into consideration during the last 20 years, then the current attorney fee cap would be approximately $22,000. He said very few states have a cap on attorney fees. Miller pointed out that there are not any unrepresented insurance companies or employers.

Miller said benefit levels should be addressed to eliminate inequities. He said an employee making $10 per hour in a 40-hour work week would receive temporary total disability (TTD) benefits of $266.67 per week. If that person had a 5 percent permanent impairment rating and was unable to return to work, then he or she would receive $27 a week. Miller said a person with a 0 percent to 5 percent impairment receives only 0.65 percent of the value of the impairment because of statutory factors. Miller noted that there was not always a correlation between impairment ratings and the degree of occupational disability or limitations of a claimant. He said this is a fundamental problem with the system. The administrative law judge has no discretion to determine occupational disability based on the injury and its effect on the claimant.

Miller also noted that current capping of the average weekly wage unduly affects high-wage earners, causing a loss of income, and he advised increasing the cap to avoid this problem.

In many instances, claimants receive minimal weekly awards, such as $10 to $50 per week. Miller suggested that a provision is needed to allow lump-sum payments for small weekly awards. He also said a person should not have to give up medical benefits in order to obtain a lump sum. Pikeville attorney Terri Walters suggested that if an award is valued at $25,000 or less, then the claimant can elect a lump sum for indemnity benefits. Walters further suggested that if a lump sum of income benefits is elected, then a lump sum of the medical benefits in the amount of 2 percent of the indemnity value of the award would be given.

Miller also suggested that temporary partial disability (TPD) benefits should be considered to help get injured workers back to work. If TPD benefits are paid, then workers would still get the salary for light duty. Walters suggested that an amendment to KRS 342.730(4), to add an offset provision regarding wages paid during a period of temporary total disability, would be preferred to creating temporary partial disability benefits.

Miller said there needs to be help for pro-se claimants in post-award medical disputes. There is no attorney fee for fee disputes, and many may be complex issues. He suggested the possibility of using a university evaluator to handle complex medical issues, especially those involving opioids or other pain medicines. Miller said he had represented previous clients in post-award medical disputes; however, many attorneys cannot afford to handle these post-award medical disputes where there is no fee for attorneys. These injured workers need medical care and usually

need representation. Miller also indicated that it may be difficult to obtain medical records to support his client's case in post-award medical disputes.

Regarding medical disputes, Walters said she does not personally request utilization reviews or peer reviews, as those requests come from and are paid by her clients. She said the average cost of an independent medical exam could be between $300 and $3,500. Her firm handles no more than five medical dispute cases per month. Some of the disputes do not require a brief or a hearing. She said the average attorney fees for medical disputes in the case of her firm are approximately $600 because of limited involvement.

The current interest rate for past-due benefits is 12 percent. Miller recommended that the interest rate be lowered to 6 percent or tied to the federal rate. Walters also suggested that the interest rate on past-due benefits be reduced from 12 percent to 6 percent. Walters said an employer should be relieved from the interest provision when a claim is delayed due to unreasonable failure of an employee to participate.

Walters presented a handout of suggested changes to the comp system. (See Appendix I.) She indicated that, of all the recent cases she has seen, one-third to 40 percent are being filed by workers who had been recently laid off. Two recent decisions that are affecting workers' compensation and may require potential legislation are *Hale v. CDR Operations, Inc.*, 474 S.W.3d 129 (Ky. 2015) and *Consol of Kentucky, Inc. v. Goodgame*, 479 S.W.3d 78 (Ky. 2015). Both decisions concern cumulative traumatic injuries and have had an adverse effect on employers.

The court in *Hale* held that the employer for which the injured worker last worked is responsible for the payment of a cumulative trauma award in its entirety. In this case, the employee had worked for an employer for 10 years and then went to work for a new employer for 3 months in similar work. The court determined that, in the absence of any type of apportionment provision in the statute, it had no other choice than to rule that the last employer had to be responsible for the entire award. Walters suggested addressing the issue with some type of minimum time for employment requirements or some apportionment.

The court in *Consol* found that the injury manifests when the employee is first advised by a physician that the condition is work related. Therefore, the statute of limitations and repose both run from that date in a cumulative trauma and a hearing loss claim. When considering a specific injury in Kentucky, a person has 2 years from the date of the accident to file a claim unless the person has been paid temporary total disability benefits, in which case the person would have 2 years from the last TTD payment. Because of the decision made in *Consol,* a cumulative traumatic injury is inconsistent with the rule in occupational disease cases, such as black lung, which states that a person has 3 years to file a claim from the last date of exposure to the occupational hazard or 3 years from the date that the person has symptoms that are sufficient to reasonably apprise that the person has the condition. Walters suggested that the statute of limitations for different types of injuries should be consistent.

Walters said there were some medical issues to consider. She indicated that many doctors are doing drug urine screens at every visit instead of being consistent with the requirements of the

Kentucky Board of Medical Licensure requirements. In addition, if a claim is determined to be compensable, then medical records should be given to the employer within 15 or 30 days of the request instead of being delayed. Walters proposed more restrictions on the use of Schedule II narcotics in workers' compensation claims. She suggested that an employer not be responsible for paying for narcotics once a claimant reached medical maximum improvement unless a claimant proves by clear and convincing evidence that it is necessary.

Walters said vocational rehabilitation should be used more frequently and should be encouraged by putting timelines on vocational rehab requests at the beginning of the claim. She suggested adding language to KRS 342.700 to provide for the request for vocational retraining to be filed by either party within 45 days of the filing of the claim so that the issue is litigated fully. If the administrative law judge orders a referral for evaluation in his or her award, then that particular administrative law judge retains jurisdiction over the claim until the report is received. A vocational conference is then scheduled, with mandatory attendance by the parties. Miller said he discusses the option of vocational rehabilitation and retraining with all of his clients, because getting claimants back to work is imperative. However, he noted that the 1-year limit on vocational benefits presents difficulty with retraining injured workers. Miller would prefer additional time for the claimants to get retraining.

Walters suggested two additional amendments in response to current case law. She said an amendment to KRS 342.125(3) is needed regarding the timeline for reopening a claim. She suggested that a clarification is needed to keep the reopening to 4 years from the original award and not from subsequent orders. In addition, Walters suggested an amendment to KRS 342.700, the subrogation statute, to include medical benefits and not just indemnity benefits.

Donna Terry, the former chief administrative law judge, remembered witnessing numerous changes to the workers' compensation system and even the number of administrative law judges, which went from 10 to 15 and then to the current number of 17. She said that injured workers deserve a quick delivery of benefits while the employers deserve to quickly be informed of their liability for benefits. The system should stay as bipartisan and professional as possible in an effort to attract the best judges. She stated that the time frame from the filing of the initial claim to the decision by the judge includes a 60-day period for proof time for the plaintiff, a 30-day period of proof time for the defendant, and a 15-day period for rebuttal for the plaintiff. While periods can be extended, the total time for a claim is about 6 months, which is a short amount of time compared to the norm in other litigation systems.

Terry addressed the issue of a summary judgment system in workers' compensation, which members had mentioned in responses to the initial questionnaire. In this type of system, cases that seemed to initially lack merit would be dismissed. Terry saw a problem with due process if summary judgment would be used. Every person is constitutionally entitled to due process in an administrative proceeding and to present a case. In a workers' compensation case, every application for benefits must be accompanied by a medical report that says an injury occurred at work. Terry suggested that a higher court would most likely overturn summary judgment in a workers' compensation case. Terry noted there are already steps in place to ensure that the Form 101 has all required information. The Form 101 can be returned if necessary to allow the filer to correct deficiencies.

Terry also addressed the effectiveness of mediation in workers' compensation. Terry pointed out that KRS 342.276 already requires that the DWC commissioner establish a program to provide an opportunity for mediation of disputes as to the entitlement to benefits under Chapter 342 and to promulgate administrative regulations necessary to establish and implement the mediation program. Administrative law judges may participate in the mediation process but shall not issue findings or orders as a result of the process unless the parties agree. Terry said there have been several attempts by the current and past commissioners to set up mediation programs, but most have been discontinued. Administrative law judges do a form of mediation called benefit review conferences that are essentially settlement conferences. Her recommendation would be to train one or two administrative law judges as mediators, only if the current open administrative law judge positions are filled; those judges would handle complex workers' compensation cases that may involve multiple injuries, multiple employers, or extraterritorial jurisdiction.

J. Landon Overfield, a former chief administrative law judge, provided observations from his 42 years of experience with the Kentucky workers' compensation system. (See Appendix J.) He noted that the Kentucky workers' compensation system, in particular the administrative law judge system, is a shining light nationwide because of its administration and efficiency. He said the administrative law judge system should not undergo any changes other than filling the six currently open positions. Having 35 percent of the administrative law judge positions unfilled has put a burden on the remaining administrative law judges, who are handling overloaded dockets. He explained the current situation with the Workers' Compensation Nominating Commission, which was abolished and re-created by Executive Order 2016-319; a lawsuit was filed concerning the reorganization of the nominating commission. Overfield hoped the matter will be quickly resolved to get more administrative law judges in the system so delays do not affect injured workers and employers. Overfield said the current statute addressing the Workers' Compensation Nominating Commission was sufficient and did not need to be changed.

Overfield said the current organization for the workers' compensation system at the Department of Workers' Claims works well. It always works within its budget and has good leadership. One reason that Overfield believes claims are down is an effort by employers to settle claims prior to litigation. He has been involved in mediation and sees this as an effective resolution for all parties involved prior to filing a claim.

Overfield noted several areas in which the current workers' compensation system could be improved. He agreed with some of the changes that Walters mentioned, such as amending the statute regarding subrogation to eliminate any double recovery by plaintiffs. He said that case law had eroded consistency and an effective subrogation process. Subrogation should be real. He also said the statute of repose in cumulative trauma claims should be addressed as suggested by Walters. Overfield said that, though it was not the fault of the employee, a claim could be filed 20 years after an employee had left employment, without any limits.

Overfield also discussed the reopening period. He suggested that the 4-year period is onerous for the employee and should be increased based on the age of the claimant. Overfield gave the example of a 26-year-old who is injured at work and has a lumbar fusion. The employee returns to work, but after 4 years the fusion collapses. That employee has no recourse for correcting his problem. Overfield suggested a sliding scale based on the age of the employee, with younger

employees getting a longer period to reopen. However, Overfield indicated that the reopening window, whatever its duration, should have a certain ending point.

Overfield agreed with Scott Miller's position on income benefits for older workers. He noted that the current law punishes older workers who get injured at or near Social Security retirement age. Many employees continue to work well past Social Security age and should not be have benefits limited. He preferred the tier-down statute, part of the 1994 reforms, which simply reduced the award through age 70.

Overfield said the system in 1994 was preferable to other workers' compensation laws. He particularly preferred the law that allowed the administrative law judge discretion in determining occupational disability if the functional impairment under the American Medical Association (AMA) Guides was not adequate. Miller had mentioned this issue in a previous meeting.

Overfield noted that several court cases have caused confusion and costly litigation regarding the use of multipliers. After *Fawbush vs Gwinn*, 103 S.W.3d 5 (Ky. 2003), more appellate work has been created by the required analysis by the administrative law judge regarding whether an injured worker is likely to continue to earn a wage equal to or greater than his or her pre-injury average weekly wage and thus be eligible for the three multiplier. The same is true for the line of cases following *Chrysalis House, Inc. v. Tackett*, 283 S.W.3d 671 (Ky. 2009), which dealt with the application of the two multiplier. Overfield recommended clarification of the statutory provisions in KRS 342.730(1)(c). In addition, he indicated that statutes should be clear that an employee who returns to work light duty cannot receive temporary total disability plus full light-duty wages.

Regarding attorney fees, Overfield indicated that a nominal increase is warranted as suggested by Miller. Low fees have resulted in fewer attorneys practicing workers' compensation in Kentucky. Overfield said the average fee for an injured worker's attorney is approximately $5,000. In order to get the maximum $12,000 fee, the injured employee's award must be at least $145,000. Overfield suggested raising the rates to 20 percent of the first $35,000; 15 percent of the next $20,000; and 5 percent of the remainder, with a cap of $20,000. He thought that claimants would understand if attorney fees were increased and the attorney were fairly compensated. He said all fees should be approved by the administrative law judges. He also opined that some mechanism needs to be in place to allow for an attorney fee in medical disputes.

Medical Profession Perspective

The task force heard from three neurosurgeons to examine medical issues in workers' compensation. Dr. John J. Guarnaschelli is a neurosurgeon who has been practicing in Louisville for 43 years. (See Appendix K.) Approximately 10 percent of his patients have workers' compensation claims or potential claims. He explained that a neurosurgeon is a subspecialist who deals with lesions of the brain, spine, and peripheral nerves. There are two training programs in the state for neurological surgery, housed at the University of Louisville and the University of Kentucky. The minimum length of training for a neurosurgeon after medical school is 7 years. Guarnaschelli said that the existing training programs are very well monitored by the resident

review board to ensure that each trainee has adequate surgical experience in all areas including vascular and functional.

Most of the workers' compensation patients whom Guarnaschelli sees are those who have trauma to the head, neck, or peripheral nerves. These patients have experienced injuries that involved factors such as lifting, bending, twisting, falling, hits to the head or neck, or motor vehicle accidents. Patients are eventually referred to a neurosurgeon after seeing other medical providers for a surgical evaluation.

Guarnaschelli noted that workers' compensation injuries differ from other injuries in several ways. First, issues such as causation have to be addressed. The main difficulty with causation is deciding whether the injury at work is the primary cause of the symptoms that have led to medical treatment or if there was a preexisting issue. Guarnaschelli also addressed the appropriateness of imaging such as X-rays, computerized tomography scans, and magnetic resonance imaging. Once the patient reaches a certain age, all of these scans will show normal formations of abnormalities, but it must be determined if the patient has an active or passive preexisting disease.

Guarnaschelli said that another determination that a workers' compensation doctor must make is whether treatment is appropriate and necessary. A patient may see providers such as a neurosurgeon, a primary care physician, a physical therapist, a chiropractor, a pain management specialist, or a yoga instructor. The question is whether seeing these different providers is reasonable. Also involved with this issue is deciding whether surgery is necessary.

Guarnaschelli explained that maximum medical improvement status is another way that workers' compensation patients differ from his normal patients. He said that according to American Medical Association guidelines, maximum medical improvement is the time at which an injured worker's medical condition has stabilized and further functional improvement is unlikely, despite continued medical treatment and physical rehabilitation. Once a maximum medical improvement rate is obtained, then it is determined if there is an impairment rating that is appropriate. In Kentucky, doctors depend on textbooks and guidelines provided by the AMA. They make a quantitative decision bases on those guidelines. Guarnaschelli pointed out that states such as Indiana and Tennessee use other guidelines to make determinations.

Doctors must also be concerned with prescribing appropriate medications. Finally, the doctor is also asked to determine any restrictions that the worker may have after returning to work.

Guarnaschelli was asked whether he is frustrated by utilization review denials of treatment. He said most denials are due to lack of documentation and eventually get resolved. He has never witnessed that the physical condition of a patient worsened due to a delay in treatment, but he noted that the delay can frustrate the patient. Guarnaschelli indicated that most workers' compensation patients receive good care—sometimes too much care in certain instances. He would not be opposed to the creation of a list of selected medical providers that provide high-quality medical care for workers' compensation patients.

Dr. Russell L. Travis has been a neurosurgeon in Lexington for more than 40 years, and he also performs independent medical evaluations. (See Appendix L.) He said his goal is determining what is best for the patients and using not emotion but facts. He describes himself as a conservative surgeon.

According to Travis, there are several problems with the workers' compensation system. One problem is the frequency of drug screenings for opioids. It is unnecessary to do drug screenings at every appointment, and the tests should be given only at random as long as the patient is reliable.

Travis suggested that an improvement to the workers' compensation system would be the adoption of evidence-based treatment guidelines. Specific treatment guidelines would allow doctors to know with certainty the appropriate time to start treatment, how much treatment is appropriate, and when to stop that treatment. Travis noted that the Occupational Disability guidelines are based on medical evidence. There are other types of treatment guidelines developed by companies as well as state-specific treatment guidelines. California, Tennessee, and Texas adopted a combination of treatment guidelines instead of using just one type. This allows a state to choose the aspects of each set of treatment guidelines it prefers. He also noted that there are appeals if a surgery is denied. Treatment guidelines could help to reduce unnecessary treatment and keep treatment consistent from doctor from doctor.

According to Travis, there is an opioid epidemic in the Unites States. Pain has become a sixth vital sign; however, pain is an emotional response. Prescribing opioids should be based on evidence-based medicine and set treatment guidelines. He also pointed to a study that concluded that epidural steroid injections are inappropriate and do not give permanent relief. The pain management centers and others prescribing opioids are benefiting instead of the patients. Other forms of treatment that need to have some treatment guidelines include lumbar spine fusions and sacroiliac joint fusions.

Travis indicated that sacroiliac joint injections are mostly unnecessary unless a patient has arthritis. In addition, evidence-based treatment guidelines would assist in determinations of causation in workers' compensation claims and in cases involving cumulative trauma. Travis noted that all specialties must review the treatment guidelines and see what combination of treatment guidelines would work best for Kentucky.

The Workers Compensation Research Institute's research should also be used in reference to the system when discussing appropriate treatment guidelines. Travis thinks that its comparative research among various states can be helpful in making beneficial changes to the system. Travis said that treatment guidelines must have language that indicates that a doctor is not subject to a malpractice lawsuit if treatment guidelines are followed.

Travis stated that there needs to be a medical director within the Department of Workers' Claims to assist in making determinations between competing medical opinions. Although Travis has great respect for administrative law judges, he said, there should be someone with a medical background to advise the administrative law judges on medical issues.

Travis indicated that the system becomes adversarial when medical care exceeds necessary levels—for example, when a surgery is unnecessary. A medical director could help steer care to proper facilities. Bad medical care is worse than no medical care. There needs to be a way to determine where good medical care can be found and get the patients to those providers. Another problem is that many good doctors will not take workers' compensation patients.

Travis suggested that Kentucky adopt the sixth edition of the American Medical Association guidelines. Kentucky law requires doctors to use the latest edition of the AMA Guides to determine an impairment rating for injured workers. However, the legislature decided to stay with the fifth edition and not use the sixth edition. Travis noted that, unlike the fifth edition, each chapter of the sixth edition has the same methodology. Travis stated that most states have now adopted the sixth edition, which is a mixture of the fifth and fourth editions and is an attempt to go back to reasonable impairment ratings. The fifth edition included a huge increase in impairment to the spine. The sixth edition gives an impairment based on the result of the surgery and not the procedure itself.

Dr. James R. Bean is a neurosurgeon from Lexington who has over 40 years of experience. (See Appendix M.) Bean had a differing opinion of the use of treatment guidelines. Regarding the AMA Guides, Bean noted that he was astounded that the fifth edition increased the impairment for cervical surgeries. Bean stated that physicians are often not familiar with the AMA guidelines until they enter medical practice. He said the implementation of set treatment guidelines would prevent him from providing proper care to a patient. Usually with set treatment guidelines, there are no exceptions even if those treatment guidelines do not apply to all situations. Also, adopting a statewide, legislatively recognized set of treatment guidelines would mean they would be the law and presumptively correct. He noted that exceptions to treatment guidelines must be acknowledged and doctors' opinions given discretion.

Bean addressed a case study as an example of the problems he faces in attempting to obtain approval for medical treatment such as surgery. Utilization review cites Occupational Disability guidelines and issues a report based upon the review of the surgical recommendation. Treatment guidelines give no room for variation or appeal, which handicaps the physician. Bean indicated that the Occupational Disability guidelines have recently been disqualified. He noted that treating doctors are not irrelevant in the decision-making process when treatment guidelines are used. He urged caution in adopting any treatment guidelines. There must be flexibility, and doctors must have discretion.

Bean would like to see a way to prescreen treatment decisions. He thinks a more expedited process for approval of treatment is needed, and he said it is wrong that professional judgment is not acknowledged when a simple back surgery is recommended. The denials come from a doctor who has never seen the patient. The answer to the question is to trust the doctor, but he knows that is not entirely possible. Bean acknowledged that the problem with obtaining approval for treatment and the delays associated with the problem extend beyond workers' compensation and into other areas of medical treatment. Bean indicated that it is very frustrating to have treatment delayed by a denial. He noted that delays in treatment can be months, and in such cases the ability of the patient to return to work is affected.

Bean was asked about expediting treatment requests and implementing treatment guidelines in coordination with creation of a medical director within the Department of Workers' Claims. He indicated that such a system could work if there was a trustworthy director that could assist with treatment recommendations or forward the requests to an expert panel of doctors for an opinion on whether the requested treatment is necessary. Bean stated that treatment guidelines are helpful for decisions regarding initial treatment. However, if treatment guidelines were initiated, specialists would need to review various treatment guidelines and determine what treatment is necessary beyond initial treatment in each specialty.

In response to a question regarding ethical consideration of treatment guidelines, Bean noted that his ethical obligation is to the patient, not to the treatment guideline. He must pursue treatment that will help his patient. Bean said that all cases cannot be pigeonholed. Individual judgements must be considered. There are exceptions to all treatment guidelines. Bean indicated that surgical review should not be undertaken without peer-to-peer review with the requesting surgeon and the reviewing specialist. Bean noted that the orthopedists have treatment guidelines that are credible. He said there must be a dedicated multidisciplinary panel of physicians to go through all the various treatment guidelines and reach a consensus as to which should be used in Kentucky.

Questionnaires And Comments

In addition to hearing speakers, gathering statistics, and viewing copies of studies, the task force members also participated by responding to four questionnaires. The initial questionnaire was sent prior to the task force's first meeting. Each member was asked to list the top three issues in the current workers' compensation system that should be addressed. All task force members responded to the initial questionnaire, listing more than 40 issues that the task force should address. (See Appendices N and O.)

The first issue-specific questionnaire contained topics that were mentioned the most in the initial questionnaire. There were eight issues on the first questionnaire dealing with indemnity benefits, treatment guidelines and drug formulary, income benefits for older workers, subrogation, attorney fees, reopenings, temporary partial disability, and repeal of unconstitutional statutes for coal workers' pneumoconiosis. Thirteen members responded to the first questionnaire answering whether they strongly agreed, agreed, were neutral, disagreed, or strongly disagreed with the issues. Many gave explanations of their positions. The responses were divided on the issues. (See Appendices P and Q.)

The second questionnaire dealt with the second tier of issues from the initial questionnaire in addition to issues brought up in task force meetings. The issues discussed in this questionnaire were drug urine screens, attorney fees for medical disputes, cumulative trauma claims (statute of repose and apportionment), maximum caps for high-wage earners, interest rate of 12 percent, lump sum for small weekly awards, vocational training, mediation, cancer presumption for firefighters, and presumptions for police and firefighters. Nineteen members sent in responses to this questionnaire explaining whether the members strongly agreed, agreed, were neutral, disagreed, or strongly disagreed with the issues. Most members offered explanations for their

positions, but there were a few offers of additional changes that could be made to change their positions. (See Appendices R and S.)

The third and final questionnaire addressed recurring issues and possible consensus points for members. The questionnaire gave specific legislative language and asked the members to be more specific as to what other changes could be made to help them support an issue, or to indicate more appropriate language that they prefer. The third questionnaire had 11 issues including the following: repealing black lung statutes that have been found unconstitutional; adopting specific guidelines regarding the frequency of drug screens; increasing income benefits for older workers, high-wage earners, and all employees; reducing the interest rate; increasing the cap on attorney fees; clarifying the reopening statute; allowing a lump-sum award instead of smaller weekly payments; allowing credit for light-duty wages against total temporary disability benefits; creating a presumption for firefighters for certain types of cancer; amending the subrogation statute to add the recovery of medical benefits and eliminate payment for legal fees and expenses; and requiring the commissioner of the Department of Workers' Claims to develop treatment guidelines and a drug formulary. In addition, members could list any other changes that could be agreed upon but had not already been mentioned in the questionnaire. (See Appendices T and U.) Nineteen members responded to the questionnaire plus one ex officio member. The results of the questionnaire showed members strongly divided on all of the issues with only "guidelines for drug screens" as a possible exception with 15 agrees, one neutral, and three disagrees. However, when the comments by members are examined, many who voted "agree" on this issue then indicated the decision on frequency of testing should remain between the doctor and patient. The suggested language would provide that the decision to drug test would be taken out of the doctors' hands in certain instances. Others who agreed on this issue thought the change should be achieved through an amendment of a regulation and not through a statutory change. The final question of the questionnaire asked for issues that could be agreed upon that are not mentioned in that questionnaire. The members shared 15 additional topics that they believed could be agreed upon, many of which had not been mentioned previously.

Conclusion

The 2016 Kentucky Workers' Compensation Task Force completed its task by examining and studying the current workers' compensation system in Kentucky. It hosted several presenters who explained what works well in the system and provided an opinion on what improvements could be made in the system. None of the speakers recommended a significant overhaul of the Kentucky workers' compensation system. However, while the task force received many suggested legislative changes from both speakers and members, none were agreed on by a majority of the members. In addition, many issues were regulatory in nature and not in the purview of this task force. Answers provided by members to questionnaires failed to indicate consensus that could be agreed on or reached on even the simplest of issues, such as removing unconstitutional statutory language. With every meeting and questionnaire, the number of issues grew instead of narrowed.

The task force heard that the Kentucky's workers' compensation system as a whole remains stable and has many good qualities. While shining a light on the good qualities of Kentucky's

workers' compensation system, the task force also uncovered several issues that could potentially be addressed through legislation to improve the system. While the task force did not reach a consensus on these issues, this report and all its attachments should be forwarded to the Interim Joint Committee on Labor and Industry for review, and its members can be apprised of potential legislative issues that might be brought before the General Assembly.

Appendix A

2016 House Concurrent Resolution 185

(Unofficial Copy)

A CONCURRENT RESOLUTION establishing the Kentucky Workers' Compensation Task Force.

WHEREAS, workers' compensation was enacted by the 1916 Kentucky General Assembly to establish wage replacement and medical benefits for employees who sustain injuries arising out of and in the scope of employment, and to grant protections to employers against the expense and liability of defending and paying claims of negligence associated with work-related injuries; and

WHEREAS, the original Workers' Compensation Act has continuously evolved to accommodate changes occurring over time, including provisions enacted by the General Assembly establishing professional administration of the Worker's Compensation Program in 1987, providing more affordable insurance coverage for high-risk employers in 1994, modifying the indemnity benefit structure in 1996, revising some of the changes made in 1996 in 2000, and altering the manner in which black lung claims were adjudicated in 2002; and

WHEREAS, since no major changes to the workers' compensation system have been undertaken since 2002, consideration must now be given to possible changes to the workers' compensation system to allow it to continue to evolve to meet the challenges of a constantly changing workers' compensation landscape, such as increased cost of medical care for injured workers; and

WHEREAS, all aspects of the Kentucky workers' compensation system must be studied and potentially realigned to adequately safeguard the rights of both employees and employers under the workers' compensation system and to ensure that income, medical, and vocational benefits continue to be delivered to injured workers in a timely and efficient manner;

NOW, THEREFORE,

Be it resolved by the House of Representatives of the General Assembly of the Commonwealth of Kentucky, the Senate concurring therein:

➔Section 1. The Legislative Research Commission is hereby directed to create a Kentucky Workers' Compensation Task Force that shall study and develop consensus recommendations concerning possible procedural and substantive changes to the workers' compensation system in Kentucky, with particular focus on enhancing the system of delivering income, medical, and vocational benefits to injured workers and improving the administration of the Kentucky workers' compensation system.

➔Section 2. The task force shall be composed of the following members, with final membership of the task force being subject to the consideration and approval of the Legislative Research Commission:

(1) Two members of the Senate, to be appointed by the President of the Senate, with one member being of the majority party in the Senate and who will serve as co-chair, and one member being of the minority party in the Senate;

(2) Two members of the House of Representatives, to be appointed by the Speaker of the House, with one member being of the majority party in the House of Representatives and who will serve as co-chair, and one member being of the minority party in the House of Representatives;

(3) Five representatives of the Kentucky AFL-CIO;

(4) Two representatives of the Kentucky Justice Association;

(5) Two representatives of the Kentucky Workers' Association;

(6) A representative of the Kentucky Chamber of Commerce;

(7) A representative of the Kentucky Association of Manufacturers;

(8) A representative of National Federation of Independent Business/Kentucky;

(9) A representative of the Kentucky Employers' Mutual Insurance Authority;

(10) A representative of the Kentucky Retail Federation;

(11) A representative of the Kentucky League of Cities;

(12) A representative of the Kentucky Association of Counties;

(13) A representative of self-insured employers in Kentucky to be selected jointly by the Kentucky League of Cities, the Kentucky Association of Counties, and the Kentucky Chamber of Commerce;

(14) A representative of Kentucky workers' compensation insurance carriers to be selected by the Commissioner of the Department of Insurance;

(15) The Secretary of the Labor Cabinet or his or her designee as an ex officio member; and

(16) The Commissioner of the Department of Workers' Claims or his or her designee as an ex officio member.

➔Section 3. The task force shall meet a minimum of three times during the 2016 Interim of the General Assembly and shall submit a report to the Legislative Research Commission for referral to the appropriate committee or committees by December 1, 2016. The report shall, at a minimum, include a detailed analysis of the current workers' compensation system and recommendations regarding proposed legislation, related to improving the delivery of workers' compensation benefits to injured workers.

➔Section 4. Provisions of this Resolution to the contrary notwithstanding, the Legislative Research Commission shall have the authority to alternatively assign the issues identified herein to an interim joint committee or subcommittee thereof, and to designate a study completion date.

Appendix B

A Workshop on Kentucky's Workers' Compensation Law
PowerPoint Presentation

A Workshop on Kentucky's Workers' Compensation Law

Dwight T. Lovan, Commissioner
Robert L. Swisher, Chief ALJ
Rebekkah Rechter, Board Member
Grant S. Roark, ALJ

Purpose

Placed responsibility of workplace injuries and diseases on industry in which it occurred rather than with the general public.

Introduction

The Beginning of Workers' Compensation

1911: **First Workers' Compensation Statutes. Wisconsin is generally viewed as first – 100th anniversary.**

1914: **First Kentucky Workers' Compensation Act. It was declared unconstitutional because it violated a portion of the Kentucky Constitution prohibiting impairment of compensation for personal injury.**

1916: **Reenacted with a voluntary *acceptance* provision for employees – today we have voluntary *rejection*.**

Social Legislation or Tort Reform

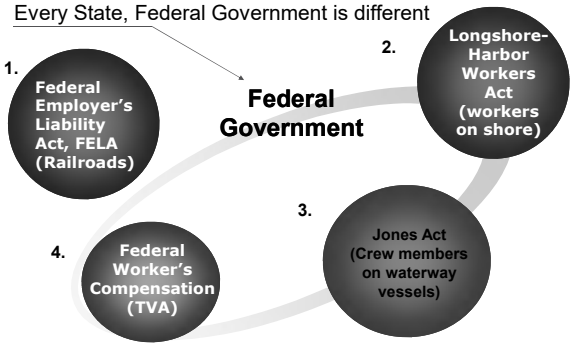
Both

1. Social Legislation: No fault medical and income benefits. More certainty and expeditious in the delivery of benefits.

2. Tort Reform: Exclusivity and replaced some master – servant liability. Can't sue in civil action for general compensatory damage; Can't sue fellow employees (KRS 342.680). Limitation of damages.

State Specific

Every State, Federal Government is different



Kentucky

A. Who is an employer – KRS 342.630

The following shall constitute employers mandatorily subject to, and required to comply with, the provisions of this chapter:

(1) Any person, other than one engaged solely in agriculture, that has in this state one (1) or more employees subject to this chapter.

(2) The state, any agency thereof, and each county, city of any class, school district, sewer district, drainage district, tax district, public or quasipublic corporation, or any other political subdivision or political entity of the state that has one (1) or more employees subject to this chapter.

Who is an employer

1. Any person or entity with one or more employees
2. Includes state, city, county

Who is an employee

a. Anyone working under contract for hire, expressed or implied
b. Executive officers of corporations
c. State, county or city employees
d. Volunteer firefighters
e. Those who sell and deliver newspapers
f. Any person performing services in a trade profession or business

Kentucky

B. Who is an employee – KRS 342.640

The following shall constitute employees subject to the provisions of this chapter, except as exempted under KRS 342.650:

1) *Every person, including a minor, whether lawfully or unlawfully employed, in the service of an employer under any contract of hire or apprenticeship, express or implied, and all helpers and assistants of employees, whether paid by the employer or employee, if employed with the knowledge, actual or constructive, of the employer;*
2) *Every executive officer of a corporation;*

Kentucky

B. Who is an employee – KRS 342.640

4) *Every person performing service in the course of the trade, business, profession, or occupation of an employer at the time of the injury.*

Kentucky

B. Who is an employee – KRS 342.640

3) *Every person in the service of the state or any of its political subdivisions or agencies, or of any county, city of any class, school district, drainage district, tax district, public or quasipublic corporation, or other political entity, under any contract of hire, express or implied, and every official or officer of those entities, whether elected or appointed, while performing his official duties shall be considered an employee of the state. Every person who is a member of a volunteer ambulance service, fire, or police department shall be deemed, for the purposes of this chapter, to be in the employment of the political subdivision of the state where the department is organized. Every person who is a regularly-enrolled volunteer member or trainee of an emergency management agency, as established under KRS Chapters 39A to 39E, shall be deemed, for the purposes of this chapter, to be in the employment of this state. Every person who is a member of the Kentucky National Guide, while the person is on state active duty as defined in KRS 38:010(4), shall be deemed, for the purposes of this chapter, to be in the employment of the state;*

Who is exempt

a. Agriculture employers/employees
b. Domestic worker in private home if less than two (must work less than 40 hours per week)
c. Working for sustenance if with charitable or religious organization
d. Covered by Federal Act
e. Voluntary rejects
f. Voluntary carpools
g. Certain religious organizations
h. All can voluntarily accept

Kentucky

C. Who is exempt – KRS 342.650;

The following employees are exempt from the coverage of this chapter:

1. *Any person employed as a domestic servant in a private home by an employer who has less than two (2) employees each regularly employed forty (40) or more hours a week in domestic servant employment.*
2. *Any person employed, for not exceeding twenty (20) consecutive work days, to do maintenance, repair, remodeling, or similar work in or about the private home of the employer, or if the employer has no other employees subject to this chapter, in or about the premises where that employer carriers on his trade, business, or profession.*
3. *Any person performing services in return for aid or sustenance only, received from any religious or charitable organization.*
4. *Any person for whom a rule of liability for injury or death is provided by the laws of the United States, except those persons covered under Title IV, Public Law 91-173, 91st Congress, commonly referred to as the Black Lung Benefits of the Federal Coal Mine Health and Safety Act of 1969, or as amended.*

Kentucky

C. Voluntary acceptance – KRS 342.660

1. *An employer who has in his employment any employee exempted under KRS 342.650 may elect to be subject to this chapter. This election on the part of the employer shall be made by the employer securing the payment of compensation to these exempted employees in accordance with KRS 342.340. Any employee, otherwise exempted under KRS 342.650, of the employer shall be deemed to have elected to come under this chapter, if at the time of the injury for which liability is claims, his employer has in force an election to be subject to this chapter with respect to the employment in which the employee was injured and the employee has not, either upon entering into employment or within five (5) days after the filing of an election by the employer given to his employer and to the executive director notice in writing that he elects not to be subject to this chapter.*

2. *An employer within the scope of subsection (1) of this section, within five (5) days after securing the payment of compensation in accordance with KRS 342.340, shall give the executive director written notice of his election to be subject to this chapter. The employer shall post and keep posted on the premises where any employee or employees, otherwise exempted under KRS 342.650, works, printed notices furnished by the executive director stating his acceptance of this chapter. Failure to give notices required by this paragraph shall not void or impair the employer's election to be subject to or relieve him of any liability under this chapter.*

Kentucky

C. Who is exempt – KRS 342.650;

The following employees are exempt from the coverage of this chapter:

5. *Any person employed in agriculture.*
6. *Any person who would otherwise be covered but who elects not to be covered in accordance with the administrative regulations promulgated by the executive director.*
7. *Any person participating as a driver or passenger in a voluntary vanpool or carpool program while that person is on the way to or from his place of employment. For the purposes of this subsection, carpool or vanpool means any method by which two (2) or more employees are transported from their residences to their places of employment.*
8. *Members of a religious sect or division that is an adherent of established tenets or teachings by reason of which members are conscientiously opposed to acceptance of the benefits of any public or private insurance which makes payments in the event of death, disability, old age, or retirement, or makes payments toward the cost of, or provides services for, medical bills, including the benefits of any insurance systems established by the Federal Social Security Act, 42 U.S.C. sec. 301 et seq., and it is the practice, and has been for ten (10) years, for members of the sect or division to make reasonable provisions for their dependent members.*

Kentucky

C. Voluntary acceptance – KRS 342.660

3. *Any employer who has complied with subsection (2) of this section may withdraw his acceptance of this chapter, by filing written notice with the executive director of the withdrawal of his acceptance. A withdrawal shall become effective 60 days after the filing of notice or on the date of the termination of the security for payment of compensation, whichever last occurs. The withdrawal shall not be effective until the employer shall theretofore post notice of the withdrawal where the affected employee or employees work or shall otherwise notify the employees of withdrawal.*

Who is liable and must have workers' compensation insurance

a. Any employer

b. "Up the ladder" coverage

Kentucky

D. Who is liable – KRS 342.610

3. *Liability for compensation shall not apply where injury, occupational disease, or death to the employee was proximately caused primarily by voluntary intoxication as defined in KRS 501.010, or by his willful intention to injure or kill himself or another.*

4. *If injury or death results to an employee through the deliberate intention of his employer to produce such injury or death, the employee or his dependent as herein defined shall receive the amount provided in this chapter in a lump sum to be used, if desired, to prosecute the employer. The dependents may bring suit against the employer for any amount they desire. If injury or death results to an employee through the deliberate intention of his employer to produce such injury or death, the employee or his dependents may take under this chapter, or in lieu thereof, have a cause of action at law against the employer as if this chapter had not been passed, for such damage so sustained by the employee, his dependents or personal representatives as is recoverable at law. If a suit is brought under this subsection, all right to compensation under this chapter shall thereby be waived as to all persons. If a claim is made for the payment of compensation or any other benefit provided by this chapter, all rights to sue the employer for damages on account of such injury or death shall be waived as to all persons.*

Kentucky

D. Who is liable – KRS 342.610

1. *Every employer subject to this chapter shall be liable for compensation for injury, occupational disease, or death without regard to fault as a cause of the injury, occupational disease, or death.*
2. *A contractor who subcontracts all or any part of a contract and his carrier shall be liable for the payment of compensation to the employees of the subcontractor unless the subcontractor primarily liable for the payment of such compensation has secured the payment of compensation as provided for in this chapter. Any contractor or his carrier who shall become liable for such compensation may recover the amount of such compensation paid and necessary expenses from the subcontractor primarily liable therefor. A person who contracts with another:*

   (a) To have work performed consisting of the removal, excavation, or drilling of soil, rock, or mineral, or the cutting or removal of timber from land; or

   (b) To have work performed of a kind which is a regular or recurrent part of the work of the trade, business, occupation, or profession of such person shall for the purposes of this section be deemed a contractor, and such other person a subcontractor. This subsection shall not apply to the owner or lessee of land principally used for agriculture.

Kentucky

D. Who is liable – KRS 342.610

5. *Prior to issuing any building permit pursuant to KRS 198B.060(10), every local building official shall require proof of workers' compensation coverage from the builder before a permit is issued. A person who is exempt under the exception contained in KRS 342.650(2), and any contractor otherwise exempt from this chapter, shall so certify to the local building official, in writing and on a form Page 2 of 2 prescribed by the executive director, in lieu of providing proof of workers' compensation coverage.*

6. *Every employer subject to this chapter, at its principal office and such other locations where employees customarily report for payroll and personnel matters, shall post a notice stating the name of its workers' compensation insurance carrier and policy number, setting forth the means to access medical care for injuries, the employee's obligation to give notice of accidents, and such other matters concerning the employee's rights under this chapter as may be required by the executive director so as to afford every employee the opportunity to become informed about the employer's workers' compensation program. The format and contents of the notice shall be established by the executive director through administrative regulation, and copies shall be provided to the employer by its insurance carrier.*

Employer required to Provide Security/Insurance

Kentucky

E. Obligation to provide insurance security – KRS 342.340

- Insurance – Including Competitive State Fund (KEMI)
- Self Insurance
- Self Insurance Groups

State

D. Types of Insurance/Security Allowed

- Insurance Company
- Self Insurance Group
- Self Insurance
- State Funds
  - (i) Competitive
  - (ii) Monopolistic

Kentucky

E. Obligation to provide insurance security – KRS 342.340

1. *Every employer under this chapter shall either insure and keep insured his liability for compensation hereunder in some corporation, association, or organization authorized to transact the business of workers' compensation insurance in this state or shall furnish to the executive director satisfactory proof of his financial ability to pay directly the compensation in the amount and manner and when due as provided for in this chapter. In the latter case, the executive director shall require the deposit of an acceptable security, indemnity, or bond to secure, to the extent the executive director directs, the payment of compensation liabilities as they are incurred. A public sector self-insured employer shall not be required to deposit funds as security, indemnity, or bond to secure the payment of liabilities under this chapter, if the public employer has authority to raise taxes, notwithstanding provisions of KRS 68.245, 132.023, 132.027, and 160.470 relating to recall and reconsideration of local taxes; raise tuition; issue bonds; raise fees or fares for services provided; or has other authority to generate funds for its operation.*

Kentucky

E. Obligation to provide insurance security – KRS 342.340

2. *Every employer subject to this chapter shall file, or have filed on its behalf, with the office, as often as may be necessary, evidence of its compliance with the provisions of this section and all others relating hereto. Any insurance carrier or self-insured group providing workers' compensation insurance coverage for a Kentucky location shall file on behalf of the employer, with the executive director, evidence of the employer's compliance with this chapter. Evidence of compliance filed with the office may include a named additional insured who has been provided proof of workers' compensation insurance coverage by the employer. The filing shall be made within ten (10) days after the issuance of a policy, endorsement to a policy, or similar documentation of coverage. Every employer who has complied with the foregoing provision and has subsequently canceled its insurance or its membership in an approved self-insured group, as the case may be, shall immediately notify, or have notice given on its behalf to the office of the cancellation, the date thereof, and the reasons therefor; and every insurance carrier or self-insured group shall in like manner notify the executive director upon the cancellation, lapse, termination, expiration by reason of termination of policy period, or nonrenewal of any policy issued by it or termination of any membership agreement, whichever is applicable under the provisions of this chapter, except that the carrier or self-insured group need not set forth its reasons therefor unless requested by the executive director.*

Where Does it Apply

- In Kentucky
- Under right conditions outside Kentucky

Kentucky

E. Obligation to provide insurance security – KRS 342.340 (Continued)

2. *The above filings are to be made on the forms prescribed by the executive director. Termination of any policy of insurance issued under the provisions of this chapter shall take effect no greater than ten (10) days prior to the receipt of the notification by the executive director unless the employer has obtained other insurance and the executive director is notified of that fact by the insurer assuming the risk. Upon determination that any employer under this chapter has failed to comply with these provisions, the executive director shall promptly notify interested government agencies of this failure and, with particular reference to employers engaged in coal mining, the executive director shall promptly report any failures to the Department for Natural Resources so that appropriate action may be undertaken pursuant to KRS 351.175.*

Kentucky

F. Where does it apply? In Kentucky – Outside Kentucky KRS 342.670

1. *If an employee, while working outside the territorial limits of this state, suffers an injury on account of which he, or in the event of his death, his dependents, would have been entitled to the benefits provided by this chapter had that injury occurred within this state, that employee, or in the event of his death resulting from that injury, his dependents, shall be entitled to the benefits provided by this chapter, if at the time of the injury:*
   - *(a) His employment is principally localized in this state, or*
   - *(b) He is working under a contract of hire made in this state in employment not principally localized in any state, or*
   - *(c) He is working under a contract of hire made in this state in employment principally localized in another state whose workers' compensation law is not applicable to his employer, or*
   - *(d) He is working under a contract of hire made in this state for employment outside the United States and Canada.*

Kentucky

F. Where does it apply?
In Kentucky – Outside Kentucky KRS 342.670

2. *The payment or award of benefits under the workers' compensation law of another state, territory, province, or foreign nation to an employee or his dependents otherwise entitled on account of such injury or death to the benefits of this chapter shall not be a bar to a claim for benefits under this chapter, if a claim under this chapter is filed within two (2) years after that injury or death. If compensation is paid or awarded under this chapter:*

   (a) The medical and related benefits furnished or paid for by the employer under another jurisdiction's workers' compensation law on account of such injury or death shall be credited against the medical and related benefits to which the employee would have been entitled under this chapter had claim been made solely under this chapter;

   (b) The total amount of all income benefits paid or awarded the employee under another jurisdiction's workers' compensation law shall be credited against the total amount of income benefits which would have been due the employee under this chapter, had claim been made solely under this chapter; and

   (c) The total amount of death benefits paid or awarded under another jurisdiction's workers' compensation law shall be credited against the total amount of death benefits due under this chapter.

Kentucky

F. Where does it apply?
In Kentucky – Outside Kentucky KRS 342.670

(c) 1. If the employer is a qualified self-insurer under the workers' compensation law of the other state, the employer shall, upon submission of evidence satisfactory to the executive director, of his ability to meet his liability to the employee under this chapter, be deemed to be a qualified self-insurer under this chapter;

2. If the employer's liability under the workers' compensation law of the other state is insured, the employer's carrier, as to the employee or his dependents only, shall be deemed to be an insurer authorized to write insurance under and be subject to this chapter; however, unless its contract with the employer requires it to pay an amount equivalent to the compensation benefits provided by this chapter, its liability for income benefits or medical and related benefits shall not exceed the amounts of the benefits for which the insurer would have been liable under the workers' compensation law of the other state;

(d) If the total amount for which the employer's insurance is liable under (c) above is less than the total of the compensation benefits to which the employee is entitled under this chapter, the executive director may, if he deems it necessary, require the employer to file security, satisfactory to the executive director, to secure the payment of benefits due the employee or his dependents under this chapter; and

(e) Upon compliance with the preceding requirements of this subsection (3), the employer, as to the employee only, shall be deemed to have secured the payment of compensation under this chapter.

Kentucky

F. Where does it apply?
In Kentucky – Outside Kentucky KRS 342.670

3. *If any employee is entitled to the benefits of this chapter by reason of an injury sustained in this state in employment by an employer who is domiciled in another state and who has not secured the payment of compensation as required by this chapter, the employer or his carrier may file with the executive director a certificate, issued by the commission or agency of the other state having jurisdiction over workers' compensation claims, certifying that the employer has secured the payment of compensation under the workers' compensation law of the other state and that with respect to the injury the employee is entitled to the benefits provided under that law, and that the benefits to which the employee or his dependents is entitled are at least as great as those to which he would be entitled if the injury occurred and was processed under Kentucky law, under Kentucky coverage. In this event:*

   (a) The filing of the certificate shall constitute an appointment by the employer or his carrier of the executive director as his agent for acceptance of the service of process in any proceeding brought by the employee or his dependents to enforce his or their rights under this chapter on account of the injury;

   (b) The executive director shall send to the employer or carrier, by certified mail to the address shown on the certificate, a true copy of any notice of claim or other process served on the executive director by the employee or his dependents in any proceeding brought to enforce his or their rights under this chapter;

Kentucky

F. Where does it apply?
In Kentucky – Outside Kentucky KRS 342.670

4. *Any professional athlete, coach, or trainer who has been hired outside this Commonwealth by an employer domiciled in a foreign state, including professional baseball, basketball, football, and ice-hockey clubs, is exempted from the provisions of this chapter while that employee is temporarily within this Commonwealth doing work for the employer, if the foreign employer has secured workers' compensation insurance coverage under the workers' compensation law of the foreign state, so as to cover the employee's employment while in this Commonwealth. The benefits under the workers' compensation law of the foreign state shall be the exclusive remedy against that employer and any affiliated club for any injury, whether resulting in death or not, received by any employee while working for that employer in this Commonwealth.*

Kentucky

F. Where does it apply?
In Kentucky – Outside Kentucky KRS 342.670

5. As used in this section:

(a) "United States" includes only the states of the United States and the District of Columbia;

(b) "State" includes any state of the United States, the District of Columbia, or any province of Canada;

(c) "Carrier" includes any insurance company licensed to write workers' compensation insurance in any state of the United States or any state or provincial fund which insures employers against their liabilities under a workers' compensation law;

State

E. What benefits are paid?

F. Duration of Benefits?

G. Definition of Benefits

(a) Temporary Total Disability (TTD)

(b) Temporary Partial Disability (TPD)
Not Available in Kentucky

(c) Permanent Partial Disability (PPD)

(d) Permanent Total Disability (PTD)

Kentucky

F. Where does it apply?
In Kentucky – Outside Kentucky KRS 342.670

(d) A person's employment is principally localized in this or another state when:
1. His employer has a place of business in this or the other state and he regularly works at or from that place of business, or
2. If subparagraph 1. foregoing is not applicable, he is domiciled and spends a substantial part of his working time in the service of his employer in this or the other state;

(e) An employee whose duties require him to travel regularly in the service of his employer in this and one (1) or more other states may, by written agreement with his employer, provide that his employment is principally localized in this or another state, and, unless the other state refuses jurisdiction, the agreement shall be given effect under this chapter;

(f) "Workers' compensation law" includes "occupational disease law."

State

G. Definition of Benefits (con't)

Death Benefits

CY 2009	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016
$68,198.54	$69,916.52	$70,916.46	$72,313.24	$73,933.98	$75,541.95	$75,988.88	$78,446.51

KRS 342.0011 - DEFINITIONS

Injury is defined by 342.0011(1) as any work-related traumatic event or series of traumatic events, including cumulative trauma, arising out of and in the course of employment which is the proximate cause producing a harmful change in the human organism evidenced by objective medical findings. 'Injury' does not include the effects of the natural aging process, and does not include any communicable disease unless the risk of contracting the disease is increased by the nature of the employment. 'Injury' when used generally, unless the context indicates otherwise, shall include an occupational disease and damage to a prosthetic appliance, but shall not include a psychological, psychiatric, or stress-related change in the human organism, unless it is a direct result of a physical injury.

Occupational Disease is defined by 342.0011(2) & (3) as a disease arising out of and in the course of the employment; shall be deemed to arise out of the employment if there is apparent to the rational mind, upon consideration of all the circumstances, a causal connection between the conditions under which the work is performed and the occupational disease, and which can be seen to have followed as a natural incident to the work as a result of the exposure occasioned by the nature of the employment and which can be fairly traced to the employment as the proximate cause. The occupational disease shall be incidental to the character of the business and not independent of the relationship of employer and employee. An occupational disease need not have been foreseen or expected but, after its contraction, it must appear to be related to a risk connected with the employment and to have flowed from that source as a rational consequence.

Temporary Total Disability is defined in 342.0011(11) as the condition of an employee who has not reached maximum medical improvement from an injury and has not reached a level of improvement that would permit a return to employment.

Permanent Partial Disability is defined in 342.0011(11) as the condition of an employee who, due to an injury, has a permanent disability rating but retains the ability to work.

Permanent Total Disability is defined in 342.0011(11) as the condition of an employee who, due to an injury, has a permanent disability rating and has a complete and permanent inability to perform any type of work as a result of an injury, except that total disability shall be irrebuttably presumed to exist for an injury that results in:

1) Total and permanent loss of sight in both eyes;
2) Loss of both feet at or above the ankle;
3) Loss of both hands at or above the wrists;
4) Loss of one (1) foot at or above the ankle and the loss of one (1) hand at or above the wrist;
5) Permanent and complete paralysis of both arms, both legs, or one (1) arm and one (1) leg;
6) Incurable insanity or imbecility; or
7) Total loss of hearing.

State

G. Definition of Benefits – Benefit Schedule

Workers' Compensation Benefit Payment Rates
(Maximum, 2006 - 2016)

Y ear	Total Disability	Permanent Partial Disability (PPD)	Retraining Incentive Benefits (RIB)	Total Disability (Minimum)
2016	$798.63	$598.98	$598.98	$159.72
2015	$773.61	$580.21	$580.21	$154.72
2014	$769.06	$576.80	$576.80	$153.81
2013	$752.69	$564.52	$564.52	$150.54
2012	$736.19	$552.13	$552.13	$147.24
2011	$721.97	$541.47	$541.47	$144.40
2010	$711.79	$533.84	$533.84	$142.36
2009	$694.30	$520.72	$520.72	$138.86
2008	$670.02	$502.51	$502.51	$134.00
2007	$646.47	$484.85	$484.85	$129.29
2006	$631.22	$473.42	$473.42	$126.24

Computations

- TTD: two thirds of average weekly wage(subject to state's average weekly wage)
- PTD: two thirds of average weekly wage(subject to state's average weekly wage) payable during disability or until qualify for normal old age Social Security
- PPD: two thirds of average weekly wage (subject to 75% of state's average weekly wage) X AMA Impairment rating X Work Factor X "Disability" Factors payable for either 425 weeks or 520 but terminates when qualifies for normal old age Social Security

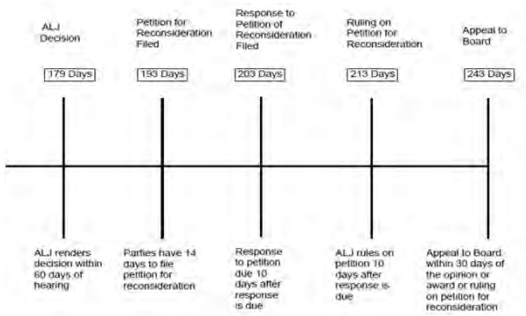
HB 348 Black Lung Benefit Chart

ILO Category (x-ray)	Pulmonary Function FVC or FEV 1	Percent of Disability	Duration of Benefits
Category 1	80%-100%	RIB	104 weeks
Category 1	55%-79%	25%	425 weeks
Category 1	Less than 55%	50%	425 weeks
Category 2	80%-100%	25%	425 weeks
Category 2	55%-79%	50%	425 weeks
Category 2	Less than 55%	75%	520 weeks
Category 3	80%-100%	50%	425 weeks
Category 3	55%-79%	75%	520 weeks
Category 3	Less than 55%	100%	Lifetime*
Complicated Pneumoconiosis		100%	Lifetime*

Injury to Litigation Filed

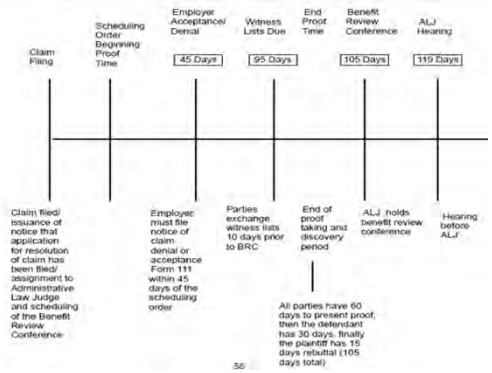
- First Report of Injury
- Subsequent Reports of Injury
- Payment of Temporary Total
- Medical Treatment
- Notification of termination of benefits and stating Statute of Limitations
- Return to Work
- Settlement

Adjudication System Timeline



Adjudication System Timeline

H.



Employer

Why be involved?

A. Your employee knows you

B. Cooperate – with counsel, insurance, etc.

C. Safety – be conscious of it

D. Know your employee

www.Labor.Ky.Gov/Workersclaims

What we are doing to improve the system

A. Online Tools
   1. Look up – what you can and can't
   2. Filing – First Reports, etc.
   3. Claims
   4. Management of Claims
   5. Information – web site
   6. LMS (Litigation Management)

Almost Done

- QUESTIONS????

www.Labor.Ky.Gov/Workersclaims

DWC System Enhancements

C. Regulations
   1. Practice Regs
   2. Medical Disputes
   3. Medical Cost Containment
      a) Utilization Review
      b) Managed Care
      c) Fee Schedules

www.Labor.Ky.Gov/Workersclaims

Appendix C

National Council On Compensation Insurance: Kentucky Workers' Compensation State Advisory Forum 2016

KENTUCKY

State Advisory
FORUMS 2016

August 18, 2016

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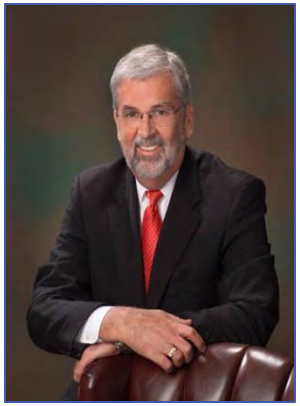
Kentucky Workers Compensation State Advisory Forum

- Opening Remarks
- Panel Discussion
- Kentucky and Countrywide Outlook and Observations
- Filing Activity
- Claim Frequency
- Indemnity and Medical Severity
- Economic Outlook and Coal Mining
- Case Study
- Q & A—Closing Remarks

Panel Discussion

- Commissioner H. Brian Maynard
  - Department of Insurance
- Commissioner Dwight Lovan
  - Department of Workers' Claims
- Mona Carter
  - Senior Division Executive, NCCI



State Advisory
FORUMS 2016

Kentucky Workers Compensation System Overview

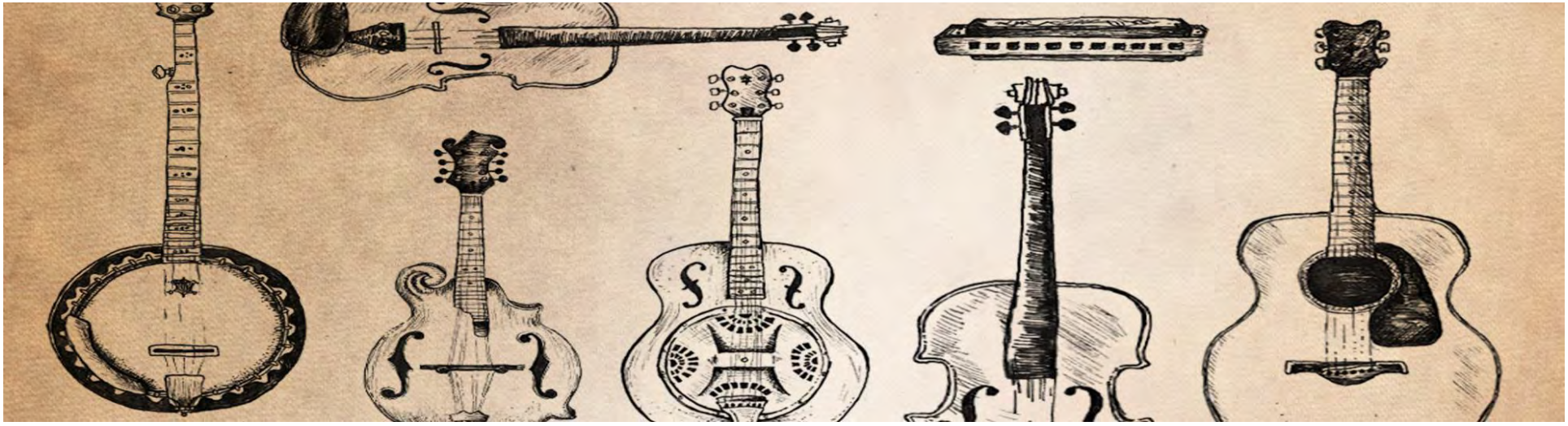
Decrease in Loss Cost Level

Consistent Combined Ratios

Stable Premium

Positive Wage Growth

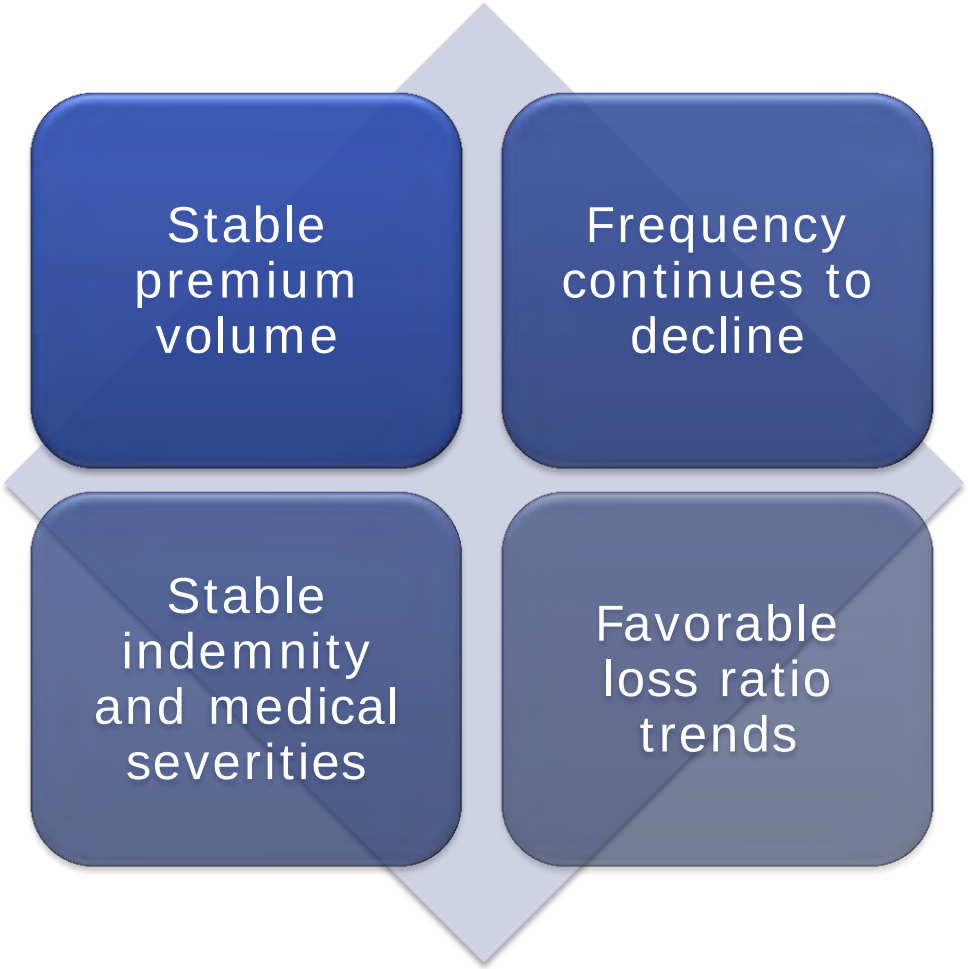
Promising



State Advisory
FORUMS 2016

Kentucky and Countrywide Outlook and Observations

Kentucky Workers Compensation System—An Overview

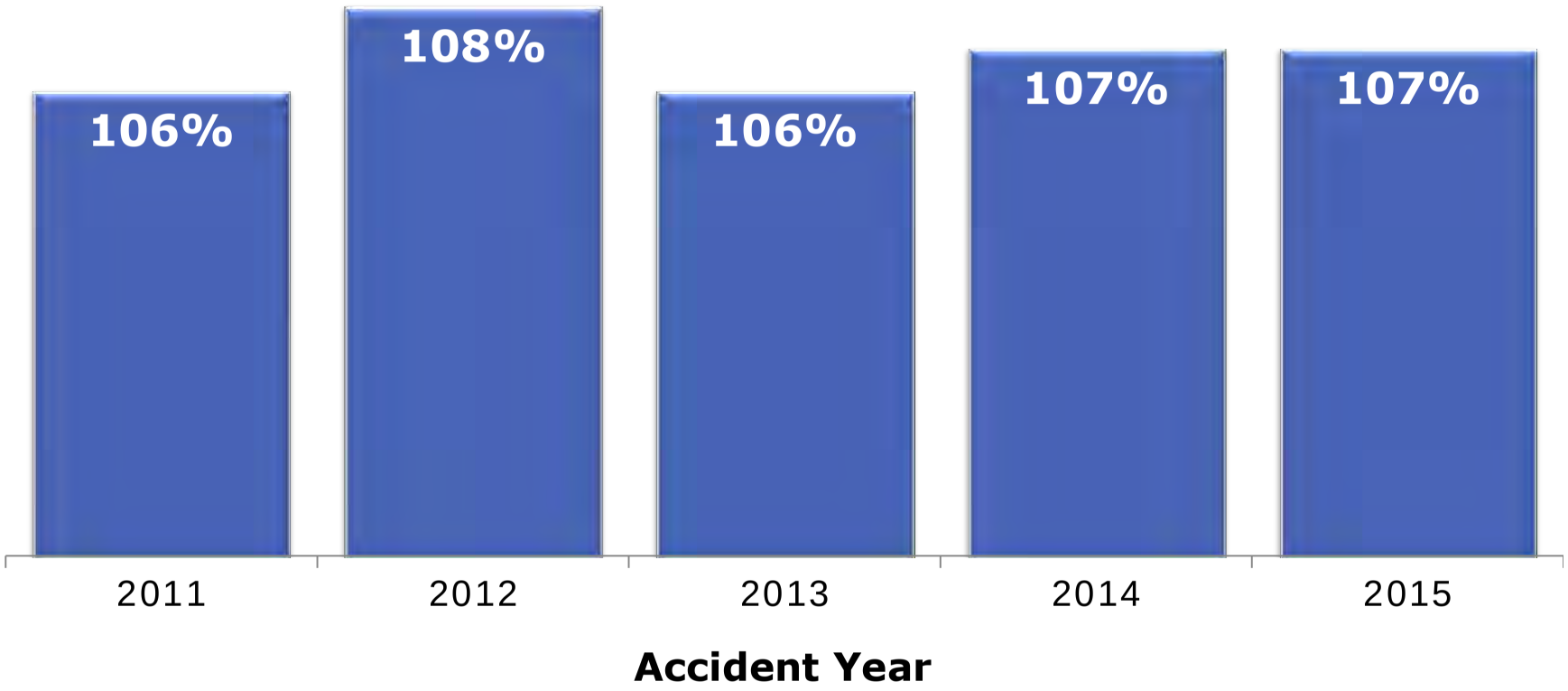


Kentucky's Workers Compensation Premium Volume

Direct Written Premium in $ Millions

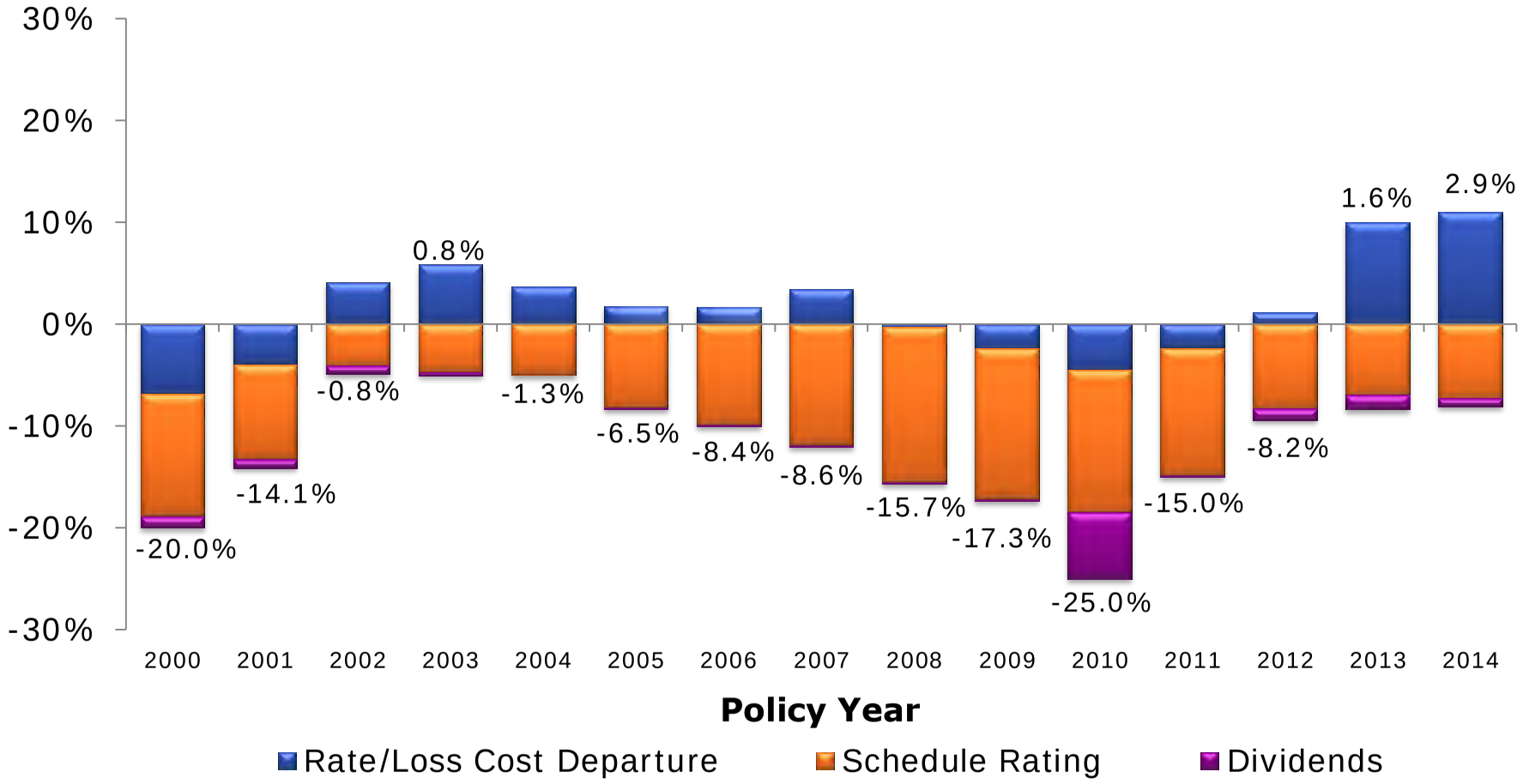
Source: NAIC's Annual Statement data

Kentucky Accident Year Combined Ratios



Sources: NCCI's financial data and NAIC's Annual Statement data

Impact of Discounting on Workers Compensation Premium in Kentucky



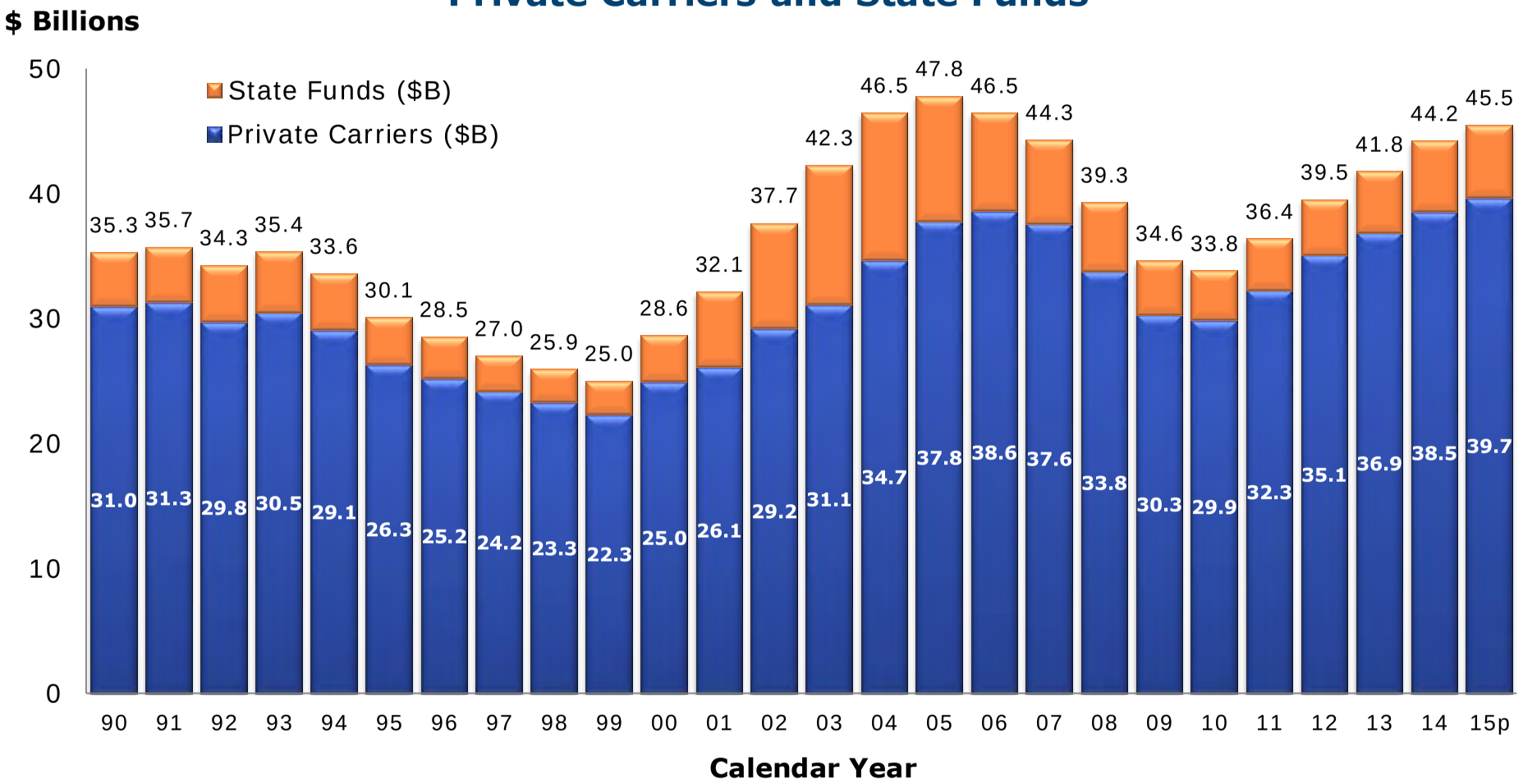
Based on data through 12/31/2015
Dividend ratios are based on calendar year statistics

State of the Workers Compensation Market

- Combined ratios: Underwriting gains achieved on both calendar year and accident year bases
- Net written premium volume increased for the fifth consecutive year
- Lost-time claim frequency again decreased
- Lost-time claim severity changes were small—increasing for indemnity and decreasing for medical

Countrywide Workers Compensation Net Written Premium Growth Continued

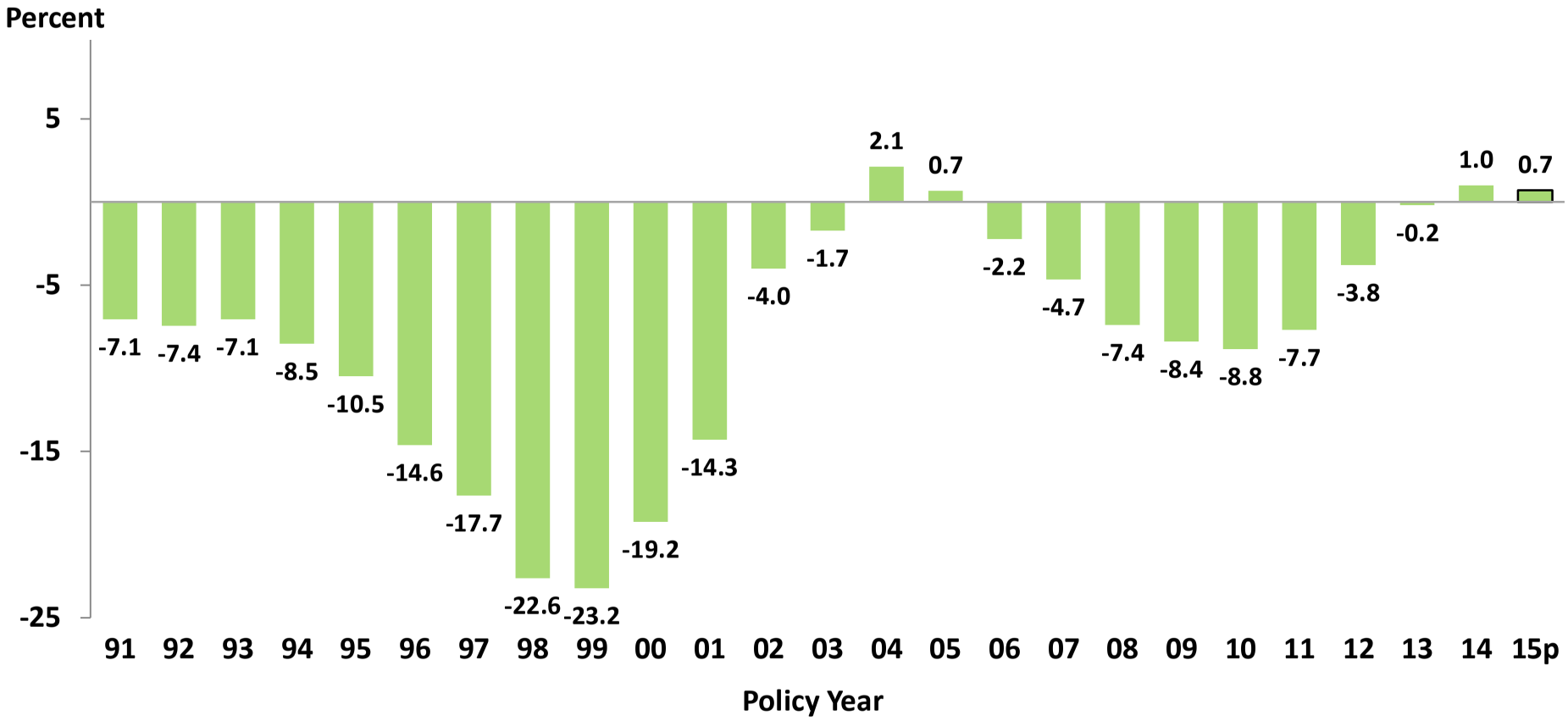
Private Carriers and State Funds



p Preliminary
Source: Annual Statement data
Includes state insurance fund data for the following states: AZ, CA, CO, HI, ID, KY, LA, MD, MO, MT, NM, OK, OR, RI, TX, and UT
Each calendar year total for state funds includes all funds operating as a state fund in that year

Countrywide Workers Compensation
Impact of Discounting on Premium

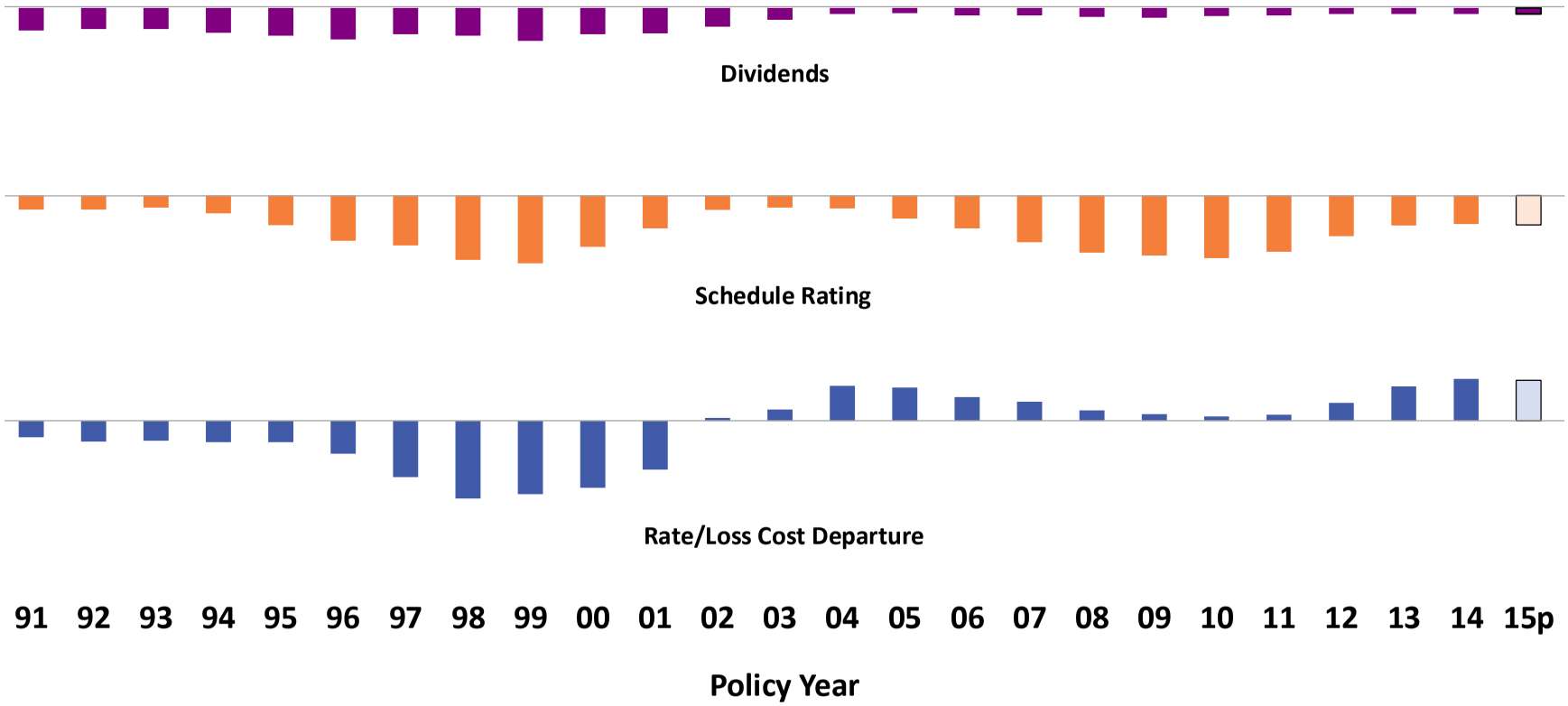
NCCI States—Private Carriers



p Preliminary
Sources: Annual Statement Statutory Page 14 and NCCI's Financial Call data
NCCI benchmark level does not include a profit and contingency provision
Based on data valued as of 12/31/2015 for all states where NCCI provides ratemaking services, excluding TX

Countrywide Workers Compensation
Impact of Discounting on Premium

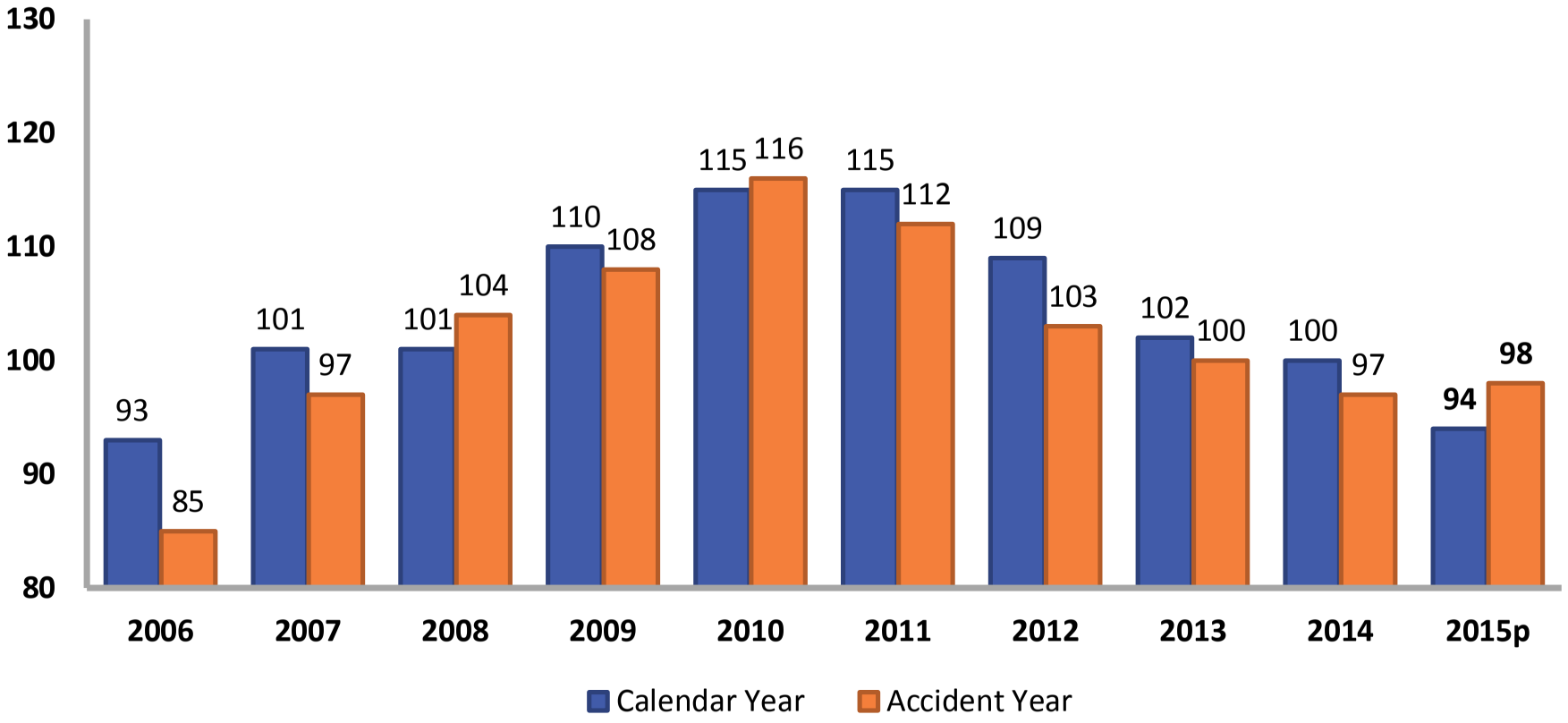
NCCI States—Private Carriers



p Preliminary
Sources: Annual Statement Statutory Page 14 and NCCI's Financial Call data
Dividend ratios are based on calendar year statistics
NCCI benchmark level does not include a profit and contingency provision
Based on data valued as of 12/31/2015 for all states where NCCI provides ratemaking services, excluding TX

Countrywide Workers Compensation Net Combined Ratios

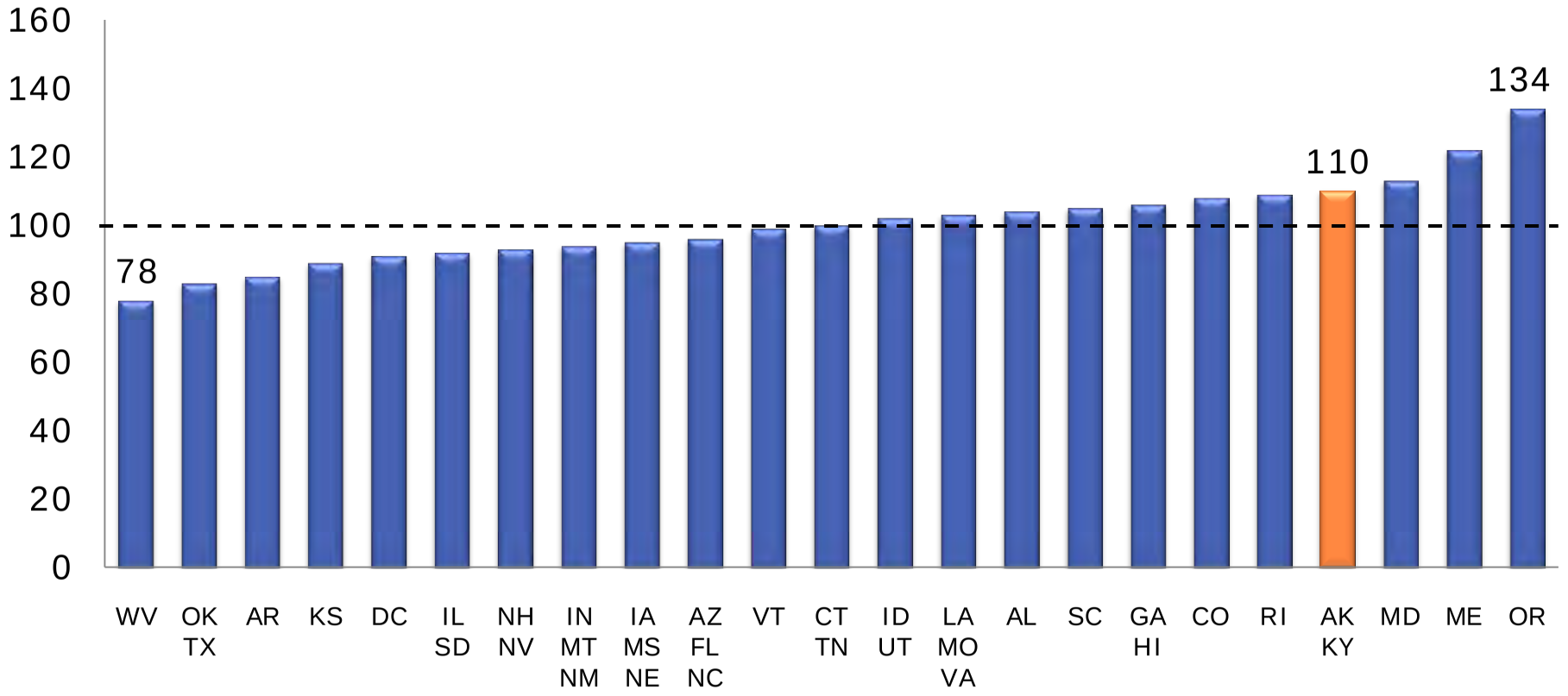
Calendar Year vs. Accident Year as Reported—Private Carriers



p Preliminary
Source: NCCI analysis based on Annual Statement data
Accident Year information is reported as of 12/31/2015
Includes dividends to policyholders

Results Vary From State to State

Accident Year 2014 Combined Ratios



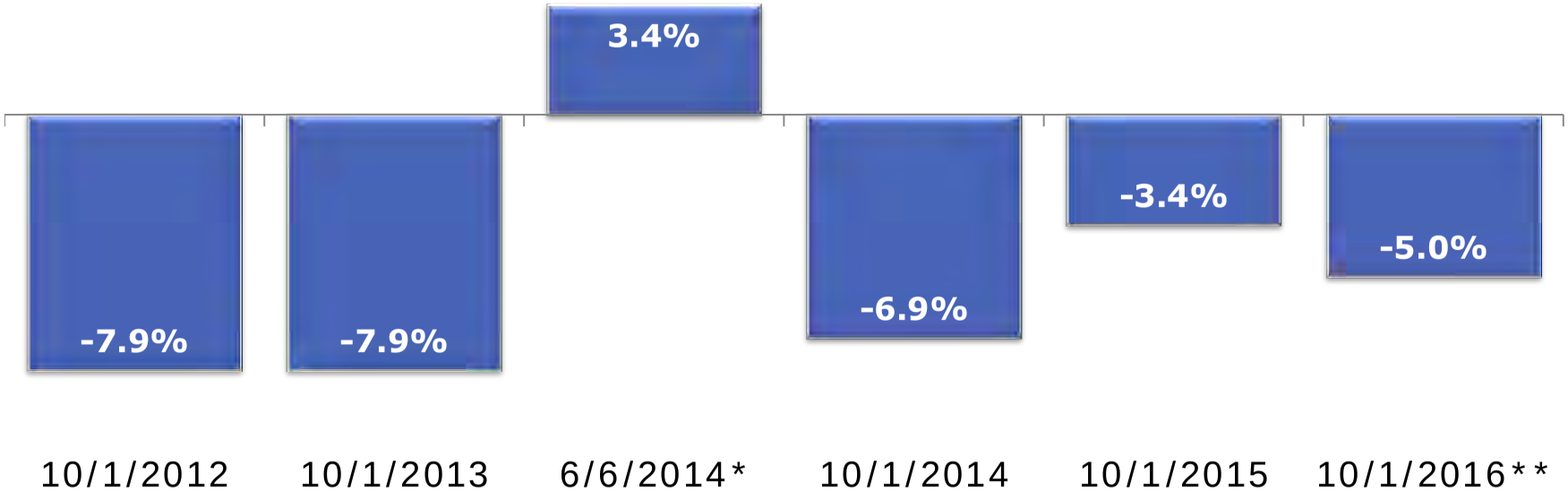
Data is evaluated as of 12/31/2014

State Advisory
FORUMS 2016

Filing Activity

Kentucky's Filing Activity

Voluntary Loss Cost Changes

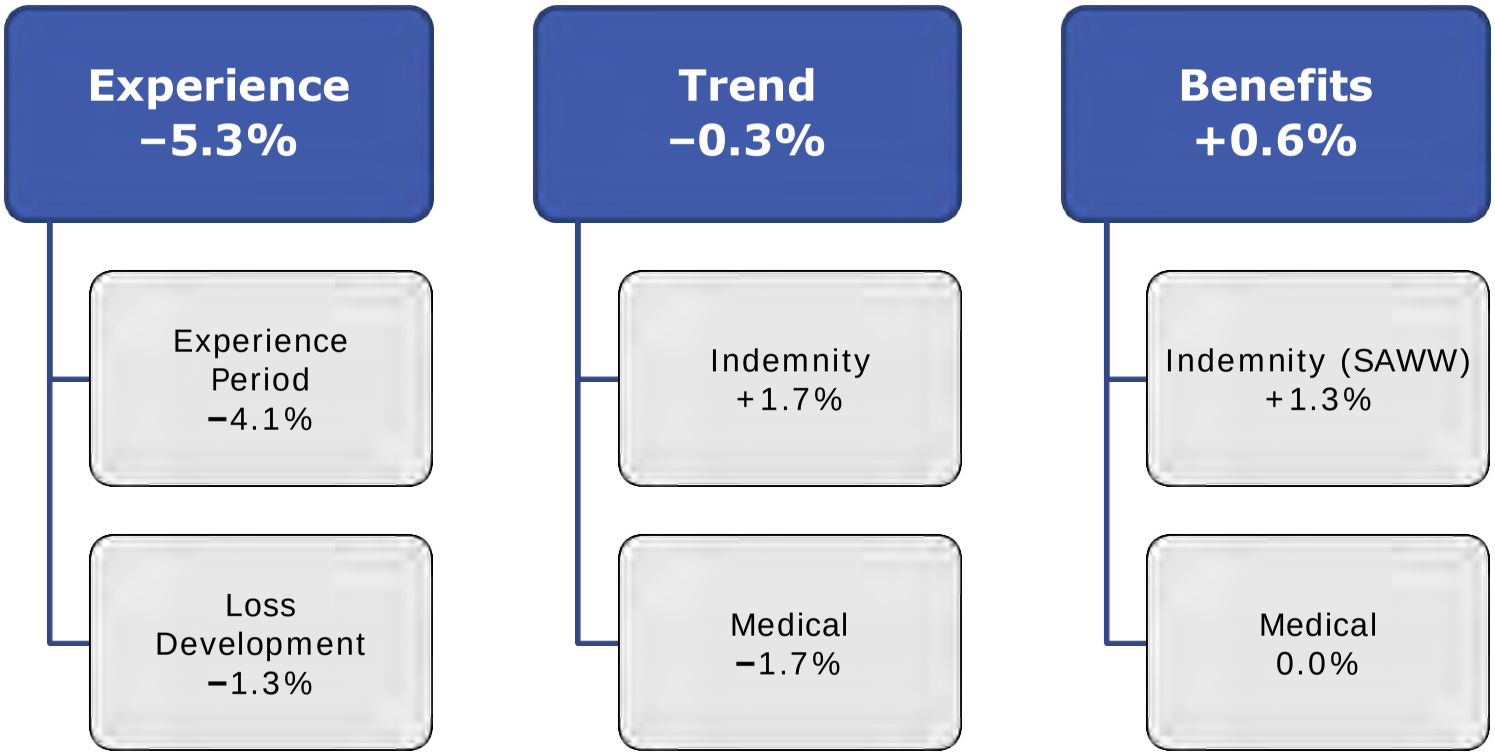


*Law-only filing
**Pending

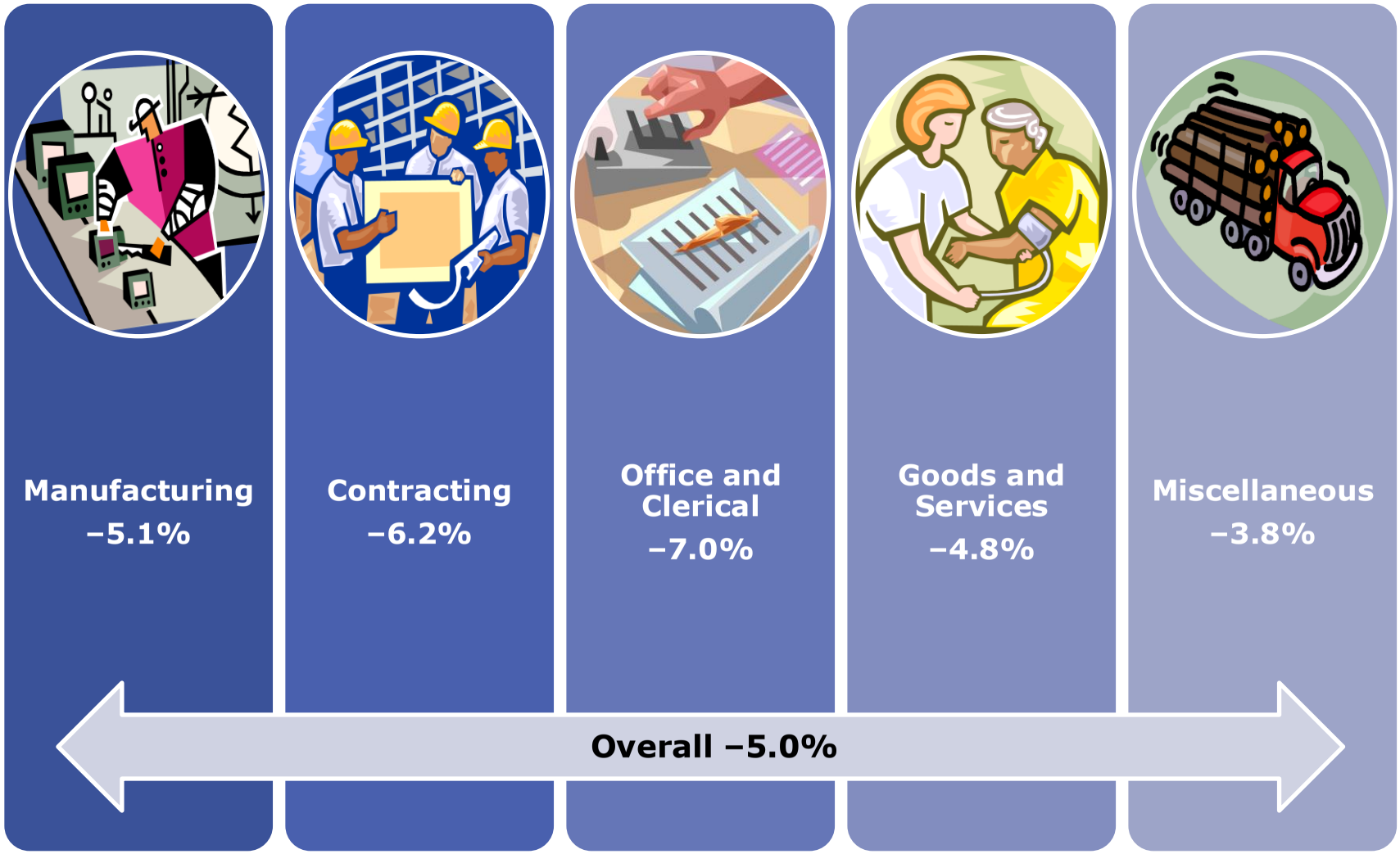
Kentucky
October 1, 2016 Loss Cost Filing

Overall Loss Cost Level Change −5.0%

Changes due to:



Kentucky October 1, 2016 Filing—Average Changes by Industry Group

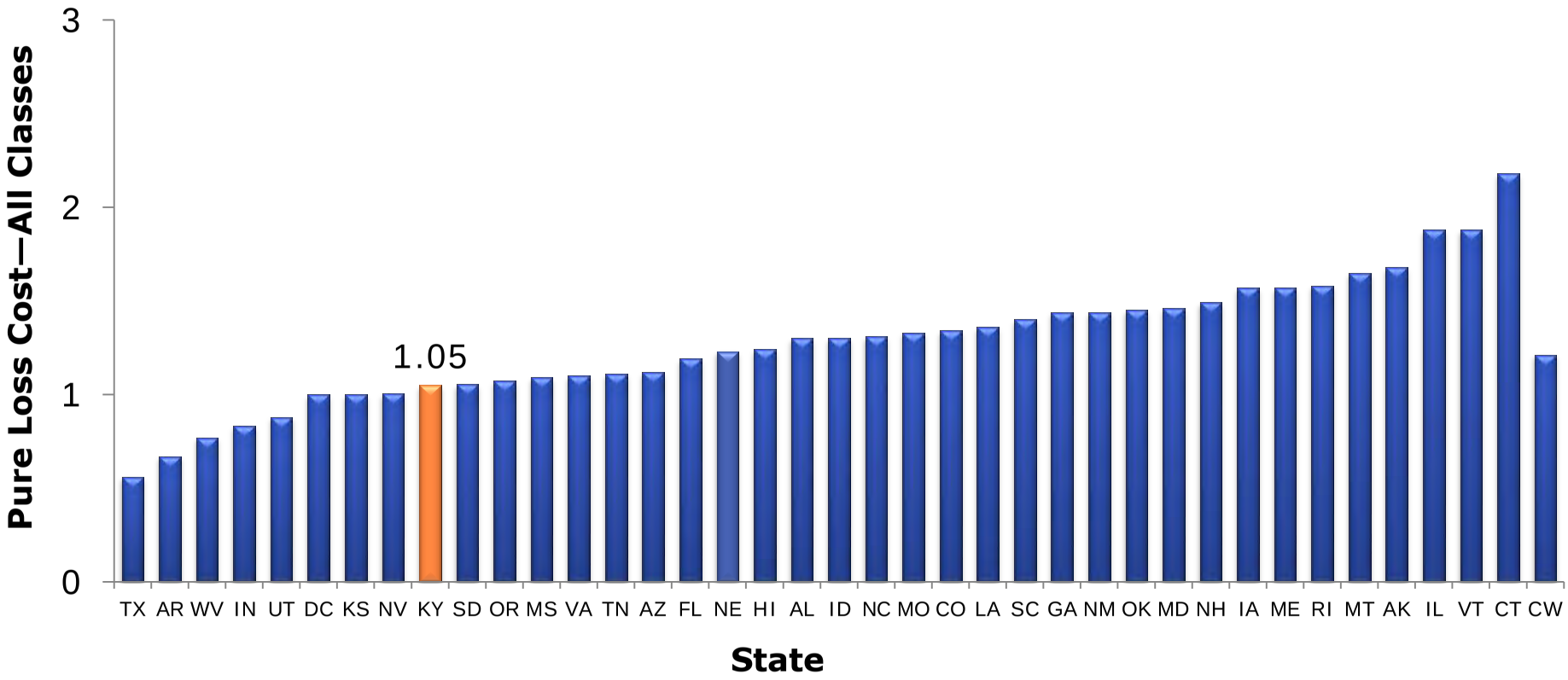


Current Average Voluntary Pure Loss Costs Using Kentucky's Payroll Distribution

Pure Loss Cost—All Classes

Based on the latest NCCI approved rates and loss costs in the various states

Current Average Voluntary Pure Loss Costs Using Kentucky's Payroll Distribution



Based on the latest NCCI approved rates and loss costs in the various states

Kentucky's Top Five Class Codes Based on Statewide Payroll

2009

8810—Clerical (28.1%)

8868—College: Professional Empl. (7.9%)

8742—Outside Sales (6.0%)

8832—Physician (4.1%)

8017—Retail Stores (3.0%)

2013

8810—Clerical (23.9%)

8868—College: Professional Empl. (9.2%)

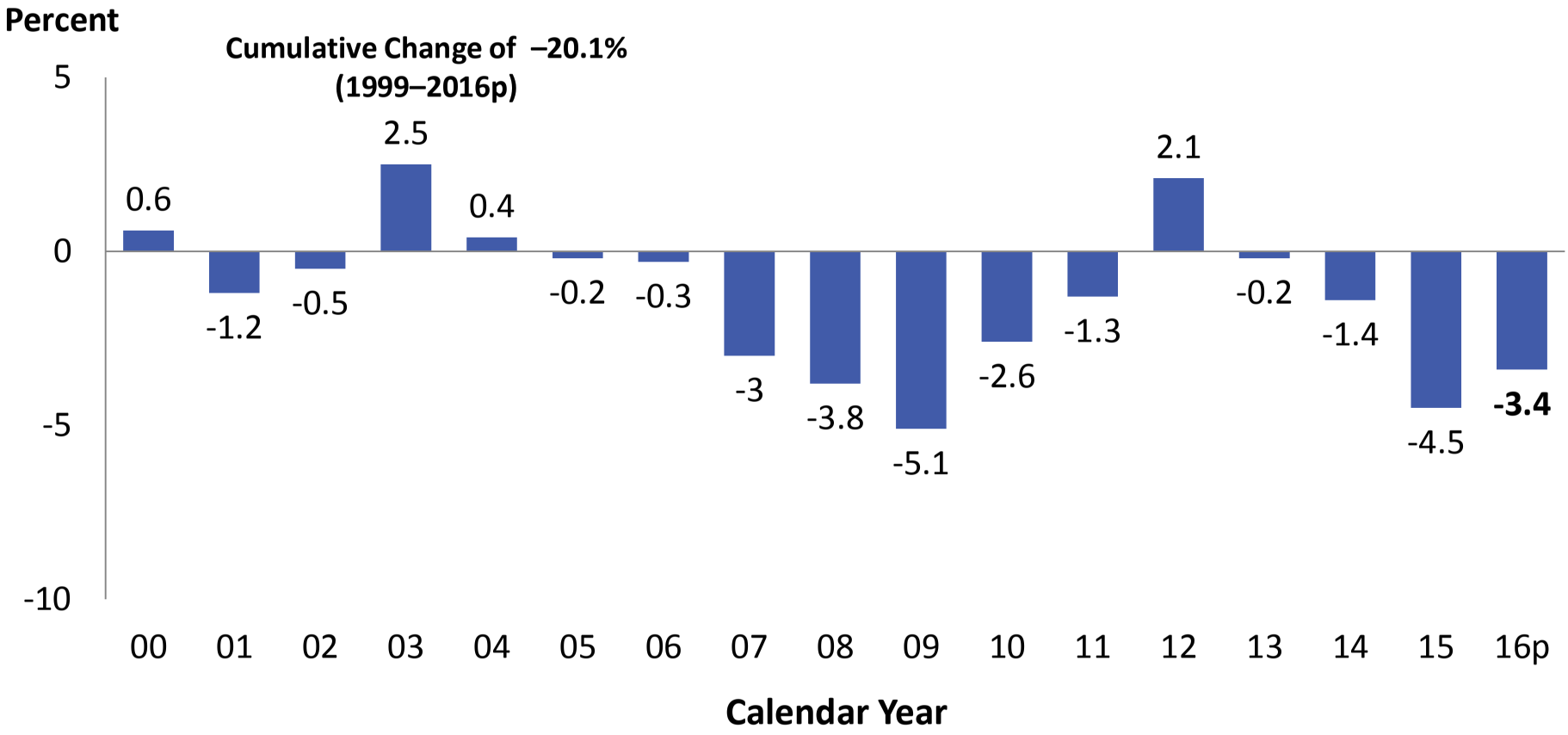
8742—Outside Sales (5.2%)

8832—Physician (3.8%)

8833—Hospital: Professional Empl. (2.7%)

Countrywide Workers Compensation Approved Changes in Bureau Premium Level

By Effective Year for NCCI States



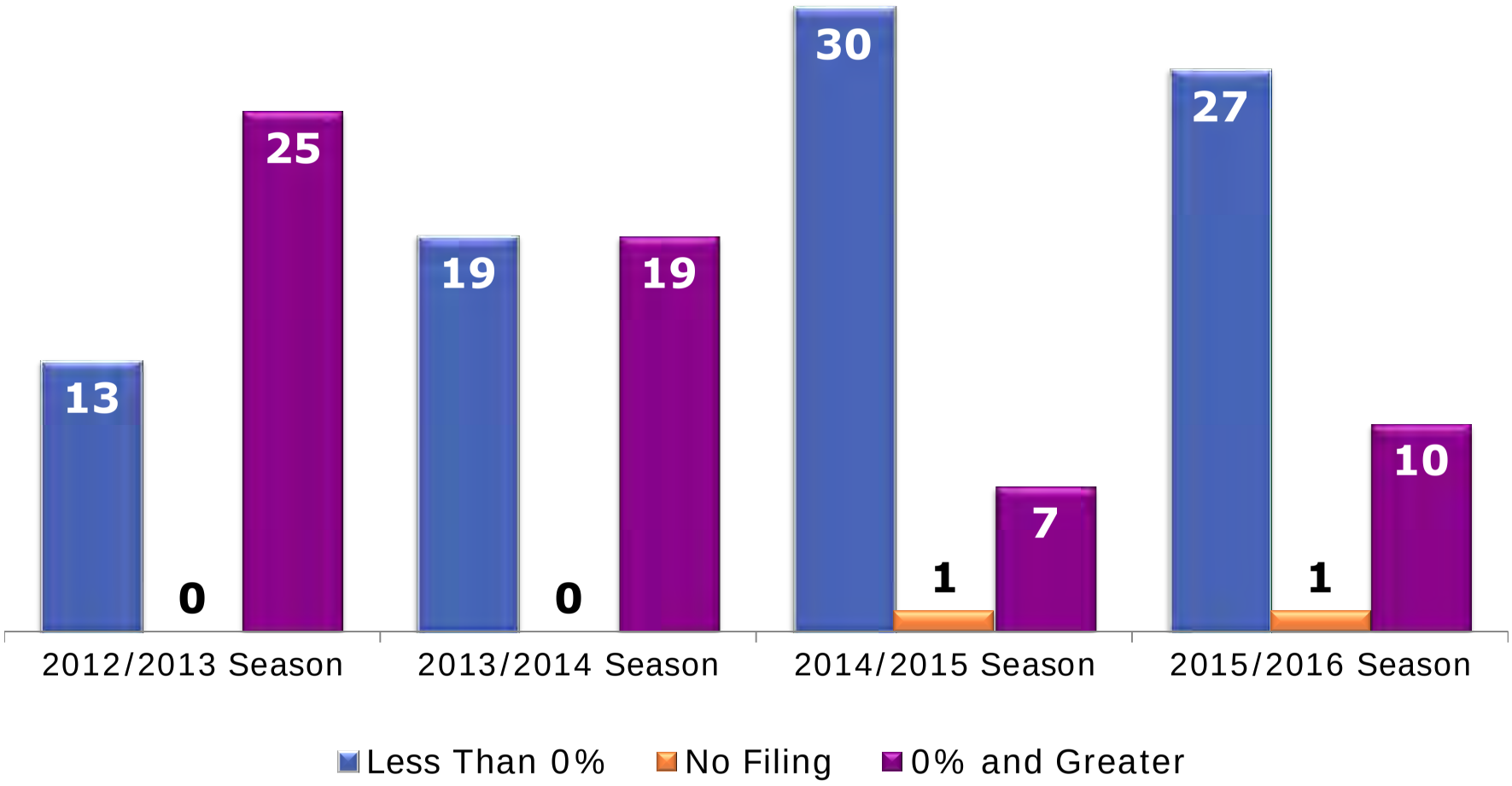
p Preliminary

Bureau premium level changes reflect approved changes in advisory rates, loss costs, assigned risk rates, and rating values, relative to those previously approved in NCCI states only

IN and NC are filed in cooperation with state rating bureaus

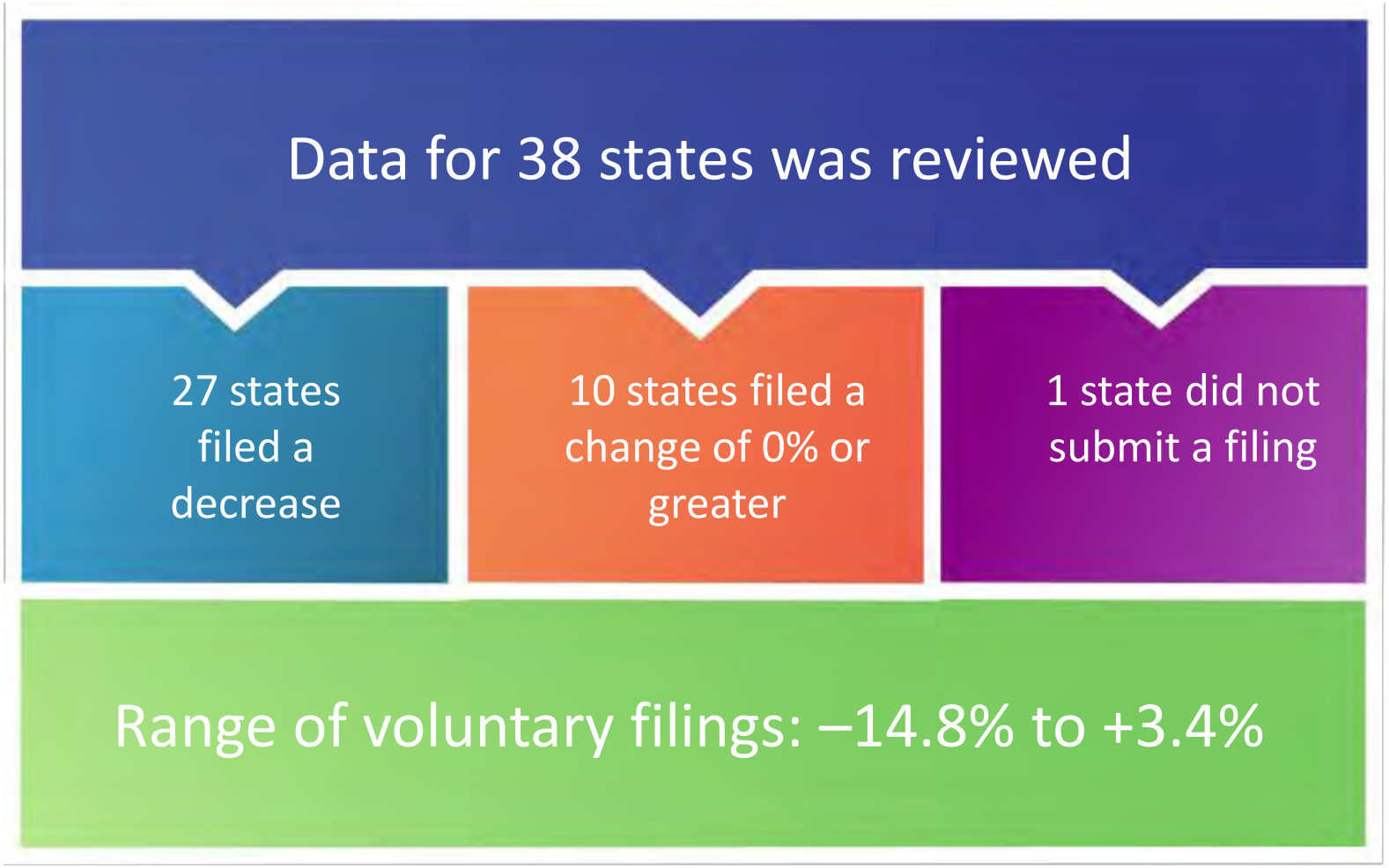
NCCI Voluntary Market Filing Activity

Number of State Loss Cost/Rate Filings by Filing Season



2015/2016 Filing Cycle

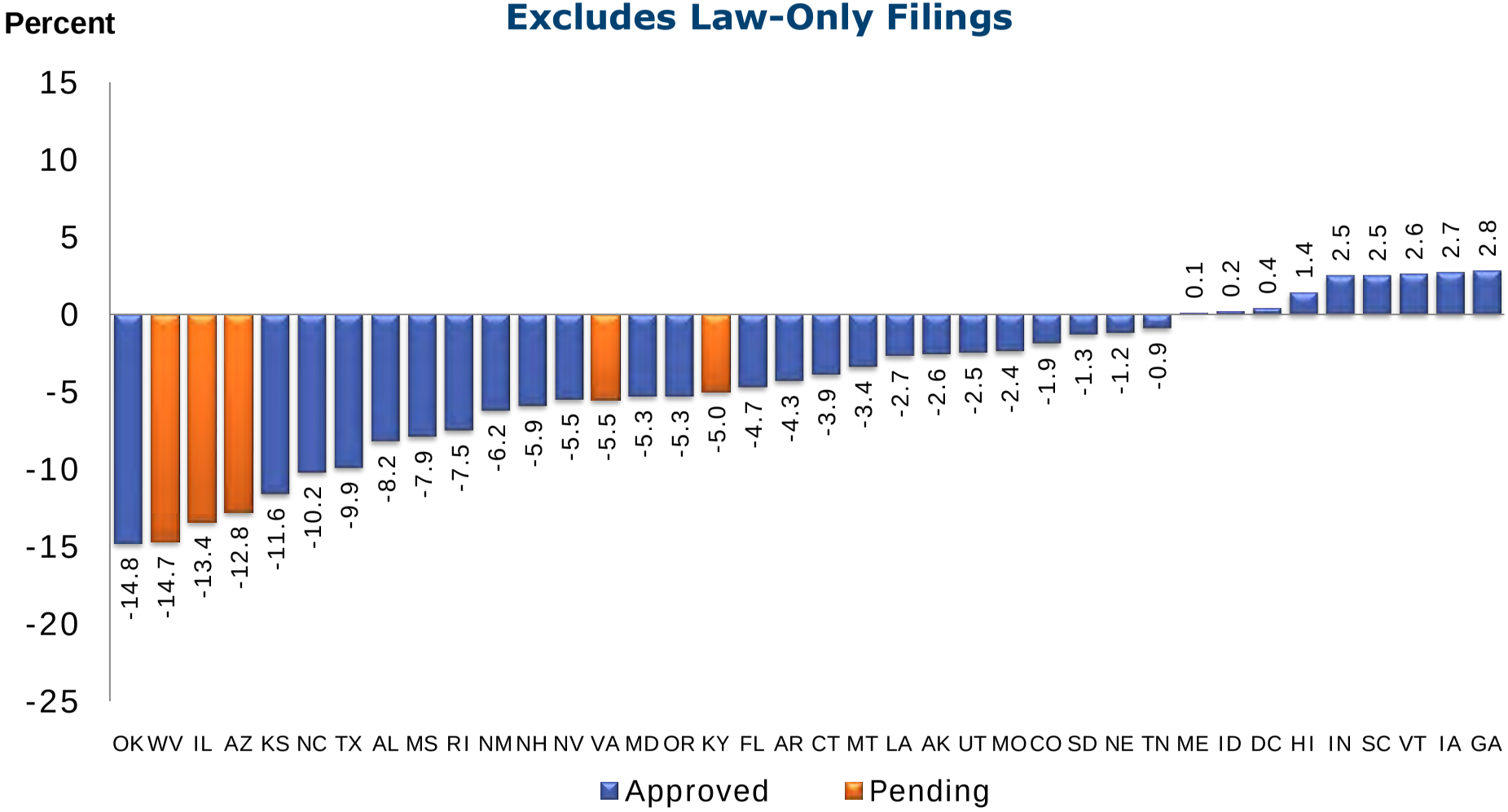
NCCI Voluntary Market Filing Activity



Based on data evaluated as of 12/31/2014

Current NCCI Voluntary Market Loss Cost/Rate Level Changes

Excludes Law-Only Filings



Reflects the most recent experience filing in each jurisdiction
Due to the timing of the individual loss cost/rate filings, the figures shown may include changes from prior filing seasons

Current Voluntary Market Rates/Loss Costs Southeastern NAIC Zone

Georgia	3/1/16	+2.8%
South Carolina	9/1/16	+2.5%
Tennessee	3/1/16	−0.9%
Louisiana	5/1/16	−2.7%
Arkansas	7/1/16	−4.3%
Florida	1/1/16	−4.7%
Kentucky*	10/1/16	−5.0%
Virginia*	4/1/17	−5.5%
Mississippi	3/1/16	−7.9%
Alabama	3/1/16	−8.2%
North Carolina	4/1/16	−10.2%
West Virginia*	11/1/16	−14.7%

*Pending

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Kids' Chance
Educating Children of Injured Workers

Contact Information

Email:
gdavis5@windstream.net

Postal Address:
Kids' Chance of Kentucky
PO Box 910234
Lexington, KY 40591

Telephone:
Office: 859-219-0194
Fax: 859-219-0170

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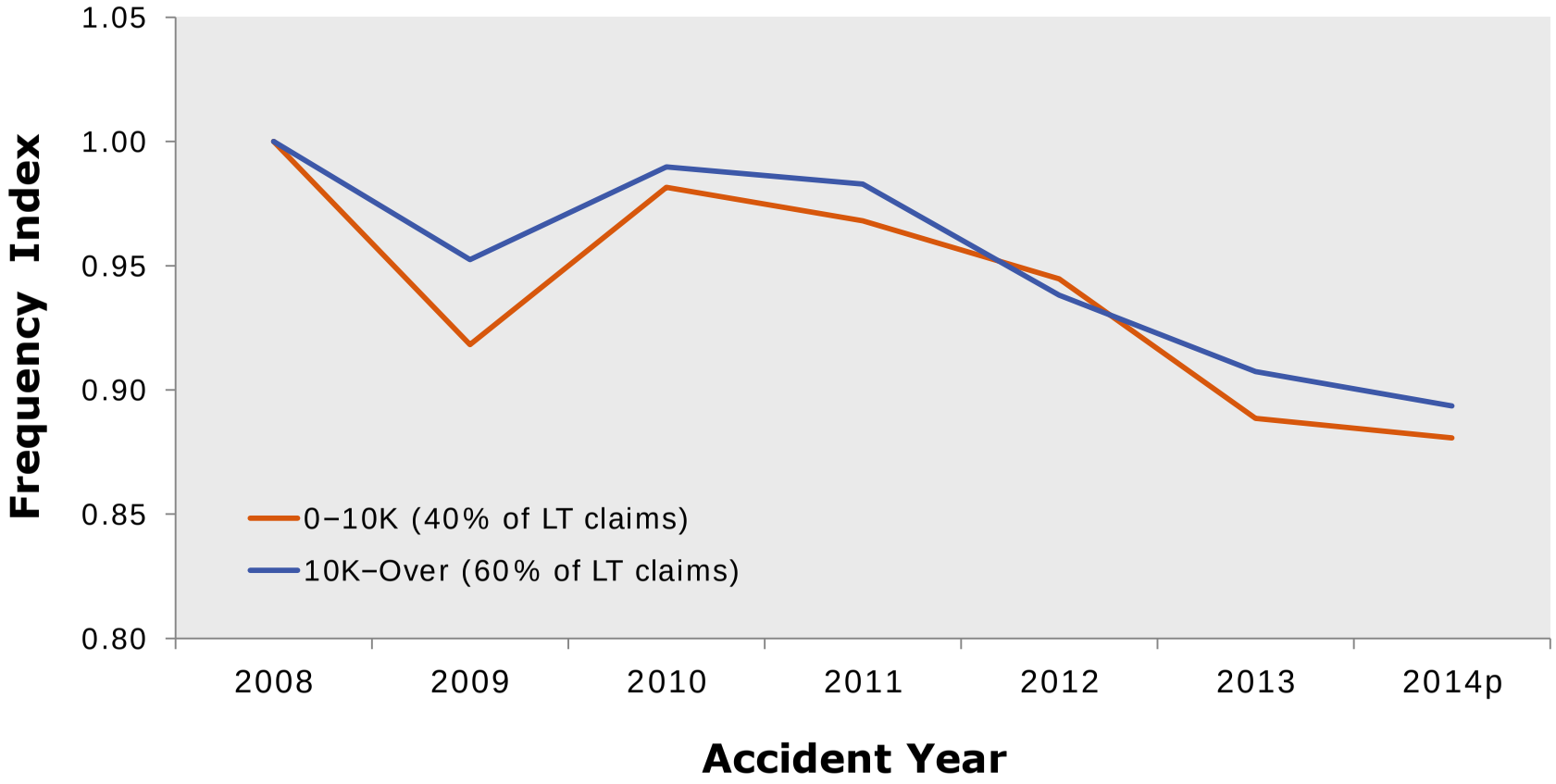
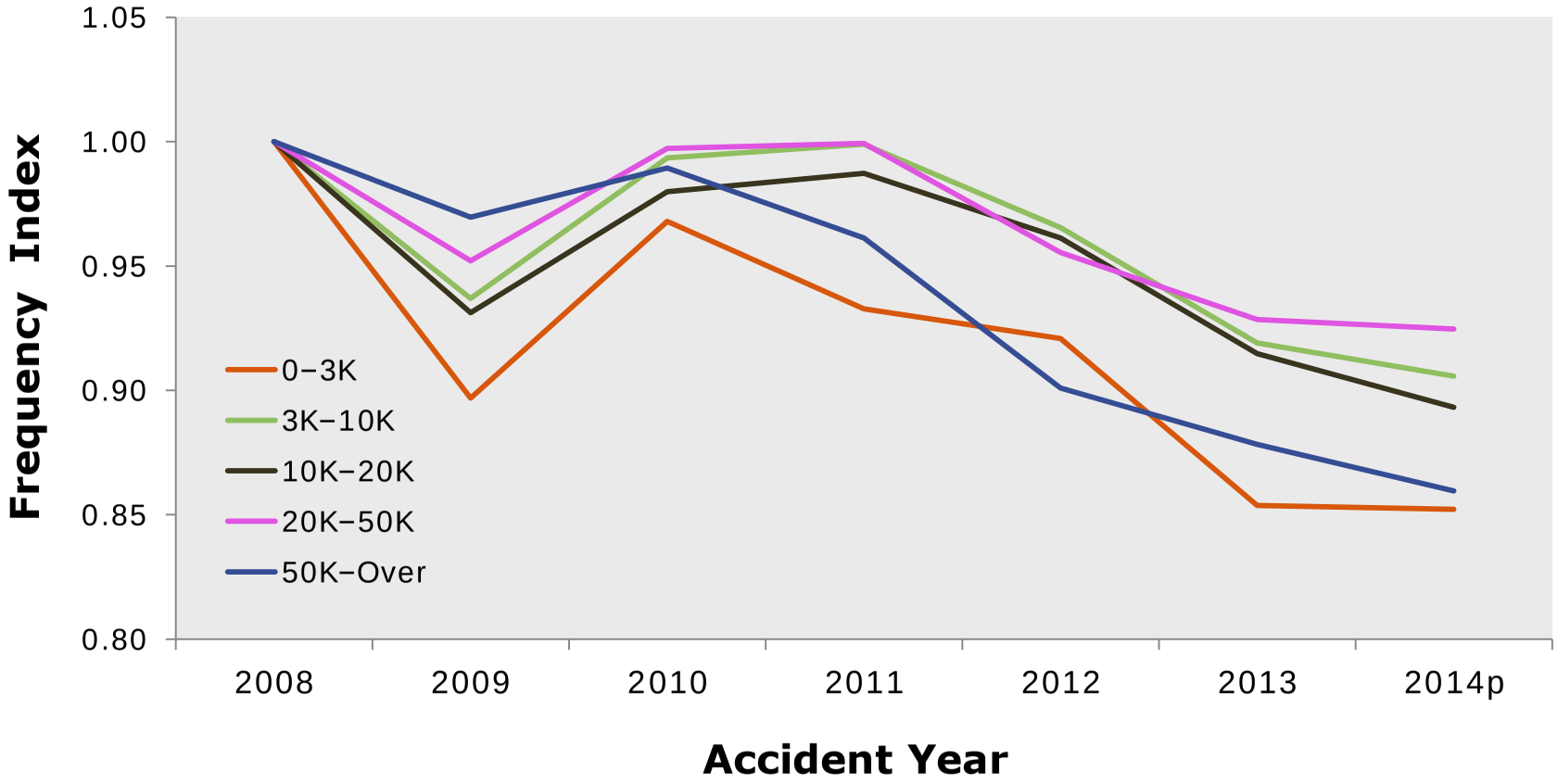
Countrywide Claim Frequency

Countrywide Lost-Time Claim Frequency by Size of Total Loss



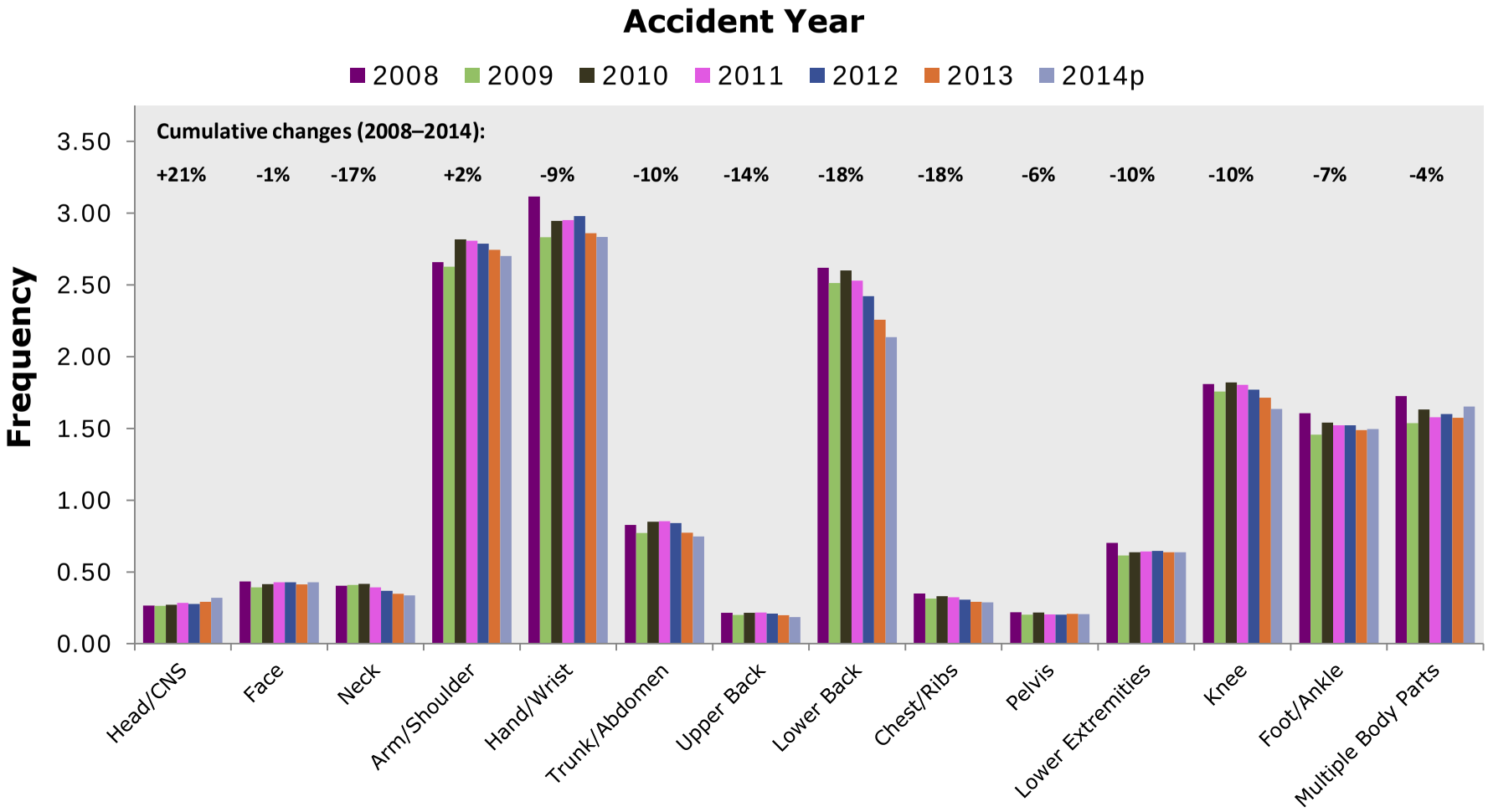
p Preliminary
Source: NCCI's ***Statistical Plan*** data
Frequency is lost-time claims at 1st report per $1M premium at current wage and NCCI pure loss cost level
Prior to assigning individual claims to size of loss categories, reported loss amounts are adjusted for inflation through 2014
For all states where NCCI provides ratemaking services

Countrywide Lost-Time Claim Frequency by Size of Total Loss—Quintiles



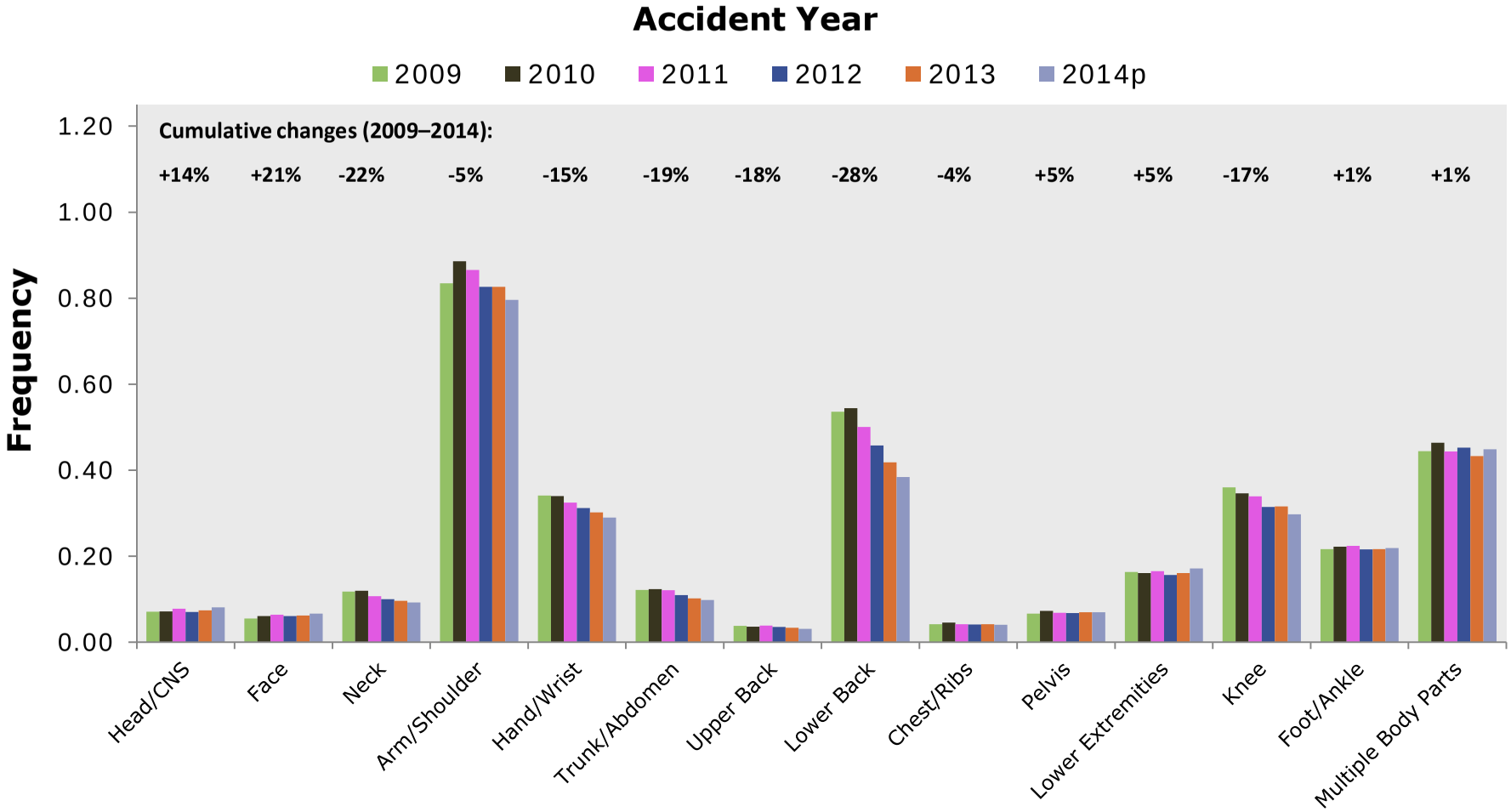
p Preliminary
Source: NCCI's ***Statistical Plan*** data
Frequency is lost-time claims at 1st report per $1M premium at current wage and NCCI pure loss cost level
Prior to assigning individual claims to size of loss categories, reported loss amounts are adjusted for inflation through 2014
For all states where NCCI provides ratemaking services

Countrywide Lost-Time Claim Frequency by Part-of-Body Groupings



p Preliminary
Source: NCCI's ***Statistical Plan*** data
Frequency is lost-time claims at 1st report per $1M premium at current wage and NCCI pure loss cost level
For all states where NCCI provides ratemaking services

Countrywide Lost-Time Claim Frequency by Part-of-Body Groupings for Claims Over $50,000



p Preliminary
Source: NCCI's ***Statistical Plan*** data
Frequency is lost-time claims at 1st report per $1M premium at current wage and NCCI pure loss cost level
Prior to assigning individual claims to the >$50K size-of-loss category, reported loss amounts are adjusted for inflation through 2014
For all states where NCCI provides ratemaking services

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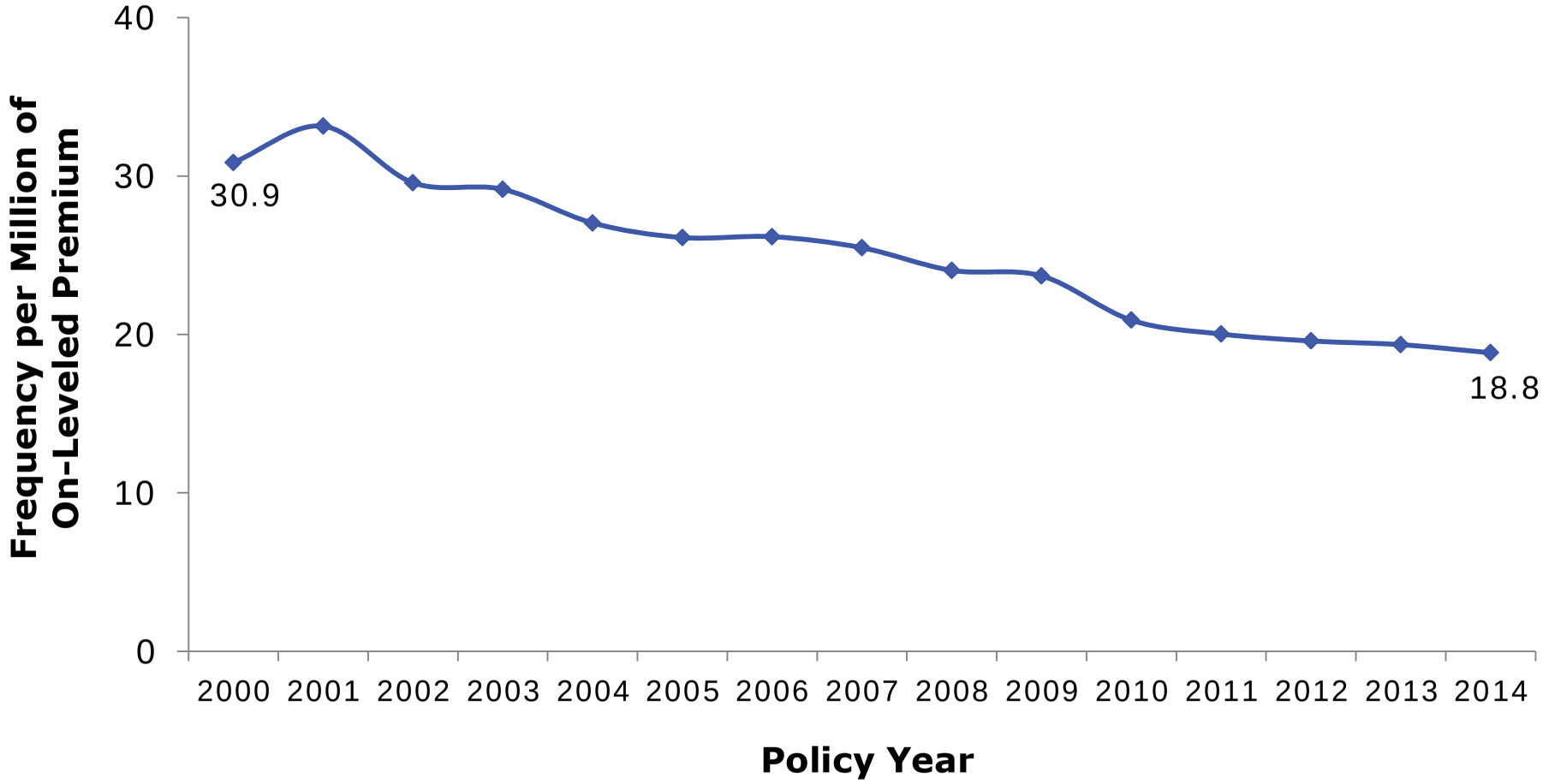
Claim Frequency

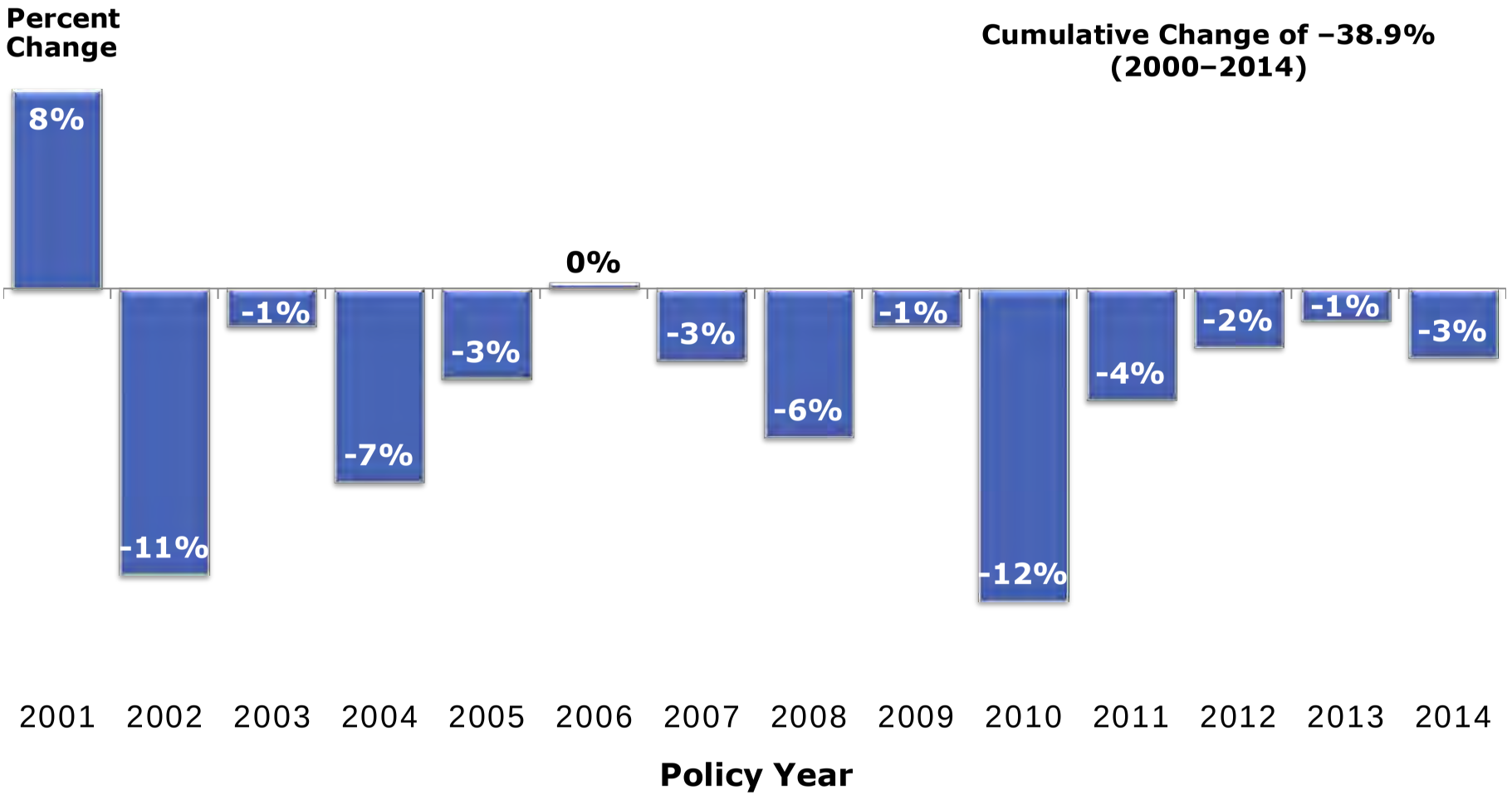
Kentucky's Lost-Time Claim Frequency



Based on NCCI's financial data
Frequency of lost-time claims adjusted to a common wage level

Kentucky Workers Compensation Claim Frequency Changes

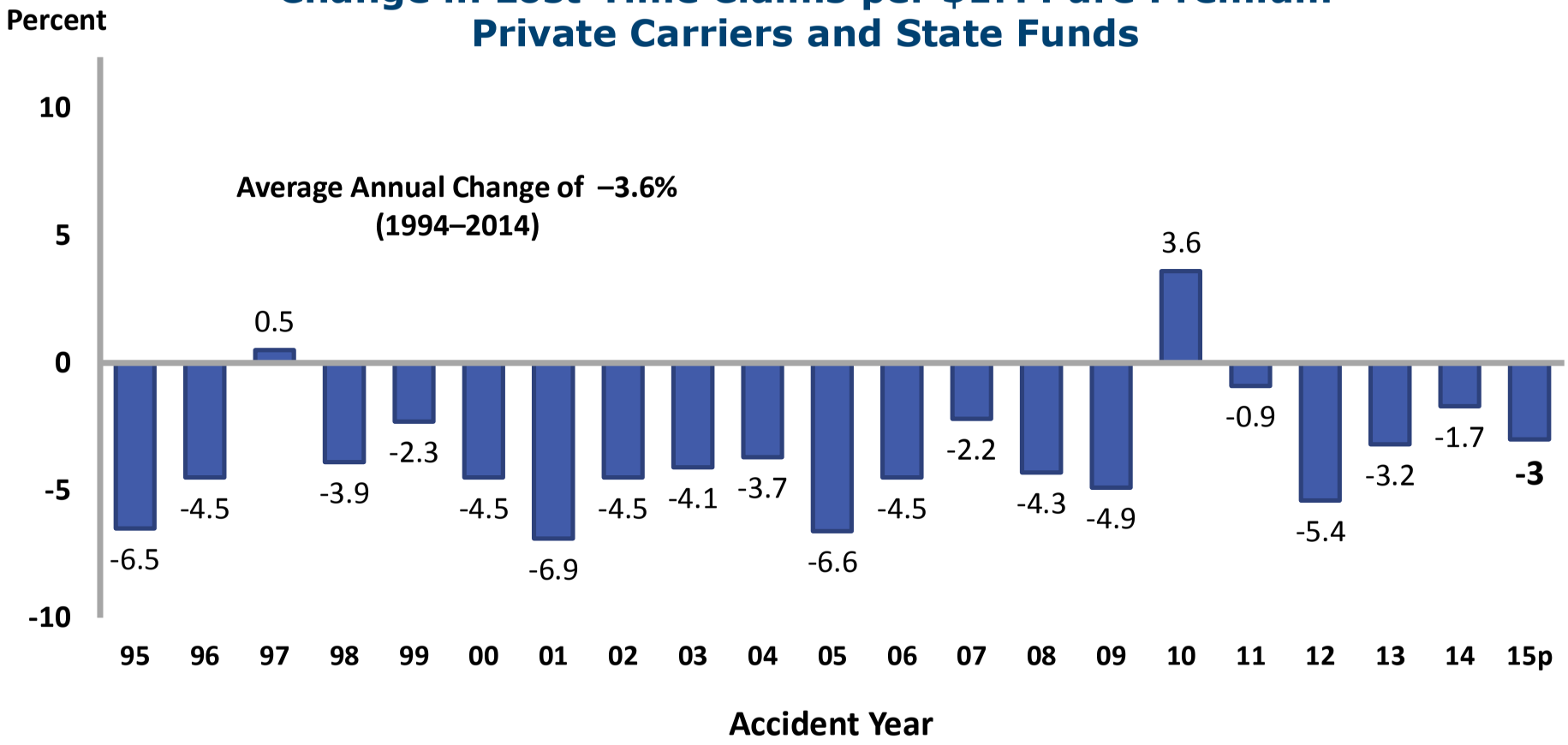
Lost-Time Claims



Based on data through 12/31/2015, developed to ultimate

Countrywide Workers Compensation Lost-Time Claim Frequency

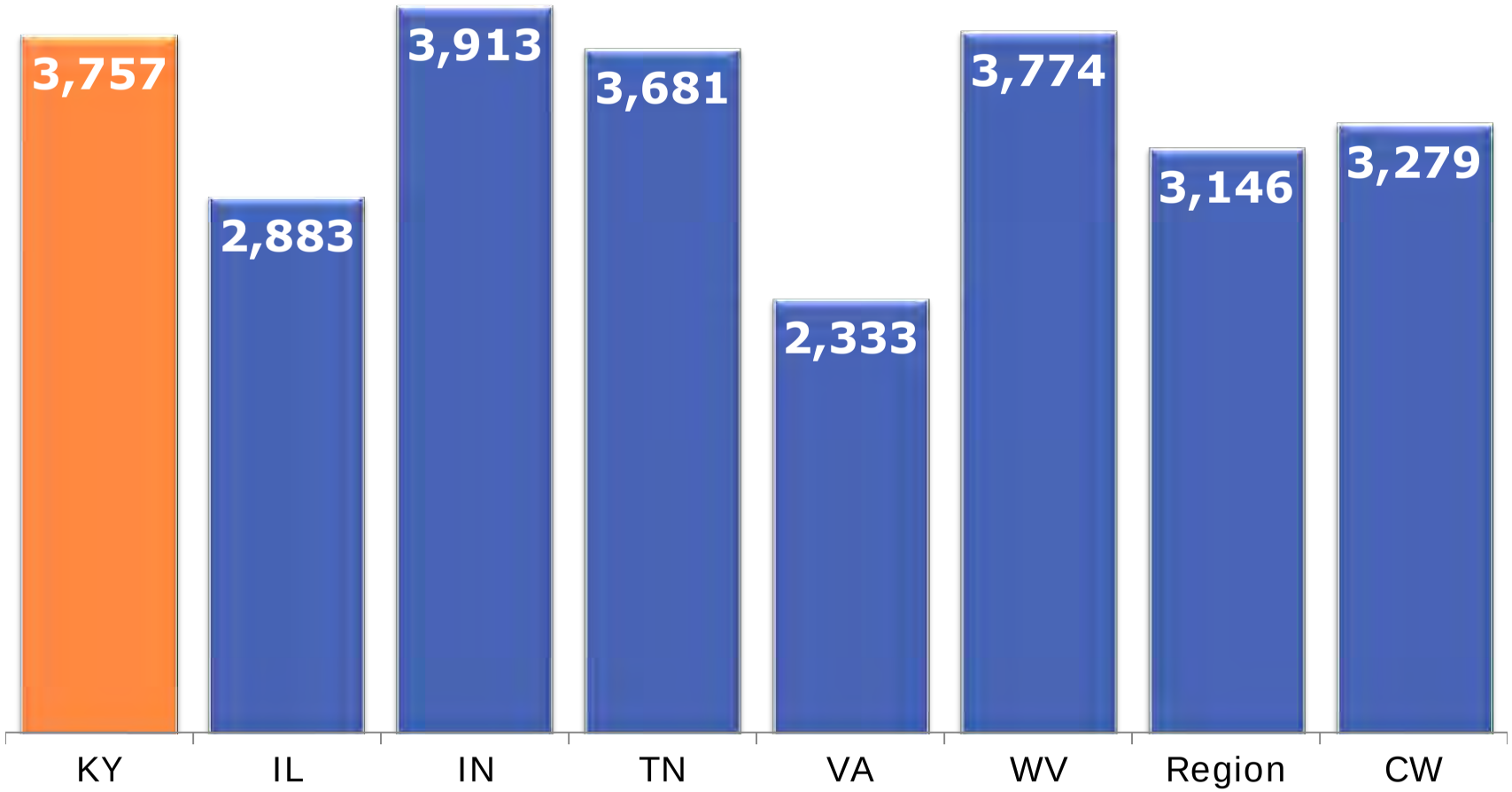
Change in Lost-Time Claims per $1M Pure Premium
Private Carriers and State Funds



2010 and 2011 adjusted primarily for significant changes in audit activity
p Preliminary based on data valued as of 12/31/2015
Source: NCCI's Financial Call data, developed to ultimate and adjusted to current wage and voluntary loss cost level, excludes high-deductible policies; 1994–2014: based on data through 12/31/2014
Includes all states where NCCI provides ratemaking services; WV is excluded through 2014, but included in 2015

Kentucky's Average Claim Frequency

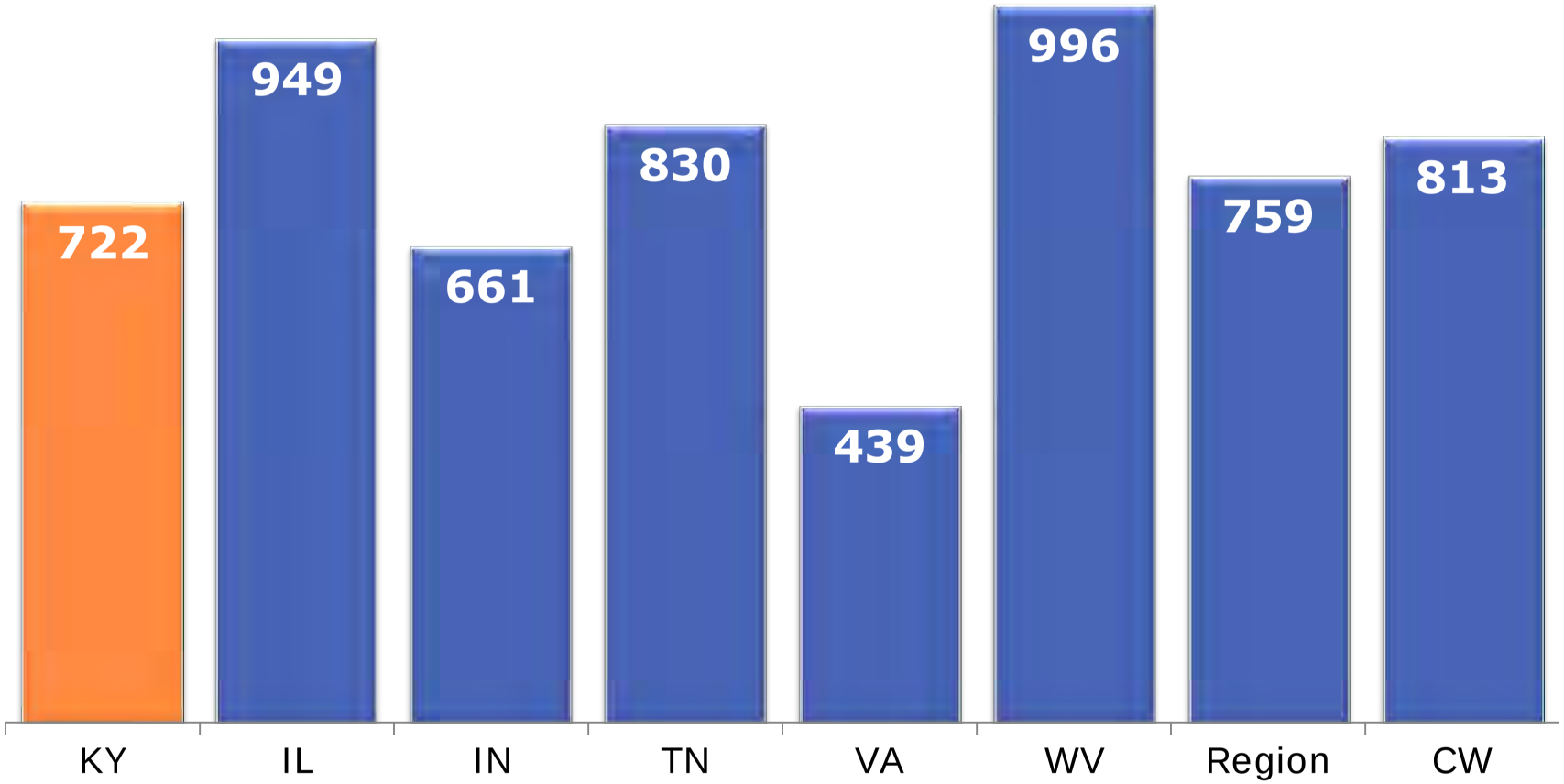
Frequency per 100,000 Workers—All Claims



Based on NCCI's ***Statistical Plan*** data

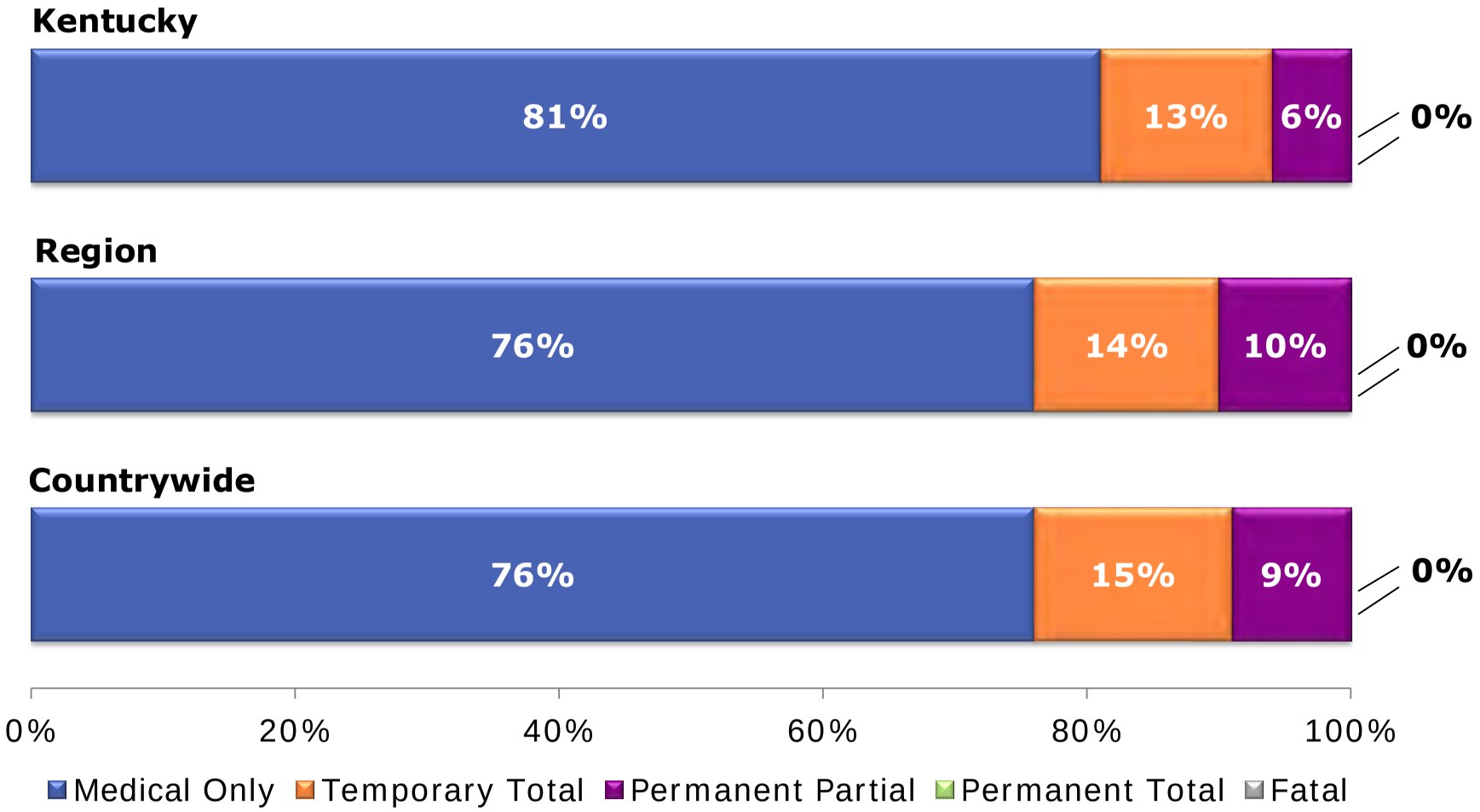
Kentucky's Average Lost-Time Claim Frequency

Frequency per 100,000 Workers—Lost-Time Claims



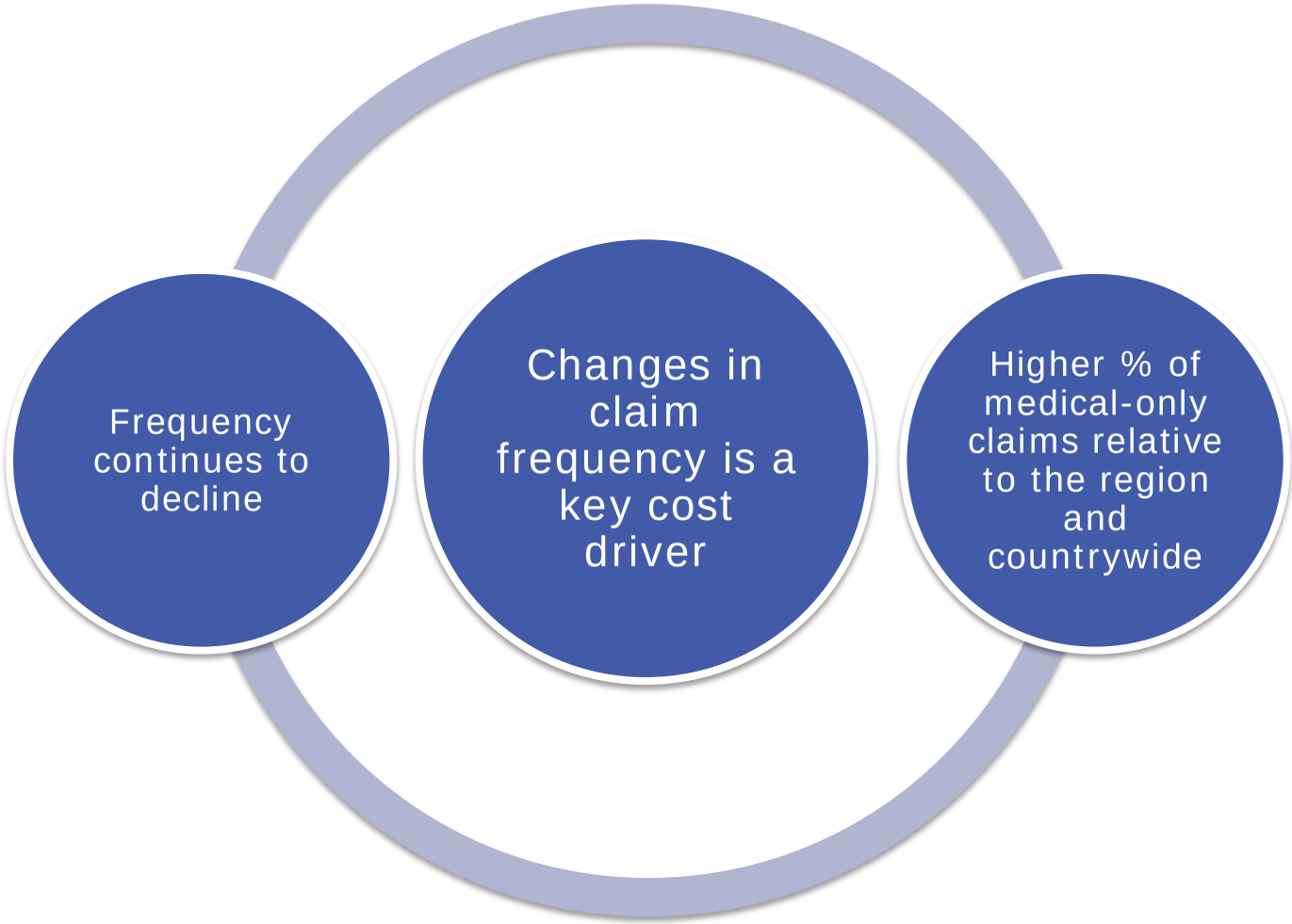
Based on NCCI's ***Statistical Plan*** data

Kentucky's Distribution of Claims by Injury Type



Regional states are IL, IN, TN, VA, and WV
Based on NCCI's ***Statistical Plan*** data for jurisdiction/claim type combinations for which three or more cases exist

Key Takeaways—Claim Frequency



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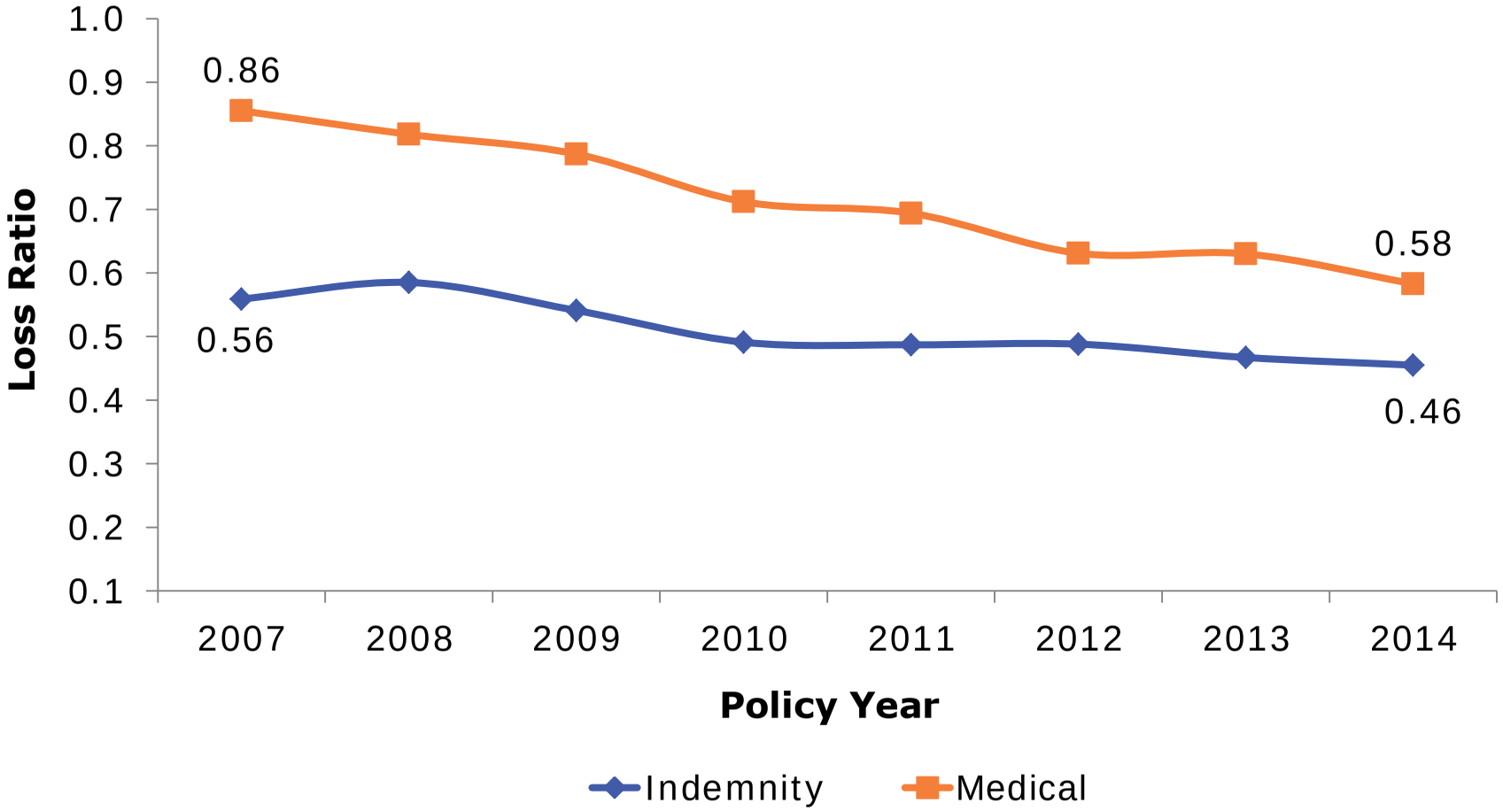
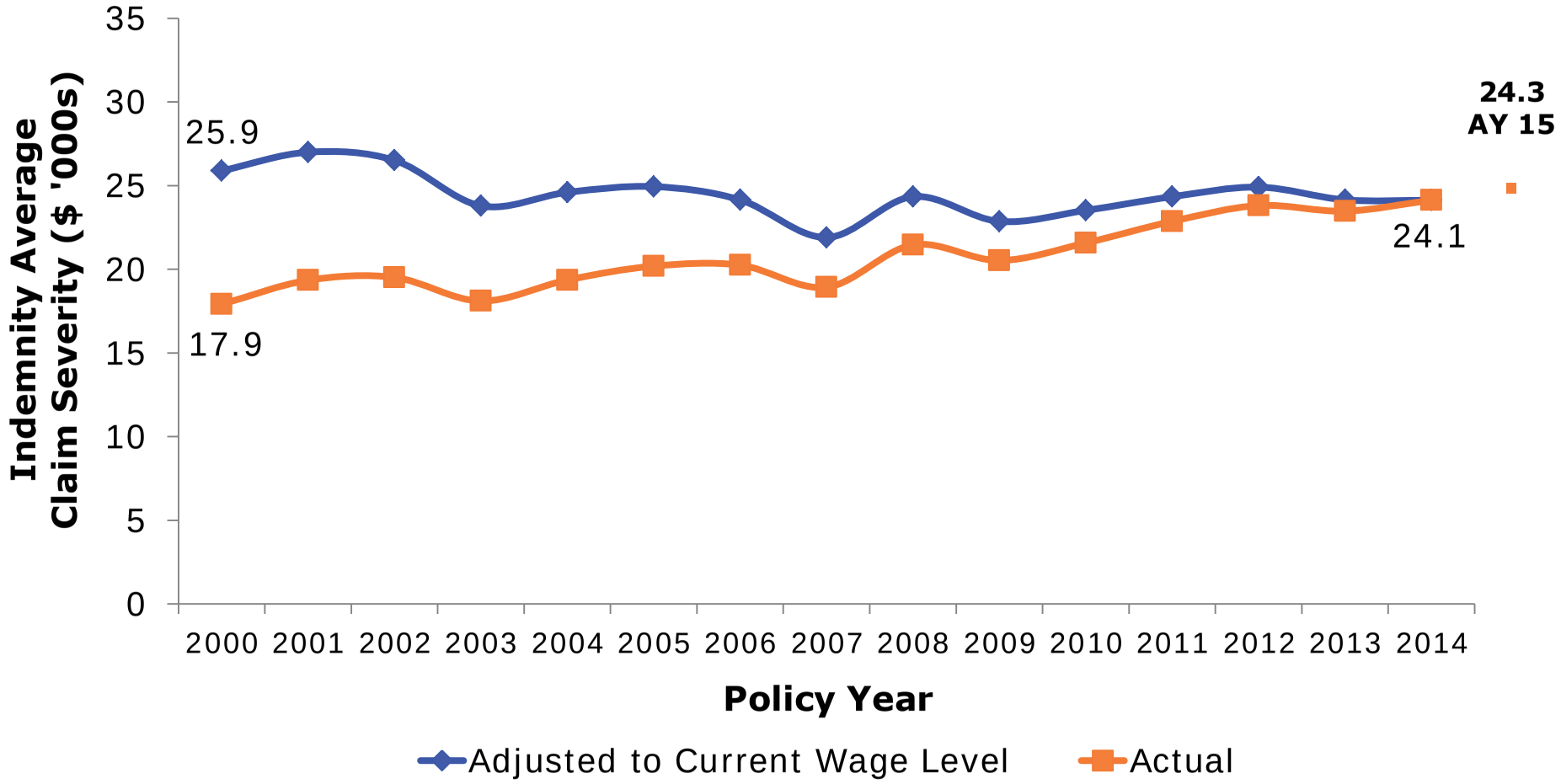
Indemnity and Medical Severity

Kentucky's Indemnity and Medical Loss Ratios



Based on NCCI's financial data at current benefit level and developed to ultimate

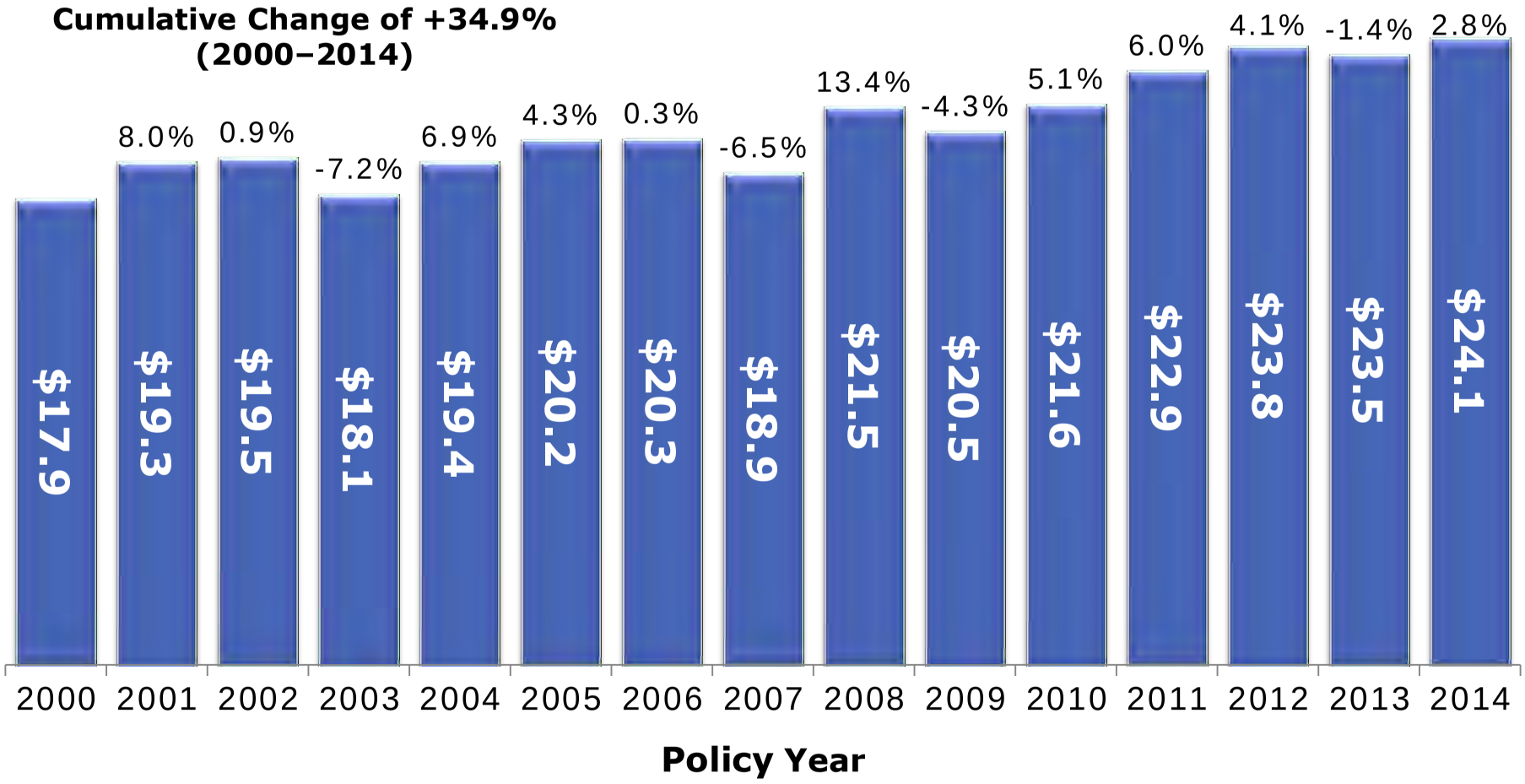
Kentucky's Average Indemnity Severity



Based on NCCI's financial data for lost-time claims at current benefit level and developed to ultimate

Kentucky's Average Indemnity Claim Severity

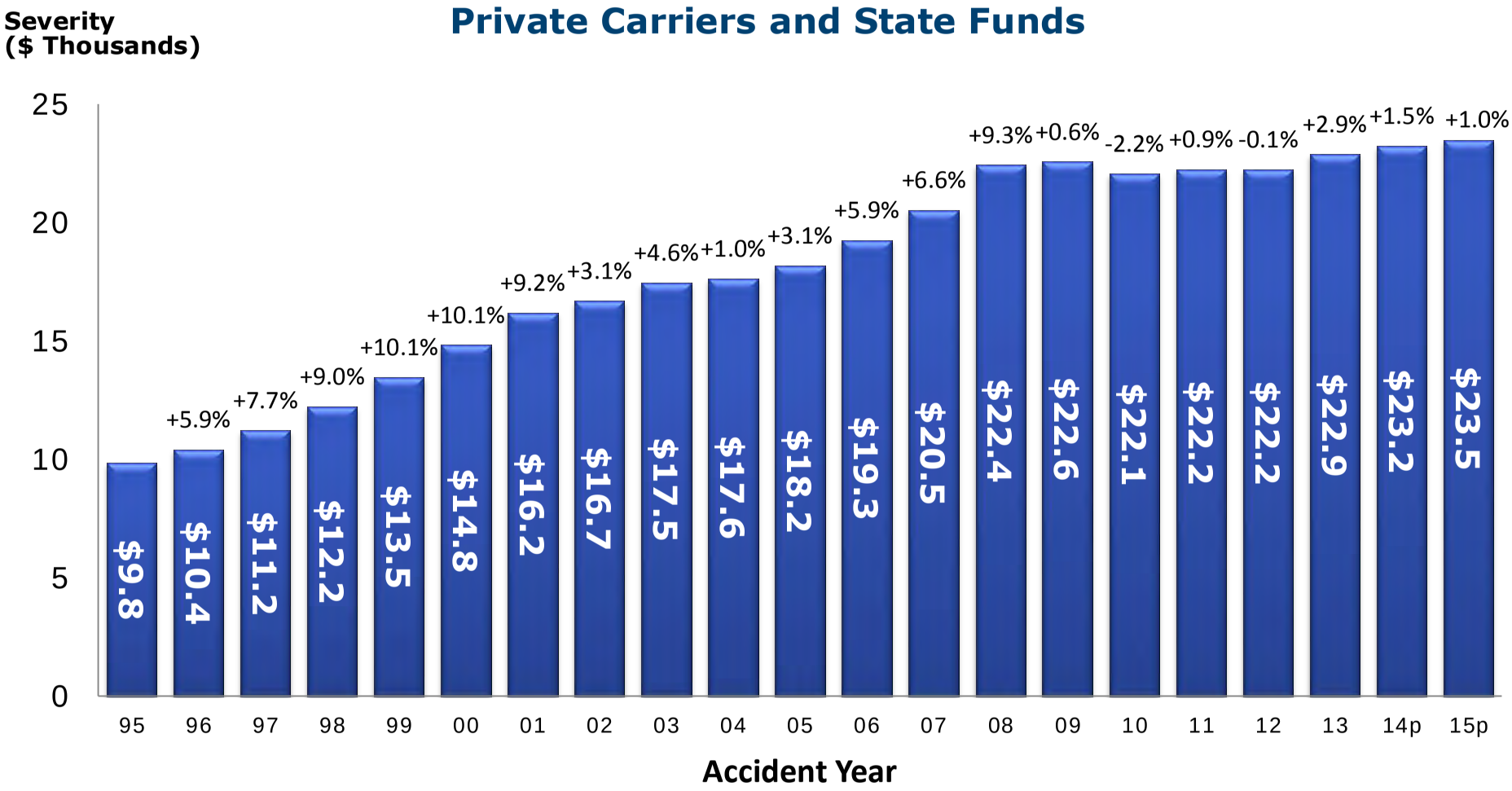
Lost-Time Claim Severity in $ Thousands



Based on data through 12/31/2015, on-leveled and developed to ultimate

Countrywide Workers Compensation Average Indemnity Cost per Lost-Time Claim

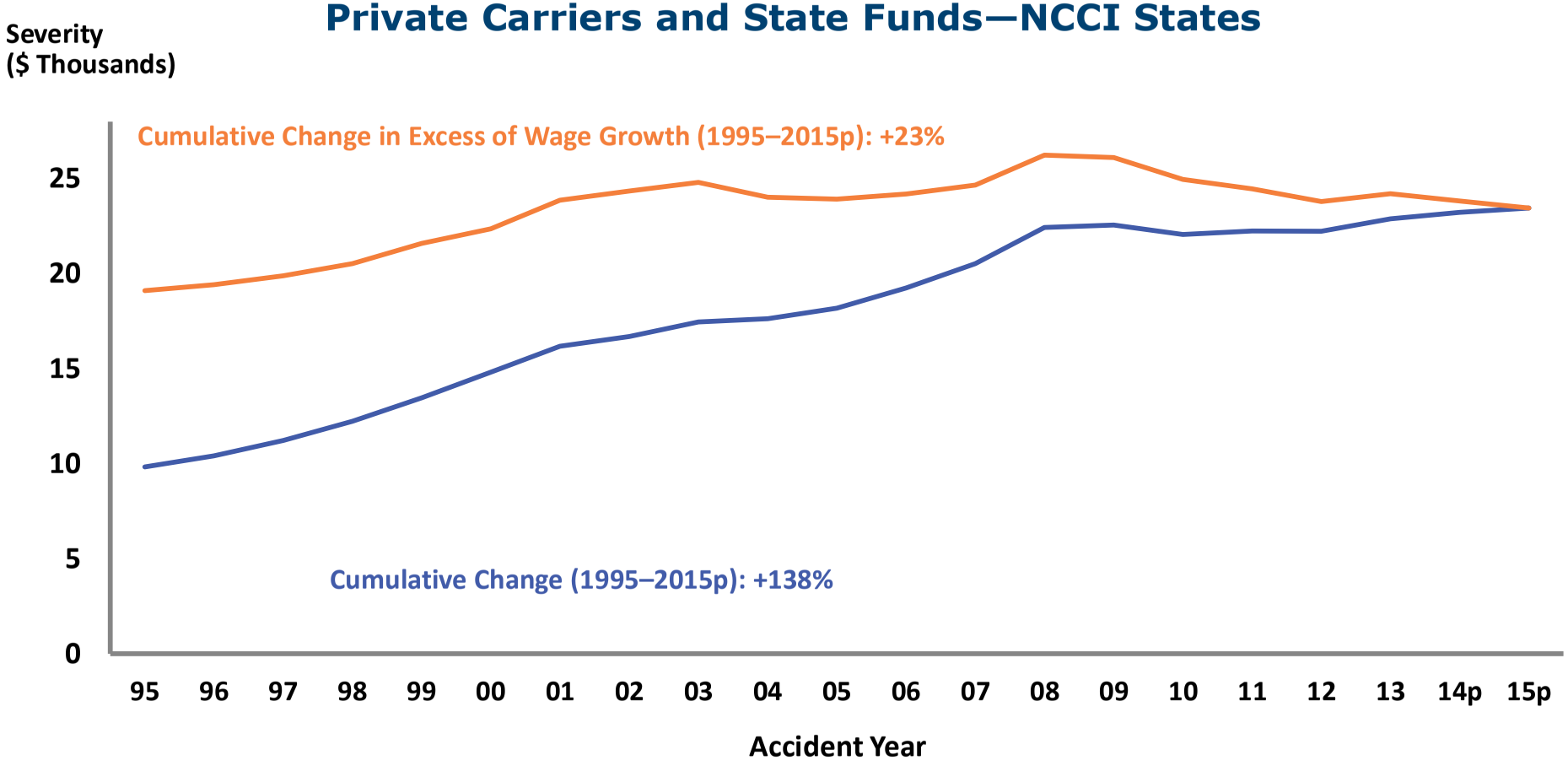
Private Carriers and State Funds



p Preliminary based on data valued as of 12/31/2015
Source: NCCI's Financial Call data, developed to ultimate; excludes high-deductible policies; 1994–2013: based on data through 12/31/2014
For all states where NCCI provides ratemaking services, excluding WV

Countrywide Workers Compensation Average Indemnity Cost per Lost-Time Claim

Private Carriers and State Funds—NCCI States

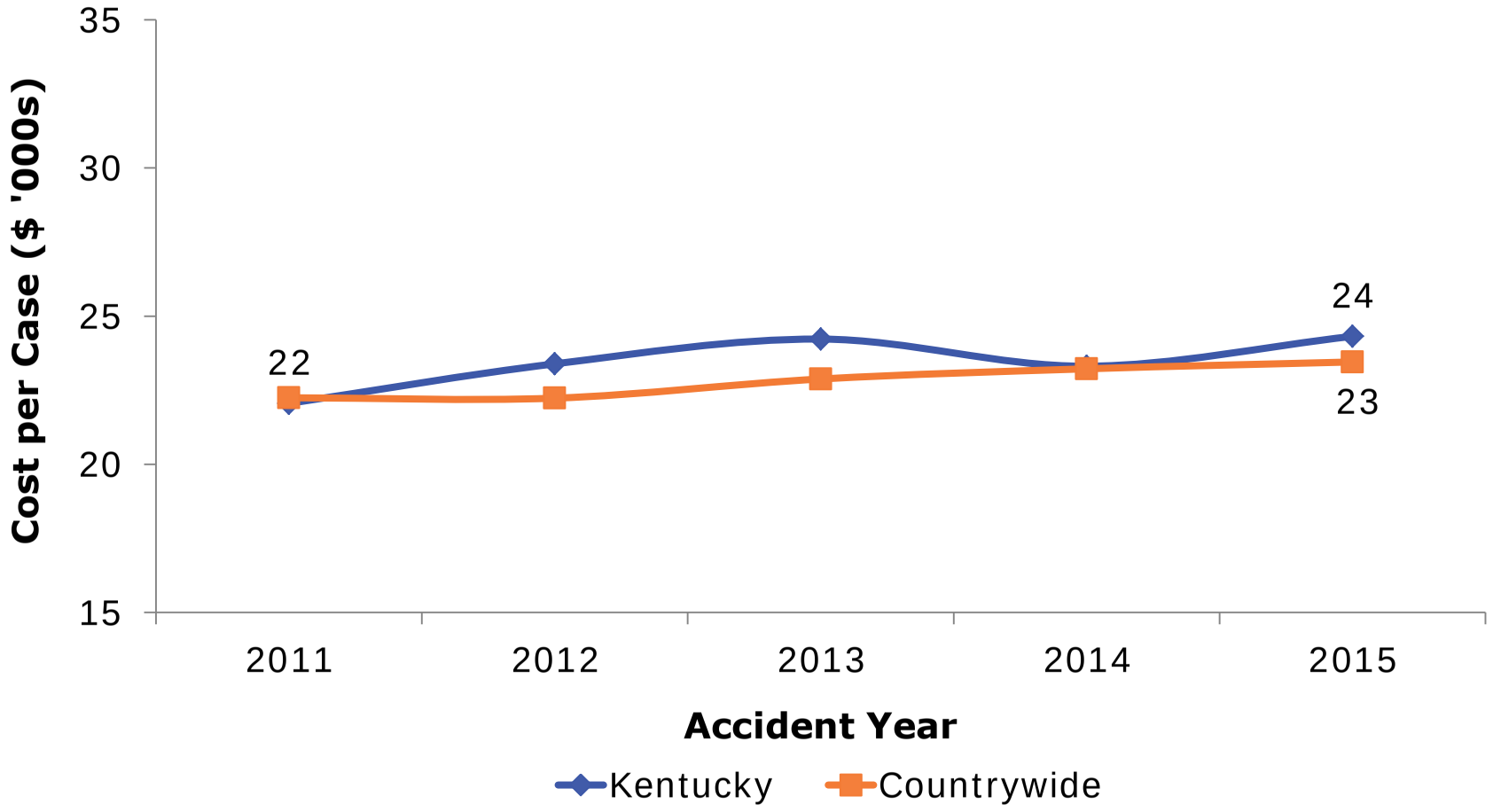


p Preliminary based on data valued as of 12/31/2015

Sources: Severity: NCCI's Financial Call data, developed to ultimate, excludes high-deductible policies; 1994–2013: based on data through 12/31/2014
US Average Weekly Wage: 1994–2007 and 2012–2014, Quarterly Census of Employment and Wages; 2008–2011, NCCI; 2015p, NCCI and Moody's Economy.com

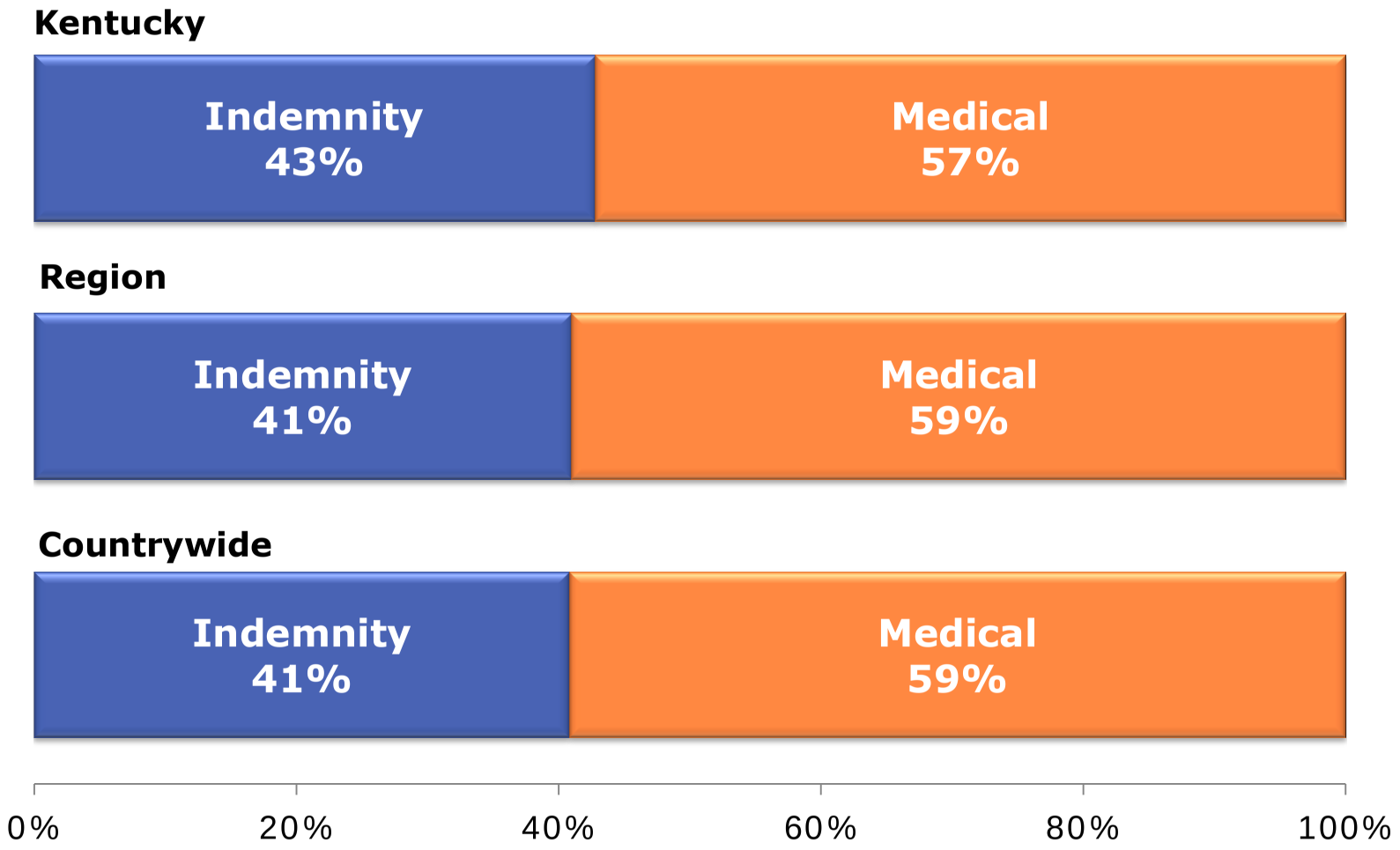
Includes all states where NCCI provides ratemaking services; WV is included in 2014 and subsequent

Kentucky vs. Countrywide
Average Indemnity Claim Severity



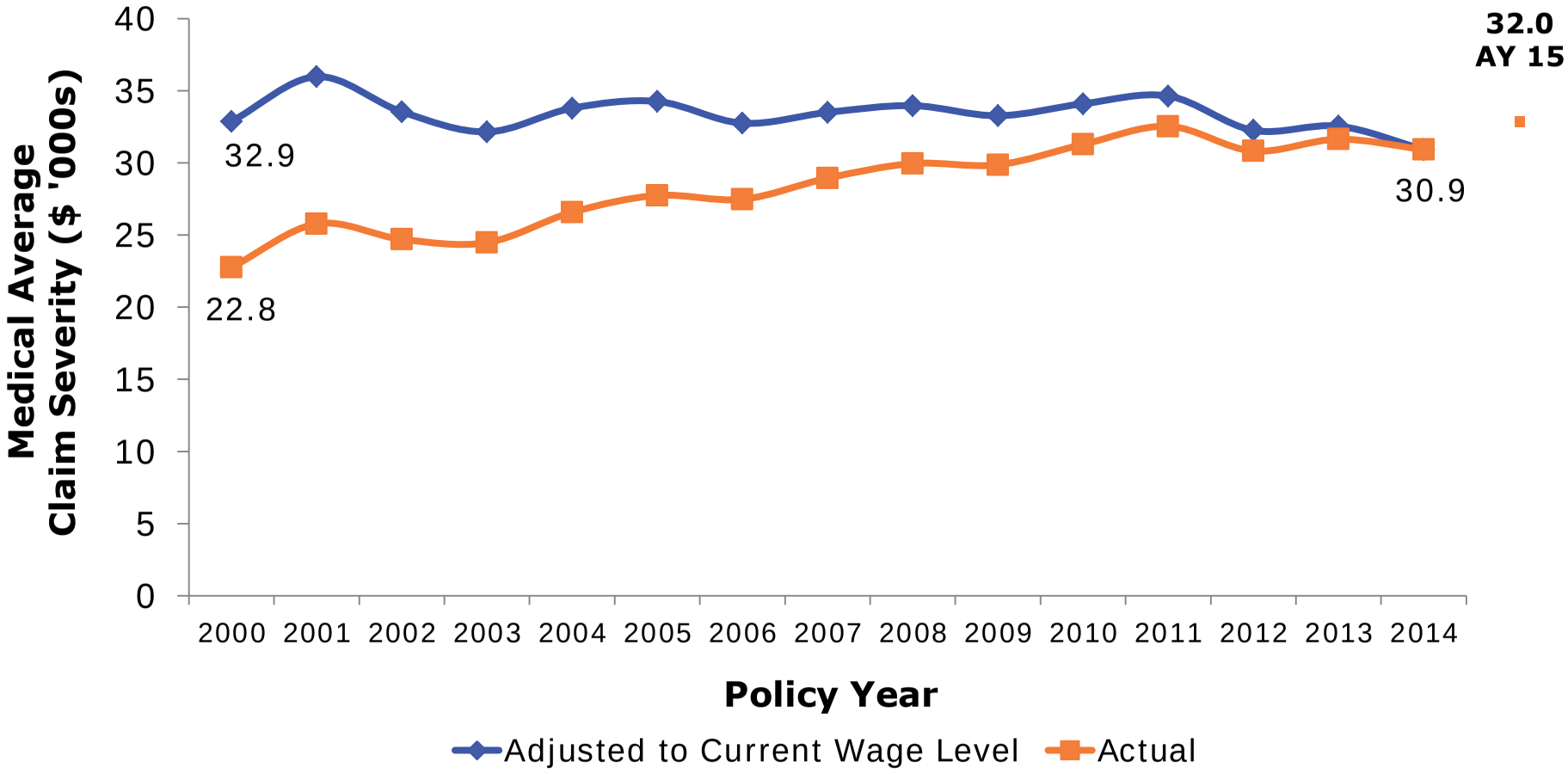
Source: NCCI's financial data

Medical Benefits Constitute the Majority of Total Benefit Costs in Kentucky



Regional states are IL, IN, TN, VA, and WV
Based on NCCI's financial data

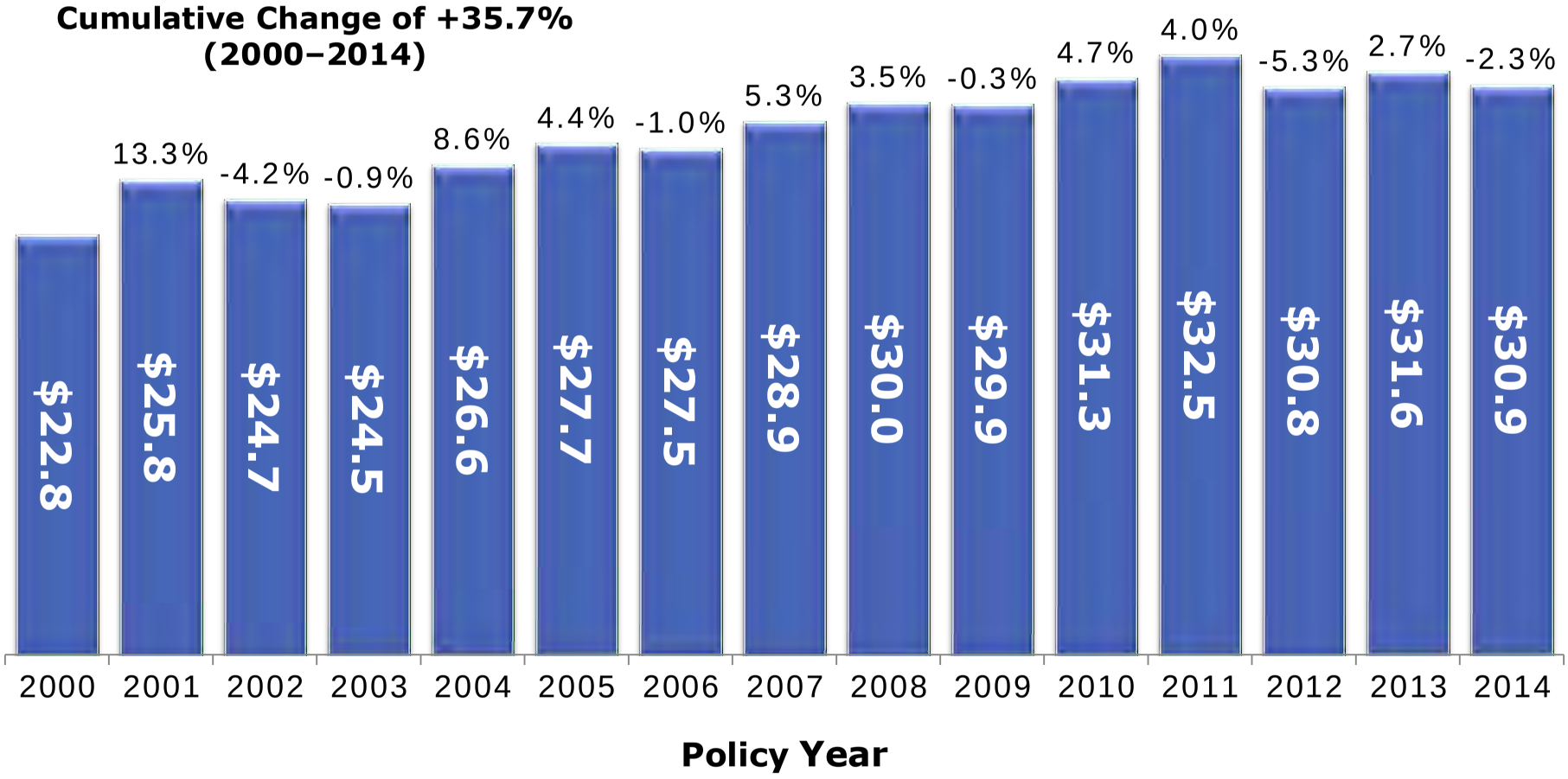
Kentucky's Average Medical Severity



Based on NCCI's financial data for lost-time claims at current benefit level and developed to ultimate

Kentucky's Average Medical Claim Severity

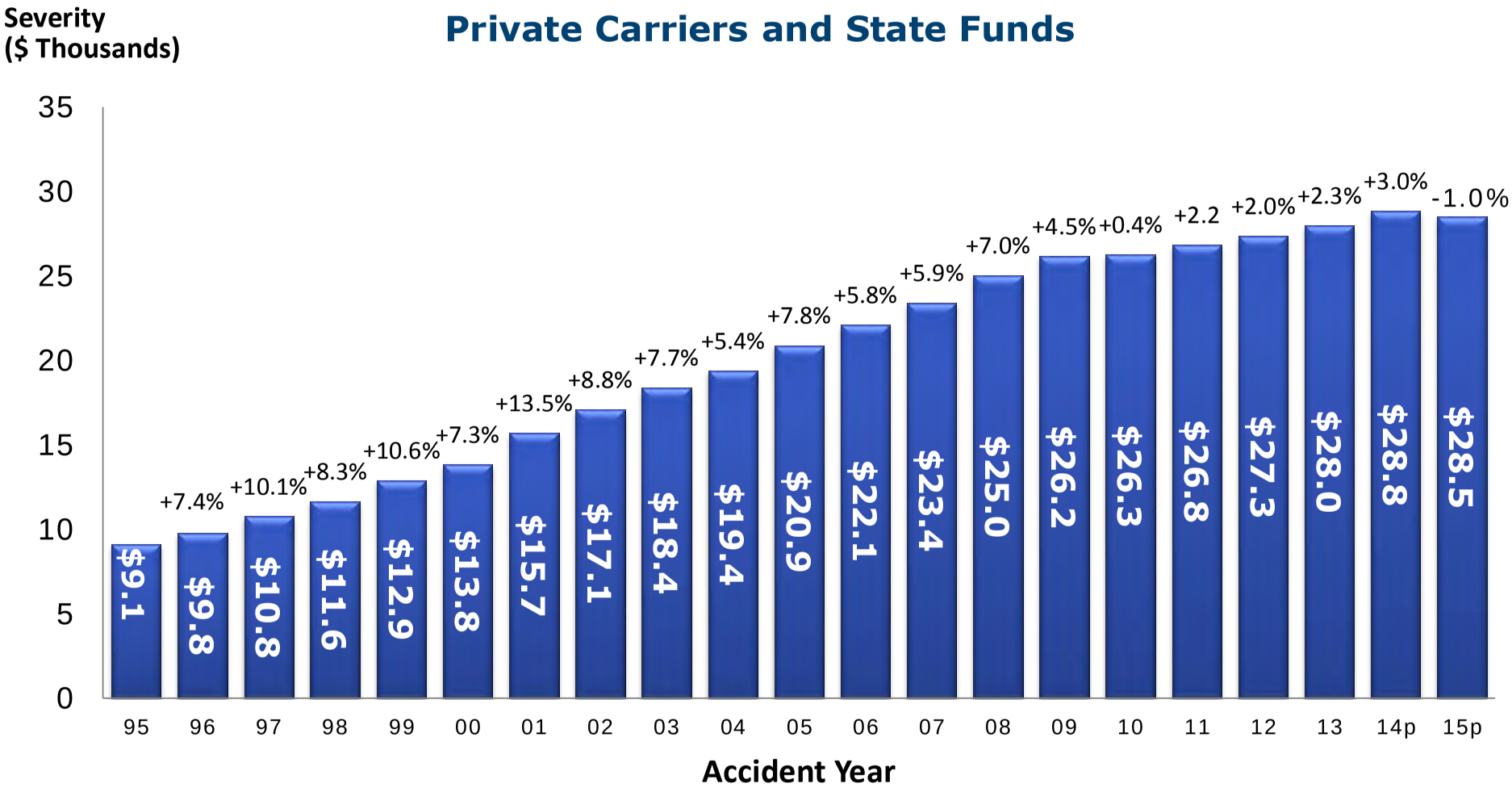
Lost-Time Claim Severity in $ Thousands



Based on data through 12/31/2015, on-leveled and developed to ultimate

Countrywide Workers Compensation Average Medical Cost per Lost-Time Claim

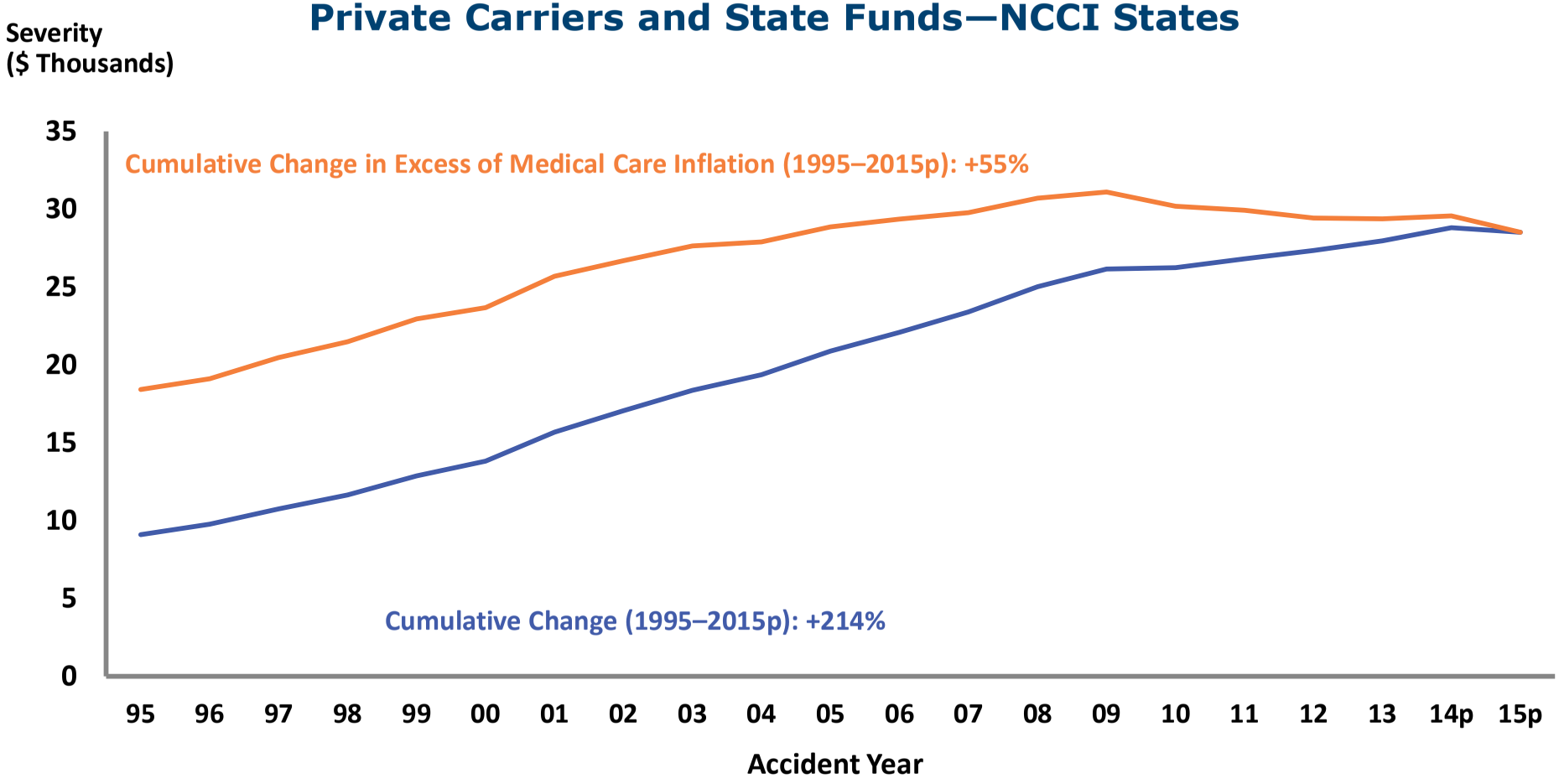
Private Carriers and State Funds



p Preliminary based on data valued as of 12/31/2015
Source: NCCI's Financial Call data, developed to ultimate, excludes high-deductible policies; 1994–2013: based on data through 12/31/2014
Includes all states where NCCI provides ratemaking services; WV is included in 2014 and subsequent

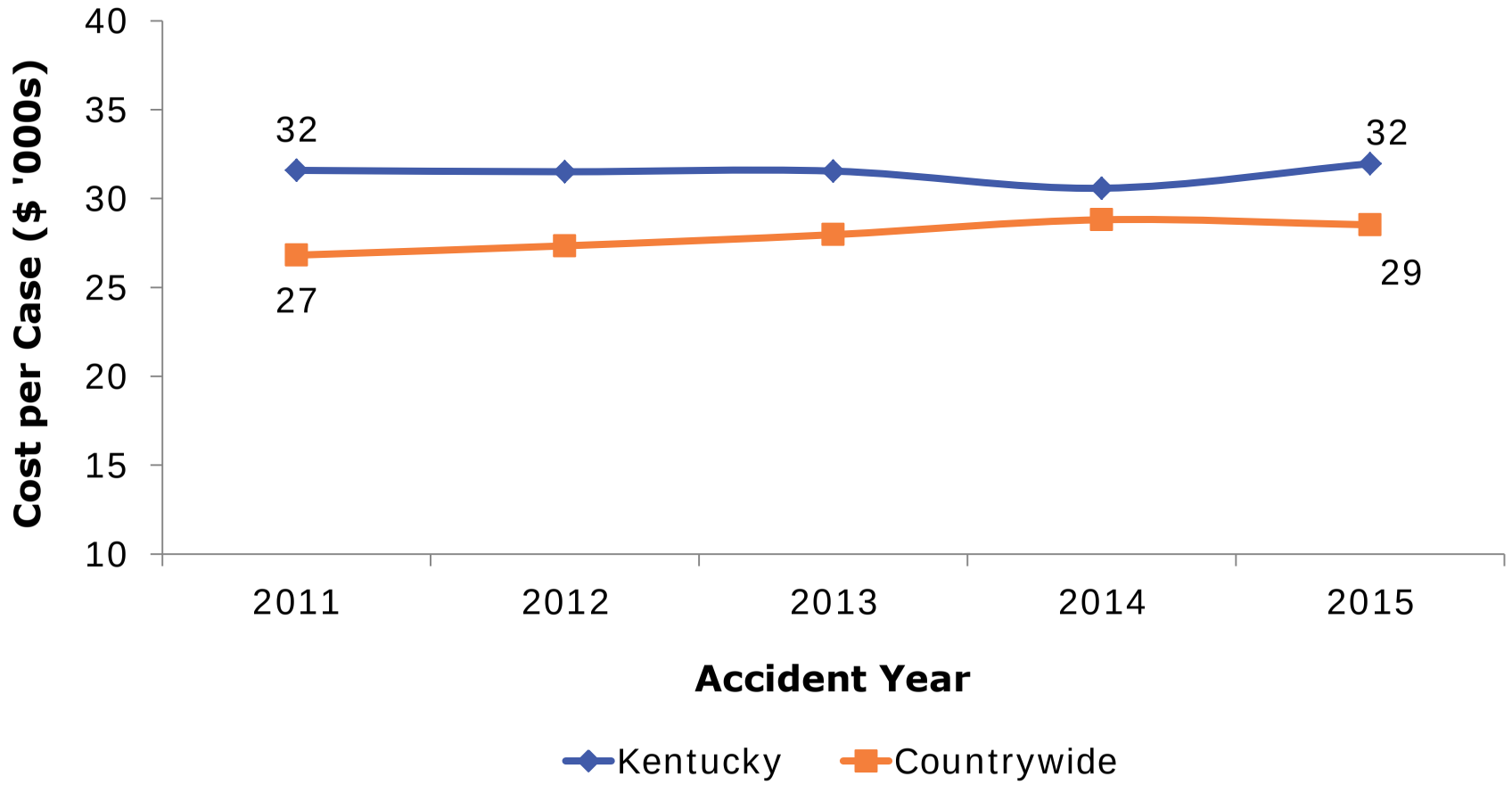
Countrywide Workers Compensation Average Medical Cost per Lost-Time Claim

Private Carriers and State Funds—NCCI States



p Preliminary based on data valued as of 12/31/2015
Sources: Severity: NCCI's Financial Call data, developed to ultimate, excludes high-deductible policies; 1994–2013: based on data through 12/31/2014
US Medical CPI: US Bureau of Labor Statistics
Includes all states where NCCI provides ratemaking services; WV is included in 2014 and subsequent

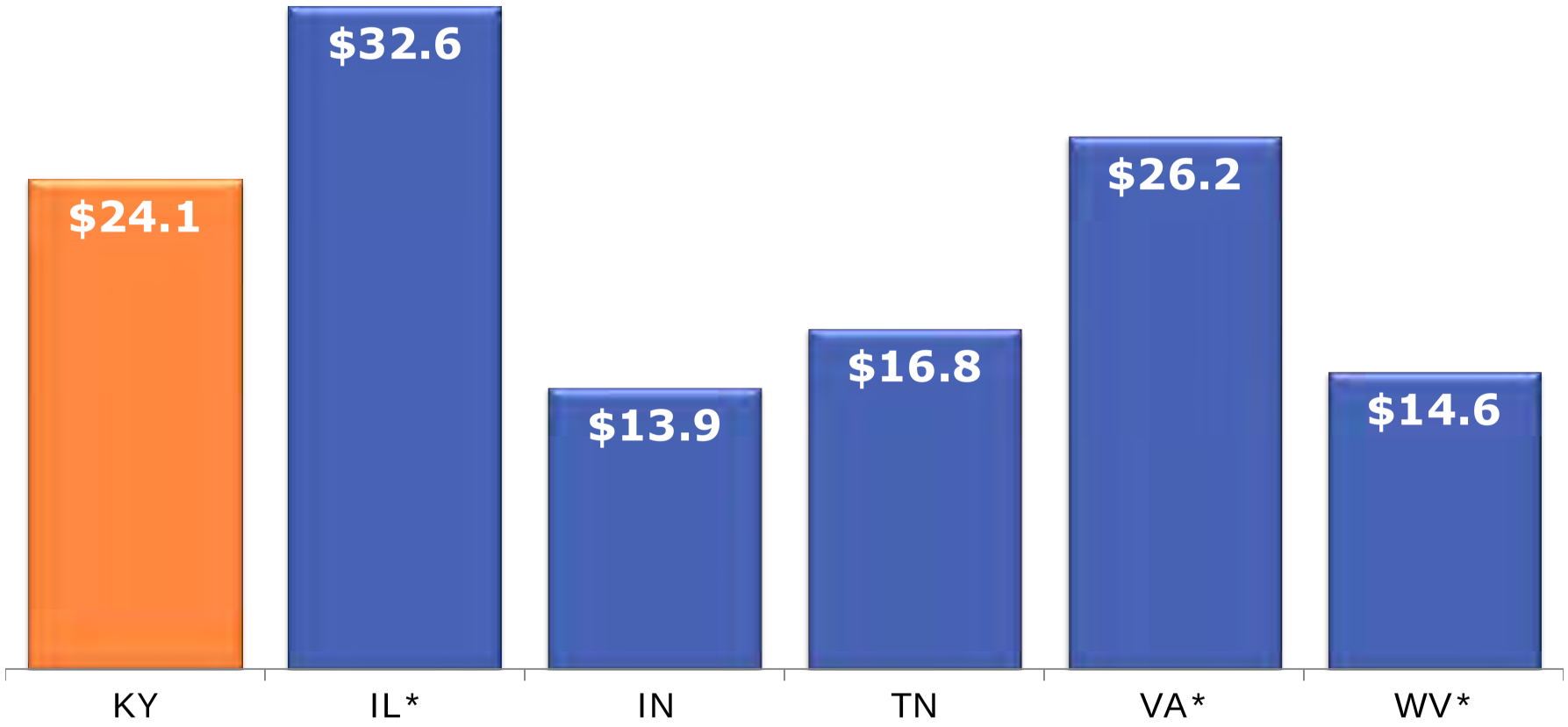
Kentucky vs. Countrywide
Average Medical Claim Severity



Source: NCCI's financial data

Average Indemnity Claim Severity in the Region

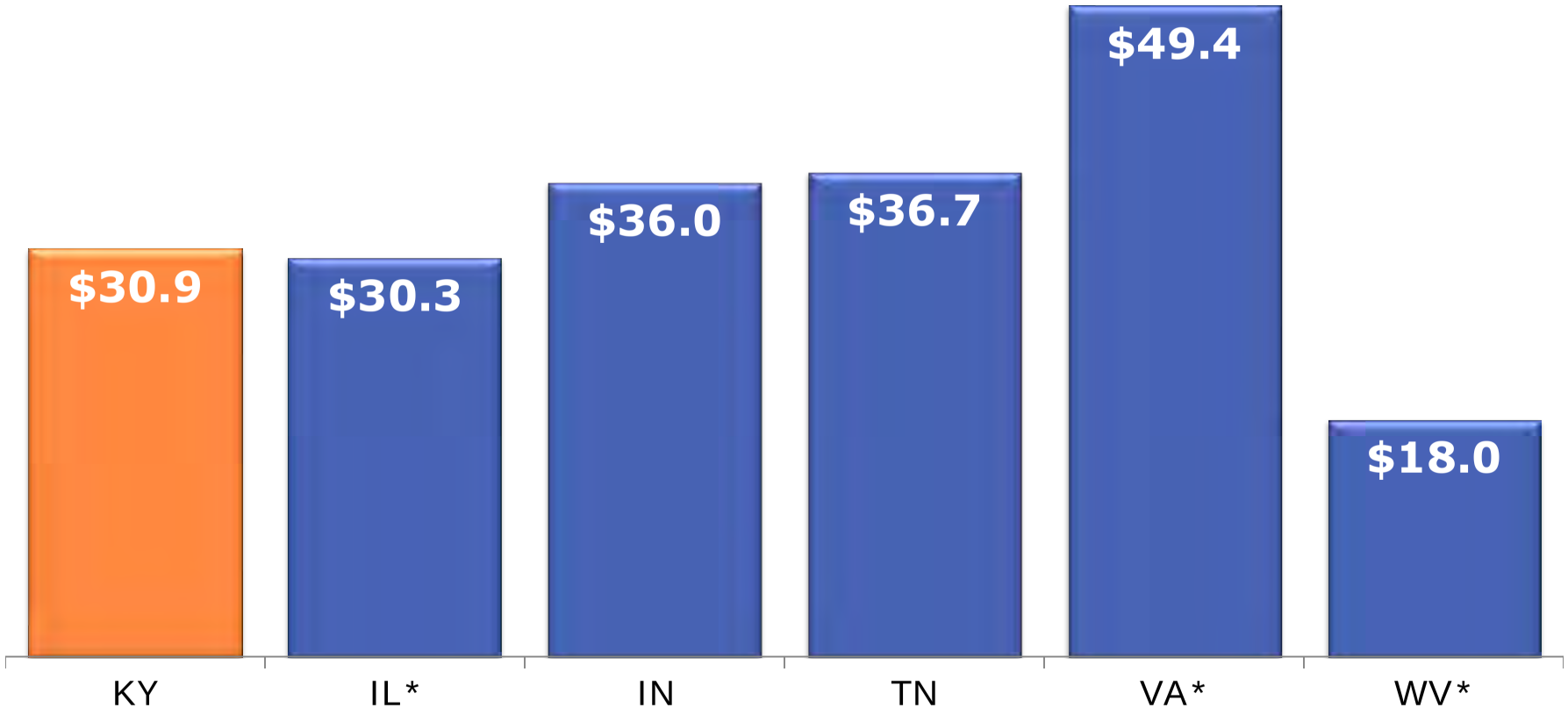
Lost-Time Claim Severity in $ Thousands



*Unlimited Severity Figure
Based on NCCI's financial data for lost-time claims

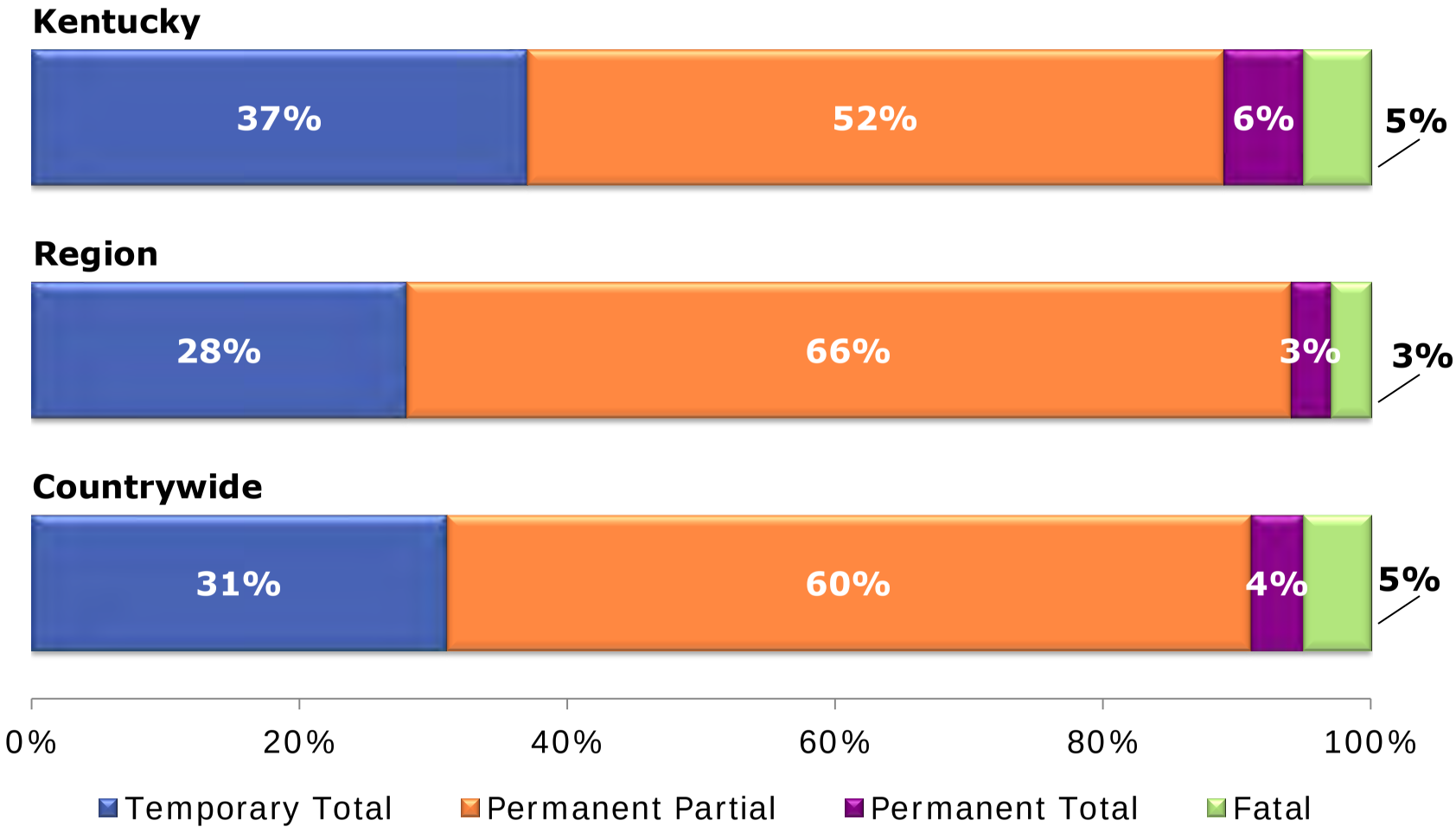
Average Medical Claim Severity in the Region

Lost-Time Claim Severity in $ Thousands



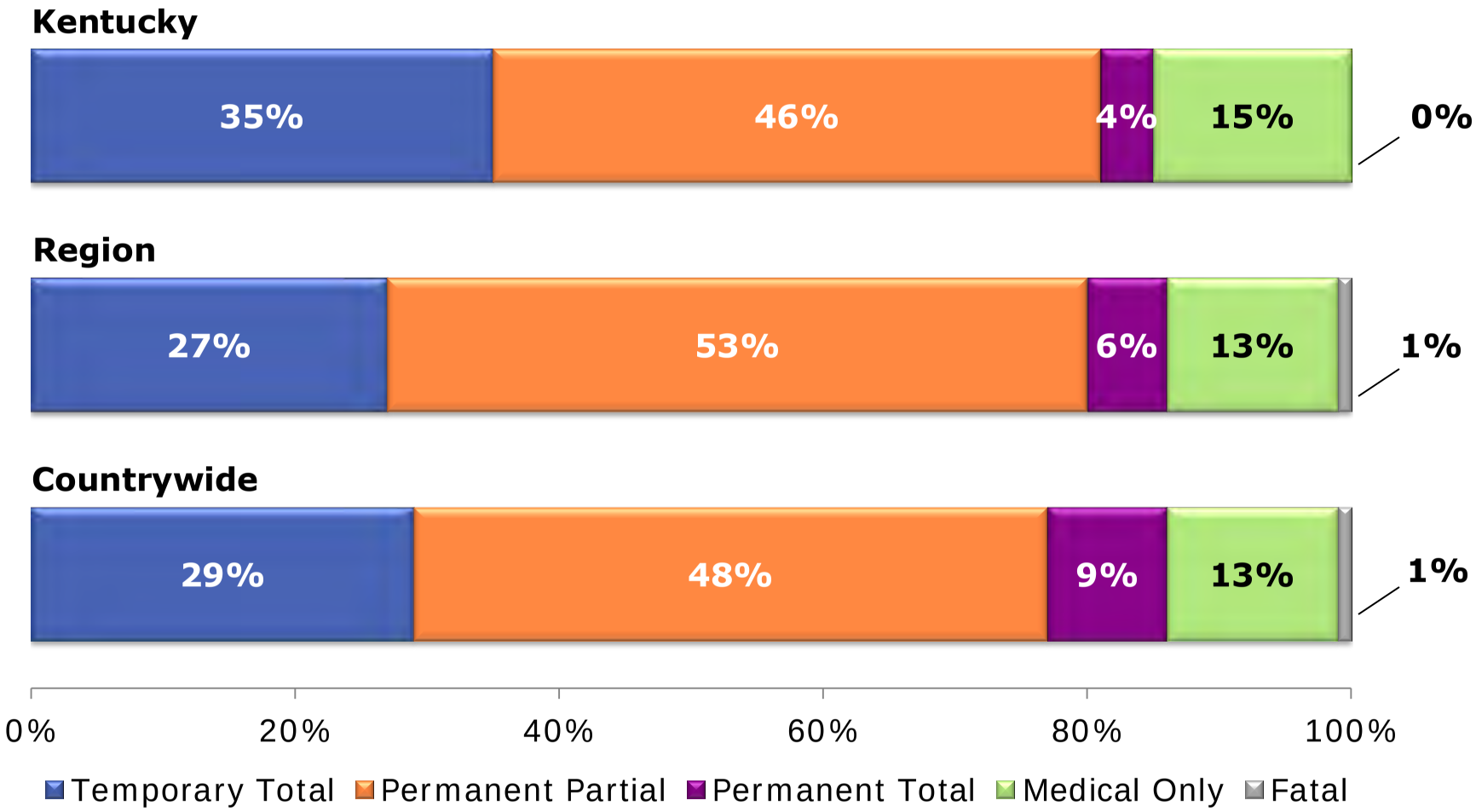
*Unlimited Severity Figure
Based on NCCI's financial data for lost-time claims

Kentucky's Indemnity Loss Distribution by Injury Type



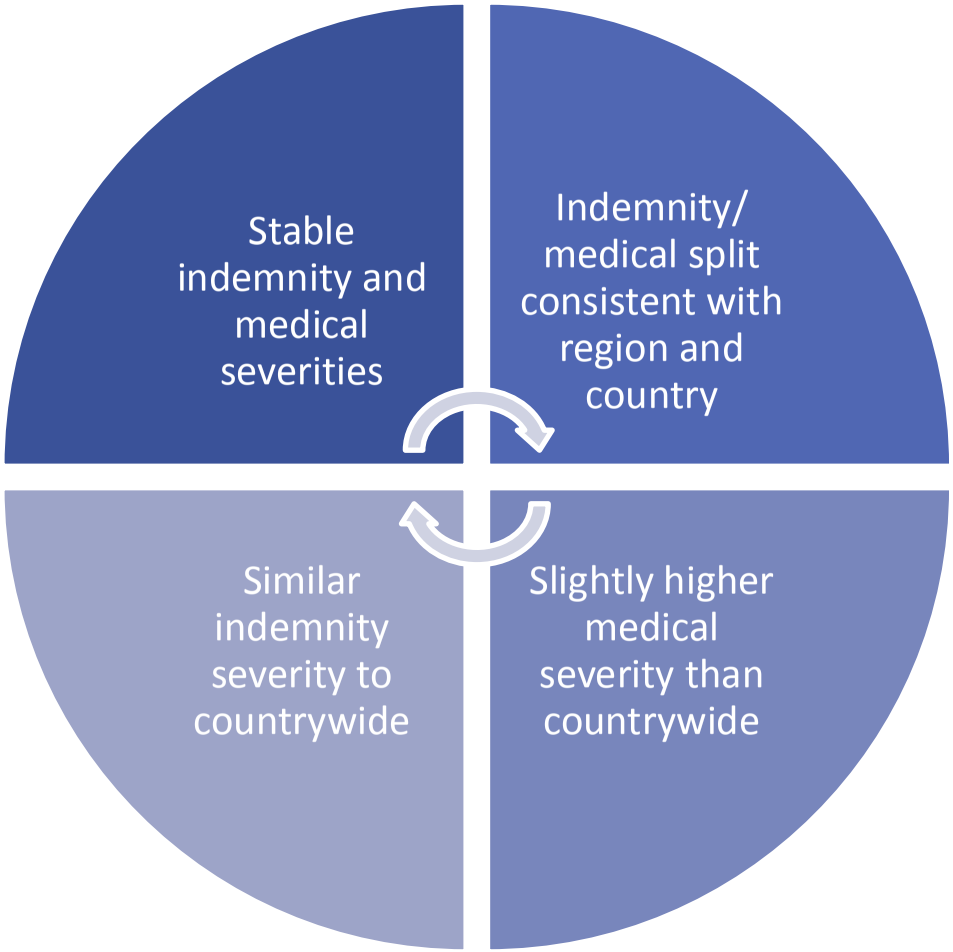
Regional states are IL, IN, TN, VA, and WV
Based on NCCI's ***Statistical Plan*** data for jurisdiction/claim type combinations for which three or more cases exist

Kentucky's Medical Loss Distribution by Injury Type



Regional states are IL, IN, TN, VA, and WV
Based on NCCI's ***Statistical Plan*** data for jurisdiction/claim type combinations for which three or more cases exist

Key Takeaways—Severity



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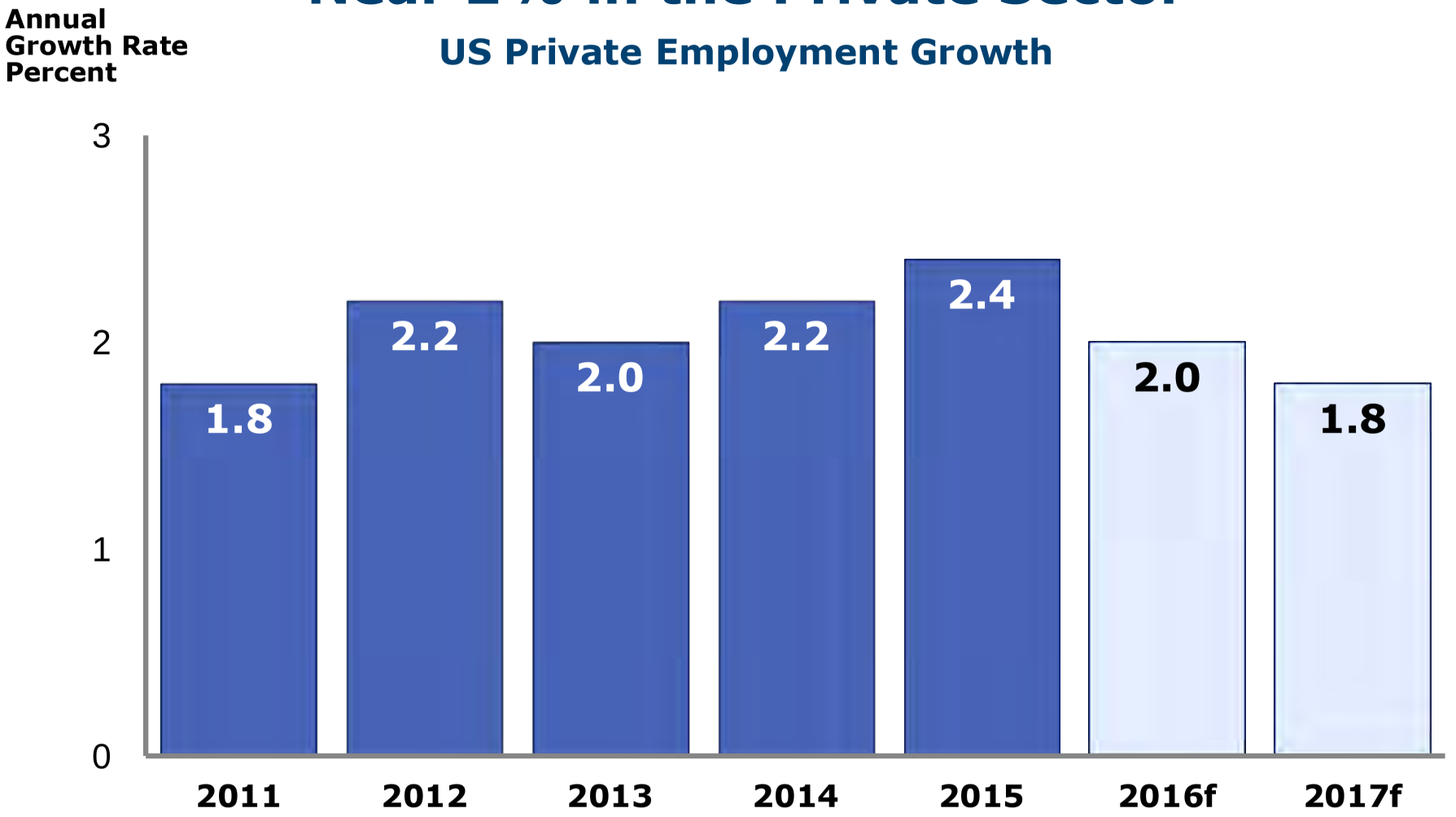
Nationwide Economic Outlook

National Economic Highlights and Their Impact on Workers Compensation

National Economic Indicator	Potential Impact on the Workers Compensation Market
Private employment is expected to continue to grow slowly	Premium increases from higher payroll and higher expected claim frequency for new workers
Wage growth is poised to accelerate	Upward pressure on payroll and premium as well as indemnity severity
Medical inflation is trending up	Increased pressure on medical costs per claim
In December 2015, the Federal Reserve began raising the federal funds rate	Higher interest rates mean better returns on invested funds

Forecast Is for Continued but Slowing Growth Near 2% in the Private Sector



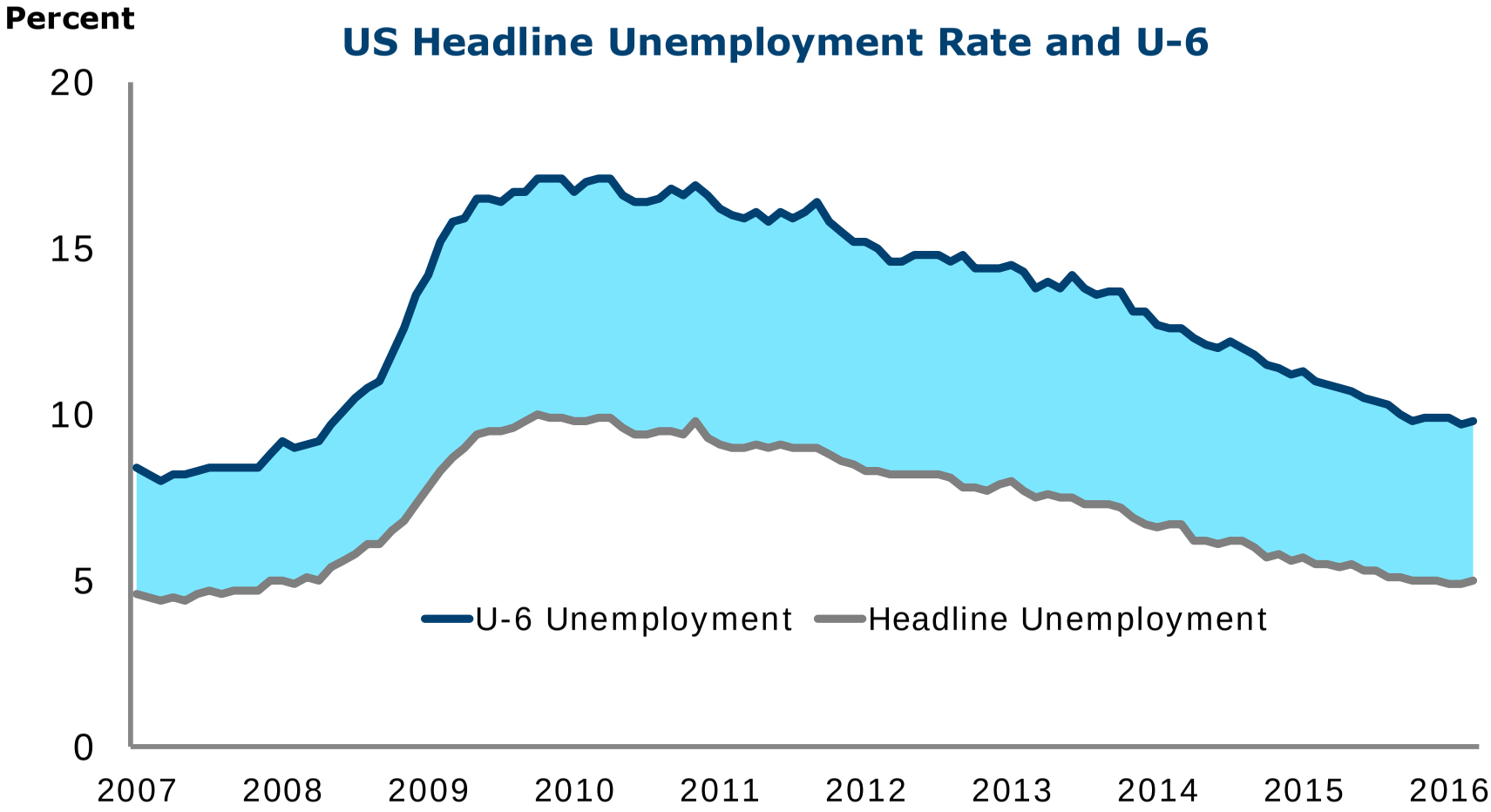
f Forecast
Private Nonfarm Employment
Frequency of observation: annual; latest historical data point: 2015; forecast years: 2016 and 2017
Sources: US Bureau of Labor Statistics (BLS) and Moody's Analytics

Wages Are Forecast to Accelerate Significantly by 2017

US Average Weekly Wage Growth

f Forecast
Wages are for Total Private Industry
Frequency of observation: annual; latest historical data point: 2015 (preliminary); forecast years: 2016 and 2017
Sources: US Bureau of Labor Statistics (BLS), Moody's Analytics, and NCCI

The US Unemployment Rate Continues to Decline, but Is Higher When Marginally Attached Workers Are Included



U-6 measures the number of the unemployed, the marginally attached, and the part-time for economic reasons
Headline (official) unemployment rate and U-6 are seasonally adjusted
Frequency of observation: monthly; latest available data point: June 2016
Sources: Moody's Analytics and US Bureau of Labor Statistics (BLS)

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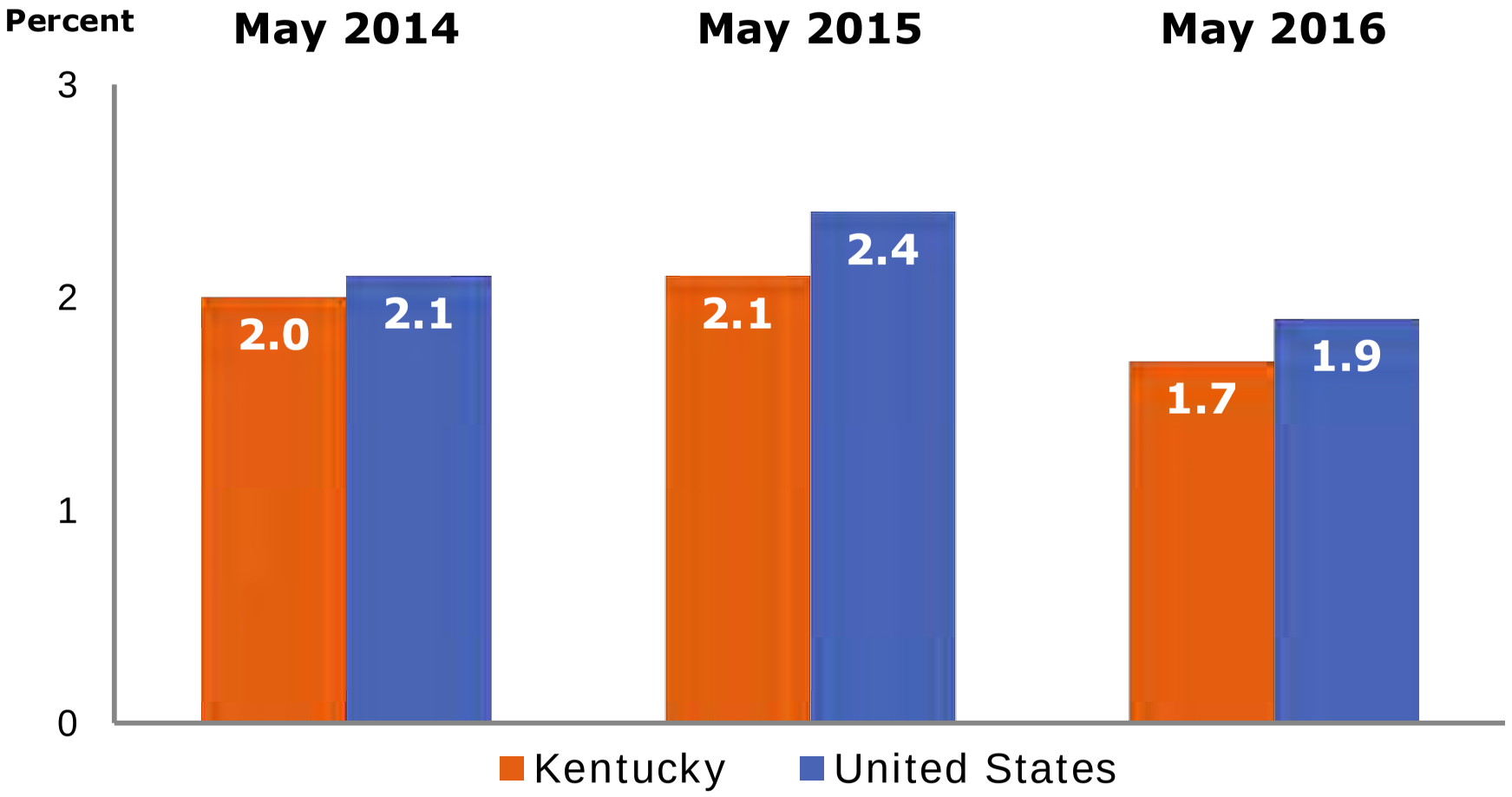
FORUMS 2016

How Does the Kentucky Economy Compare?

Change in Private Employment

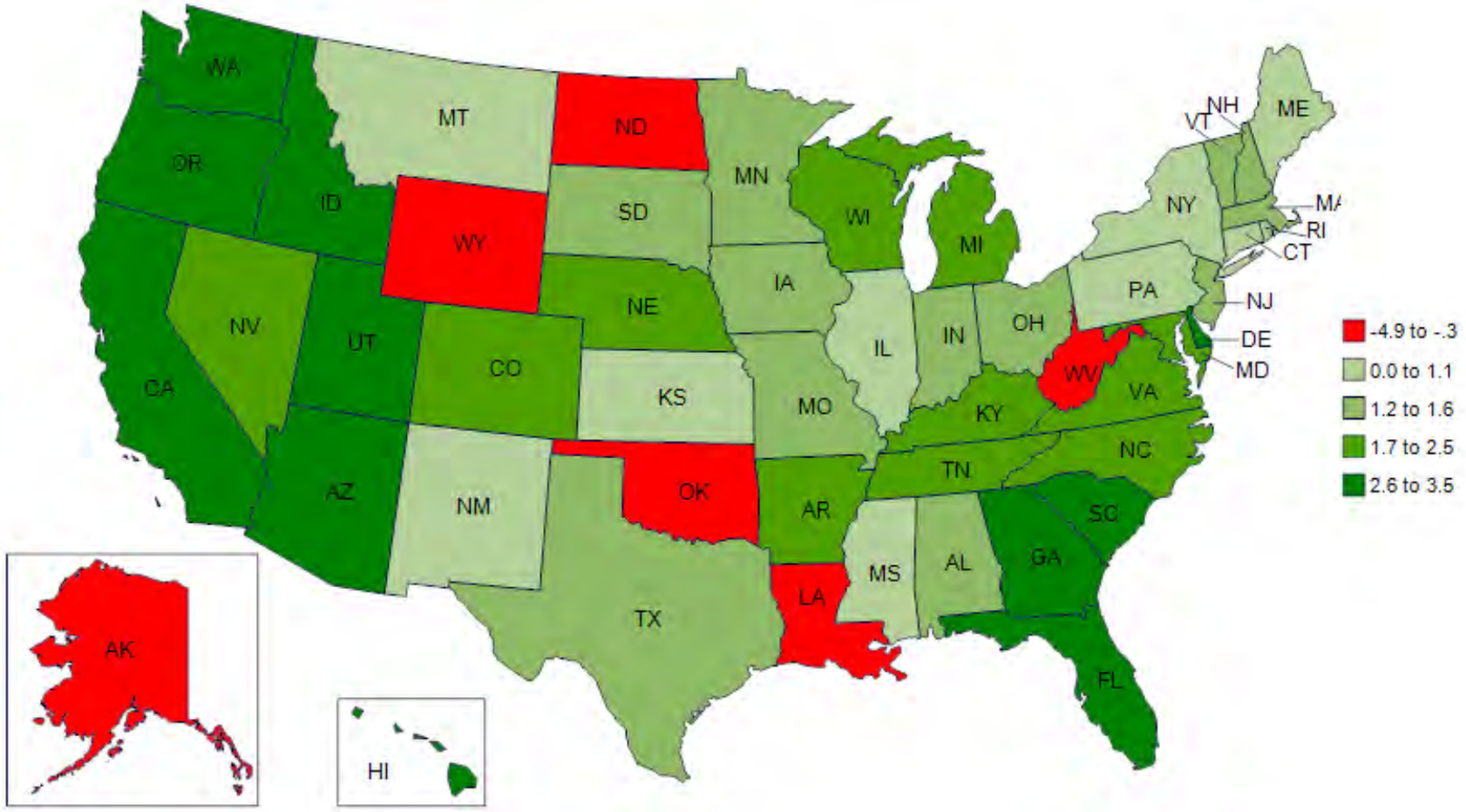
Private Employment Growth Is Below Average



Private Nonfarm Employment, seasonally adjusted
Frequency of observation: monthly; latest available data point: May 2016; percentage change for the 12 months ending each May
Source: US Bureau of Labor Statistics (BLS), www.bls.gov

Change in Private Employment

Comparison of Private Employment Growth Across States



Private Nonfarm Employment, seasonally adjusted
Frequency of observation: monthly; latest available data point: May 2016; percentage change for the 12 months ending May 2016
Source: US Bureau of Labor Statistics (BLS), www.bls.gov

Change in Employment by Industry

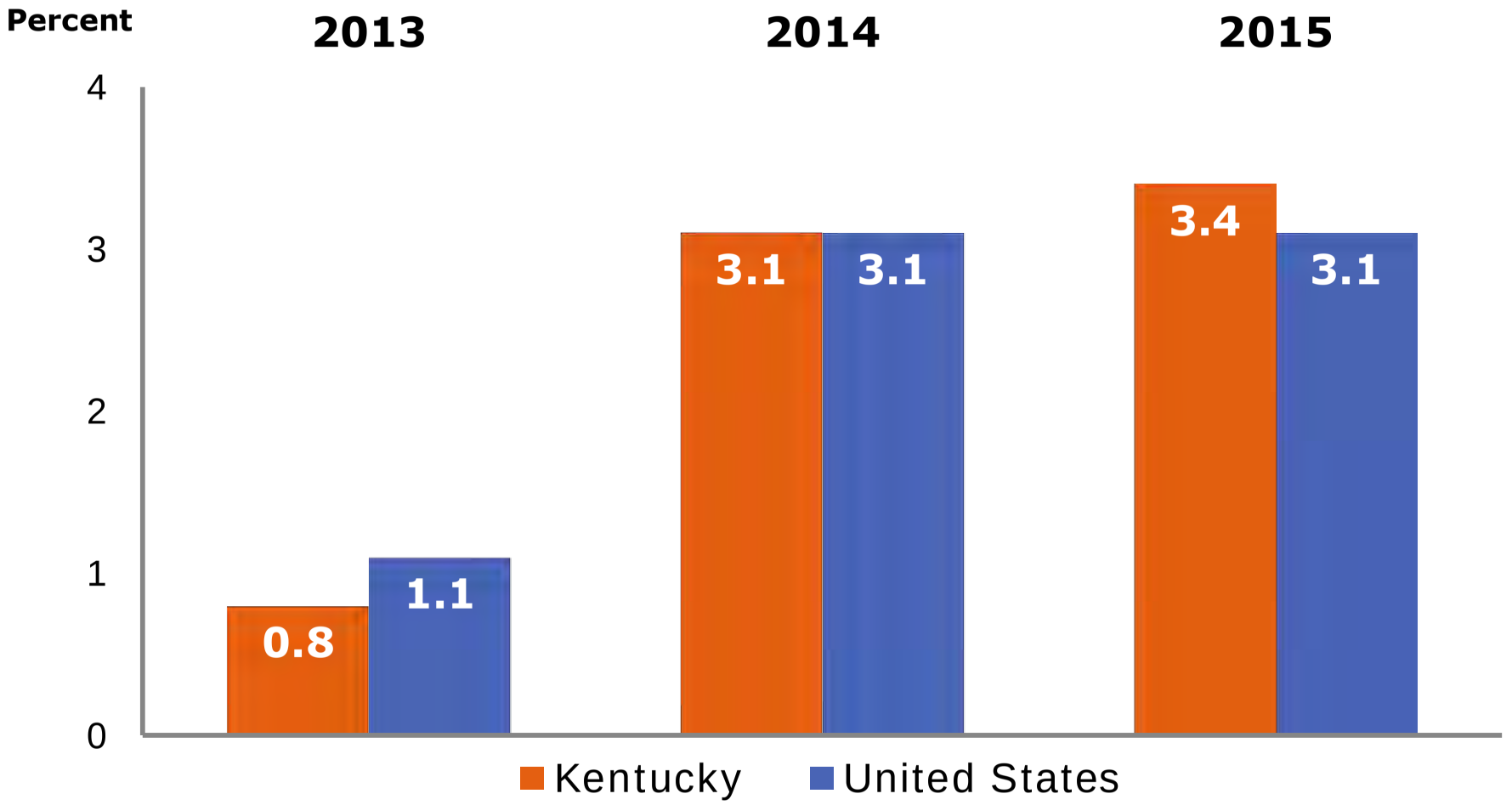
Employment in Half the Industries Has Increased in the Past 12 Months

Industrial Sector		12-Month Percent Change, May 2016	Sector Size	% Share	12-Month Change
Financial Activities	KY	+3.3	95,100	5	+3,000
	US	+2.0			
Education and Health Services	KY	+3.2	272,200	14	+8,500
	US	+3.0			
Trade, Transportation, and Utilities	KY	+2.9	397,600	21	+11,300
	US	+1.6			
Leisure and Hospitality	KY	+1.9	190,400	10	+3,600
	US	+2.5			
Professional and Business Services	KY	+1.7	218,200	11	+3,700
	US	+2.7			
Manufacturing	KY	+1.2	243,400	13	+2,800
	US	–0.3			
Construction	KY	–0.9	74,400	4	–700
	US	+3.4			
Government	KY	–1.2	315,100	17	–3,800
	US	+0.5			
Other Services	KY	–1.9	62,400	3	–1,200
	US	+1.0			
Information	KY	–5.1	24,000	1	–1,300
	US	–0.1			
Natural Resources and Mining	KY	–19.3	11,700	1	–2,800
	US	–15.4			

Percentage change for the latest 12 months as of May 2016
Current Employment Statistics Survey, seasonally adjusted; frequency of observation: monthly
Source: US Bureau of Labor Statistics (BLS), www.bls.gov

Change in Average Weekly Wages

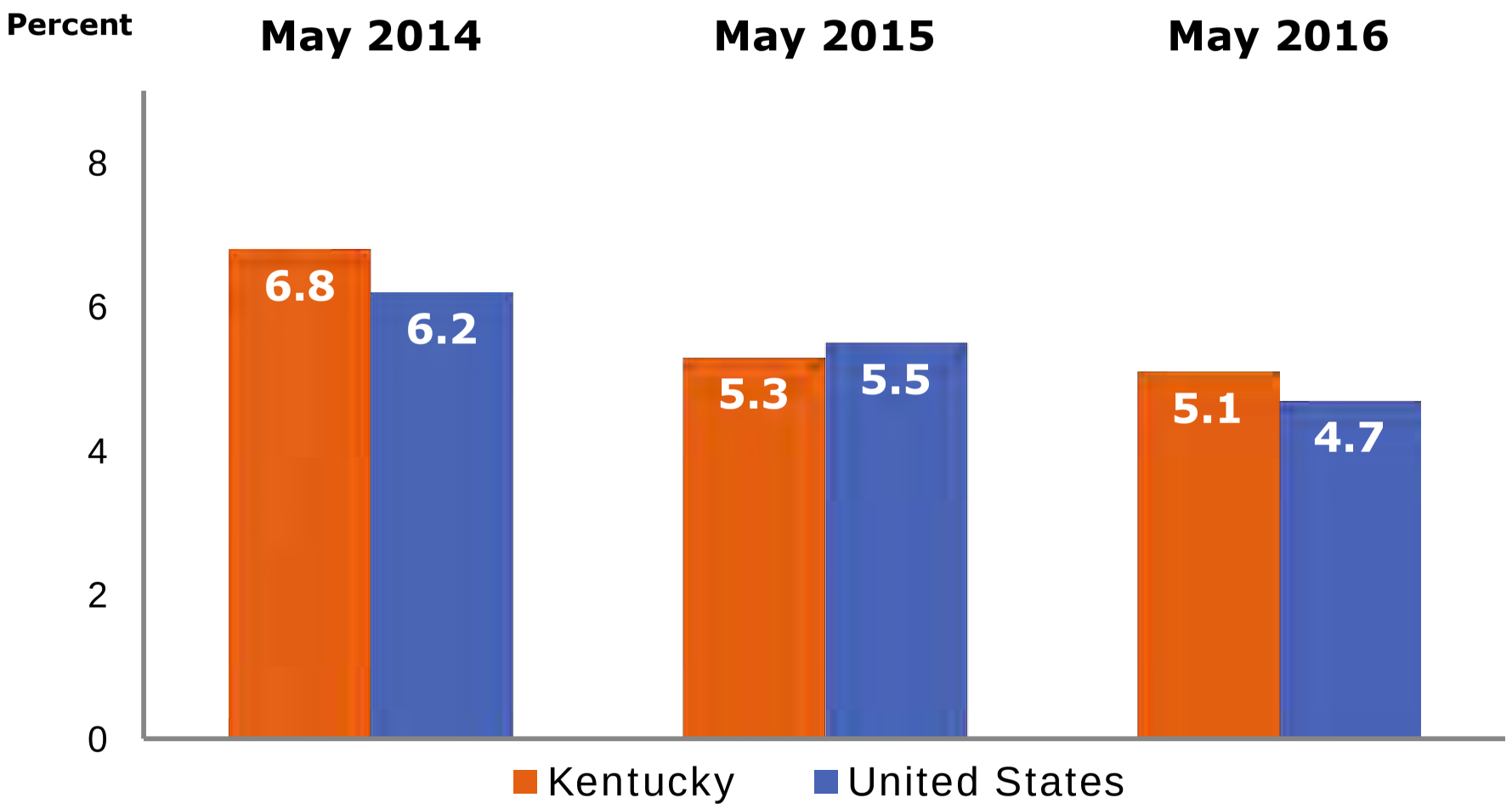
Wage Growth Is Above the Rest of the Nation



Wages are for Total Private Industry
Frequency of observation: annual; latest available data point: 2015 (preliminary)
Source: US Bureau of Labor Statistics (BLS), www.bls.gov

Headline Unemployment Rate

The Unemployment Rate Is Above the National Average



Headline unemployment rate, seasonally adjusted
Frequency of observation: monthly; latest available data point: May 2016
Source: US Bureau of Labor Statistics (BLS), www.bls.gov

Kentucky's Economic Highlights

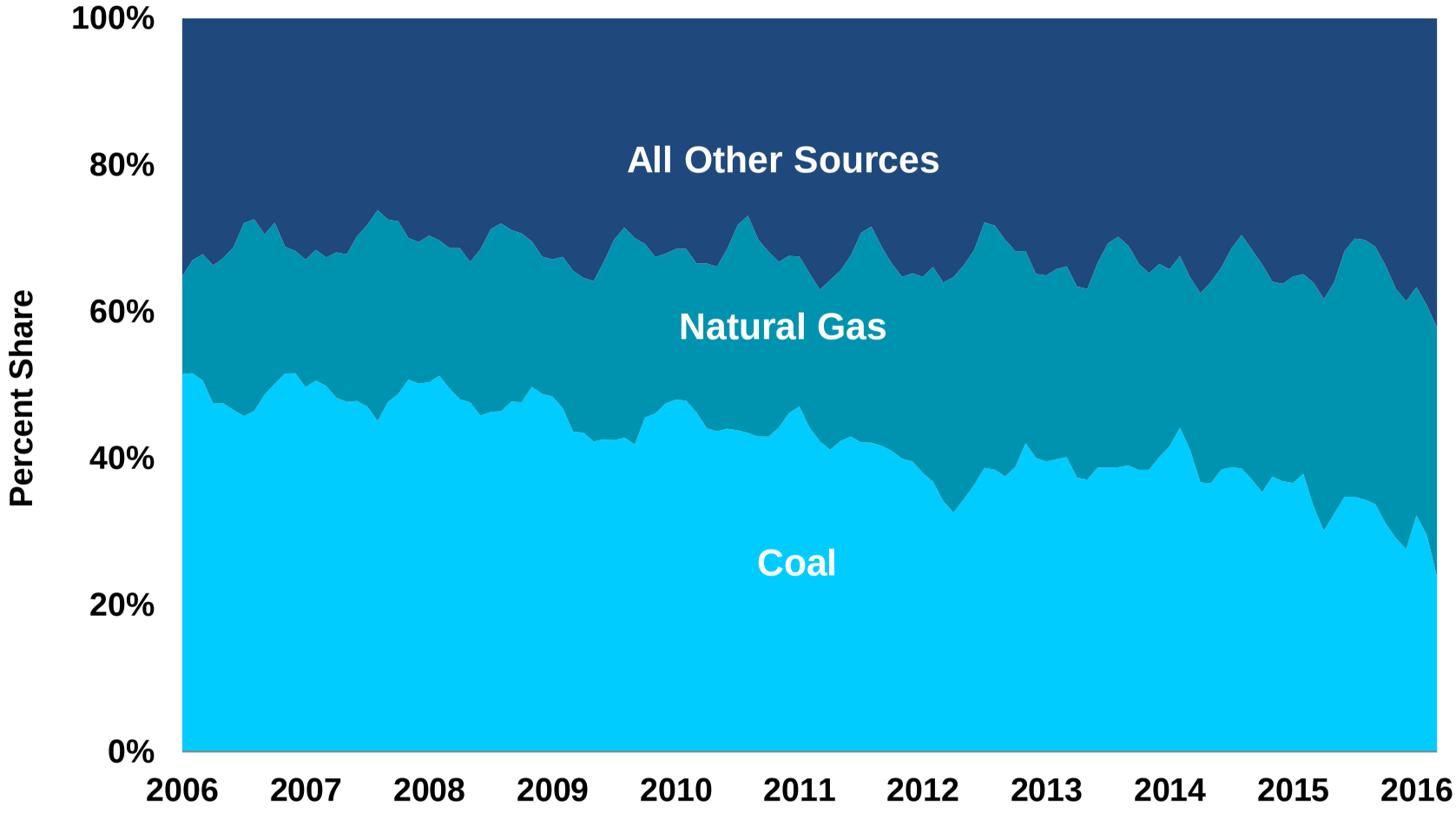
- Kentucky's unemployment rate is above the US rate
- Employment growth is below the US rate:
  - Financial Activities and Education and Health Services are the top-performing sectors in the state
  - The Trade, Transportation, and Utilities sector added the most jobs
  - Manufacturing posted gains due to the strong demand for autos
  - The Natural Resources and Mining sector has posted a significant decline
- Kentucky wage growth is above the US average

State Advisory
FORUMS 2016

Coal Mining

US Electricity Generation by Source

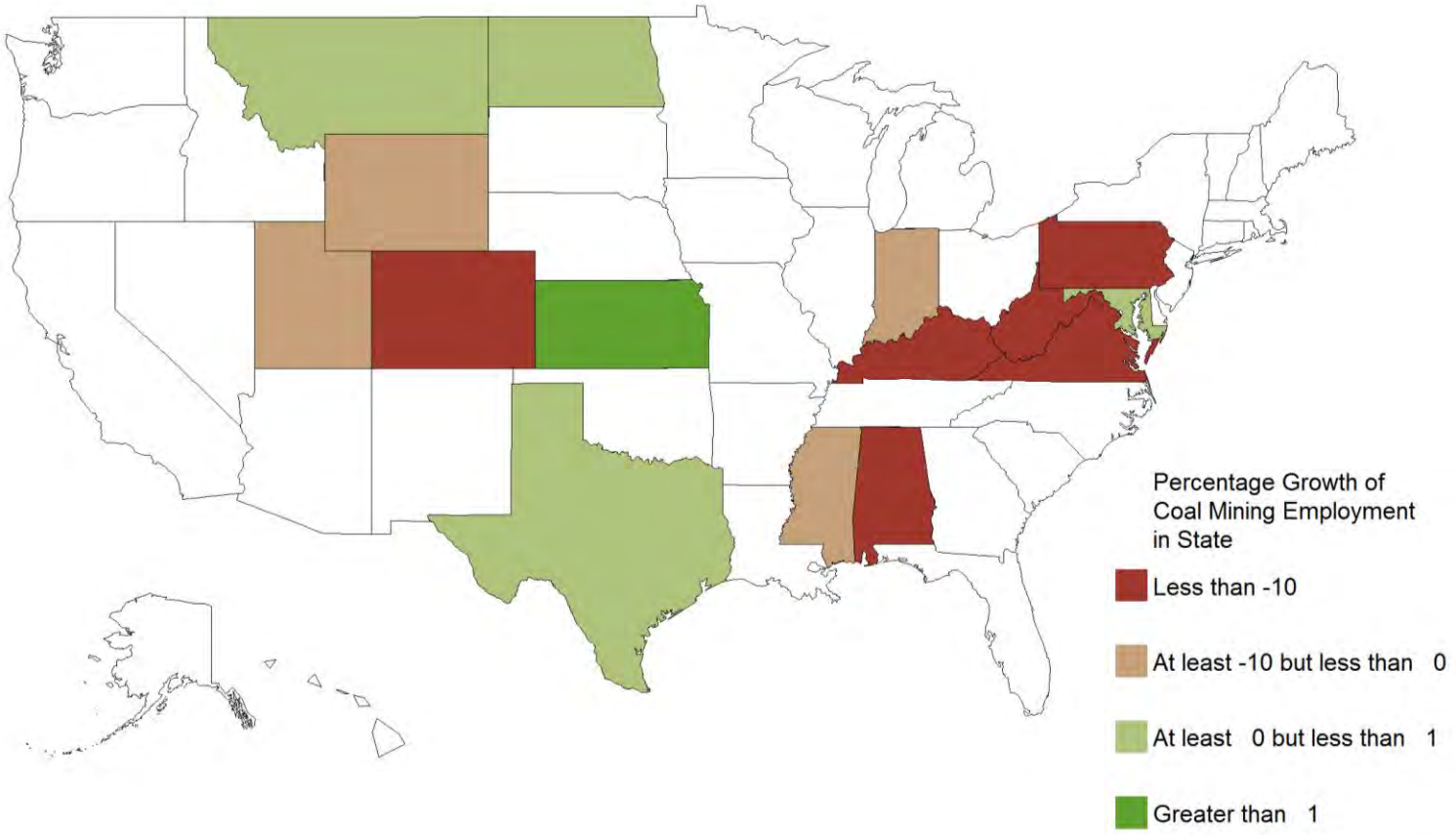
Natural Gas, Solar, and Wind Are Taking Share From Coal



Frequency of observation: monthly; data represented through March 2016
Source: US Energy Information Administration (EIA)

Change in Coal Mining Employment

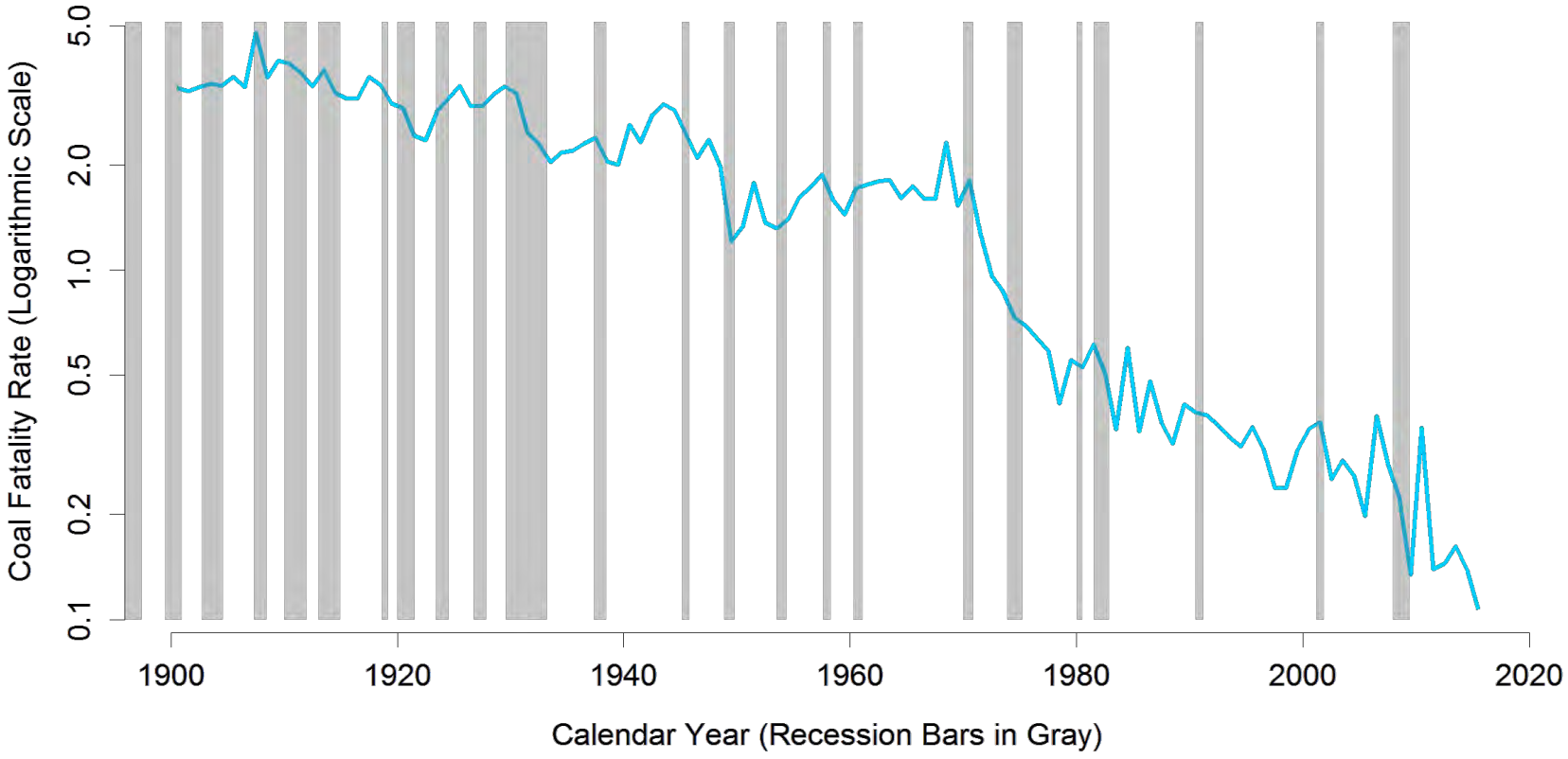
Employment in Coal Mining Is Declining Throughout Much of the Country



Coal Mining is NAICS 2121 Coal Mining, all establishment sizes, private ownership
Average Annual Change in Coal Mining Employment: December 2015 (preliminary) over December 2013
Frequency of observation: monthly states printed in white: no reported coal mining activity or employment data can be broken down to the level of coal mining due to disclosure restrictions
Sources: Moody's Economy.com; US Bureau of Labor Statistics, Quarterly Census of Employment and Wages, www.bls.gov/cew

Coal Mining Fatality Rate, Nationwide

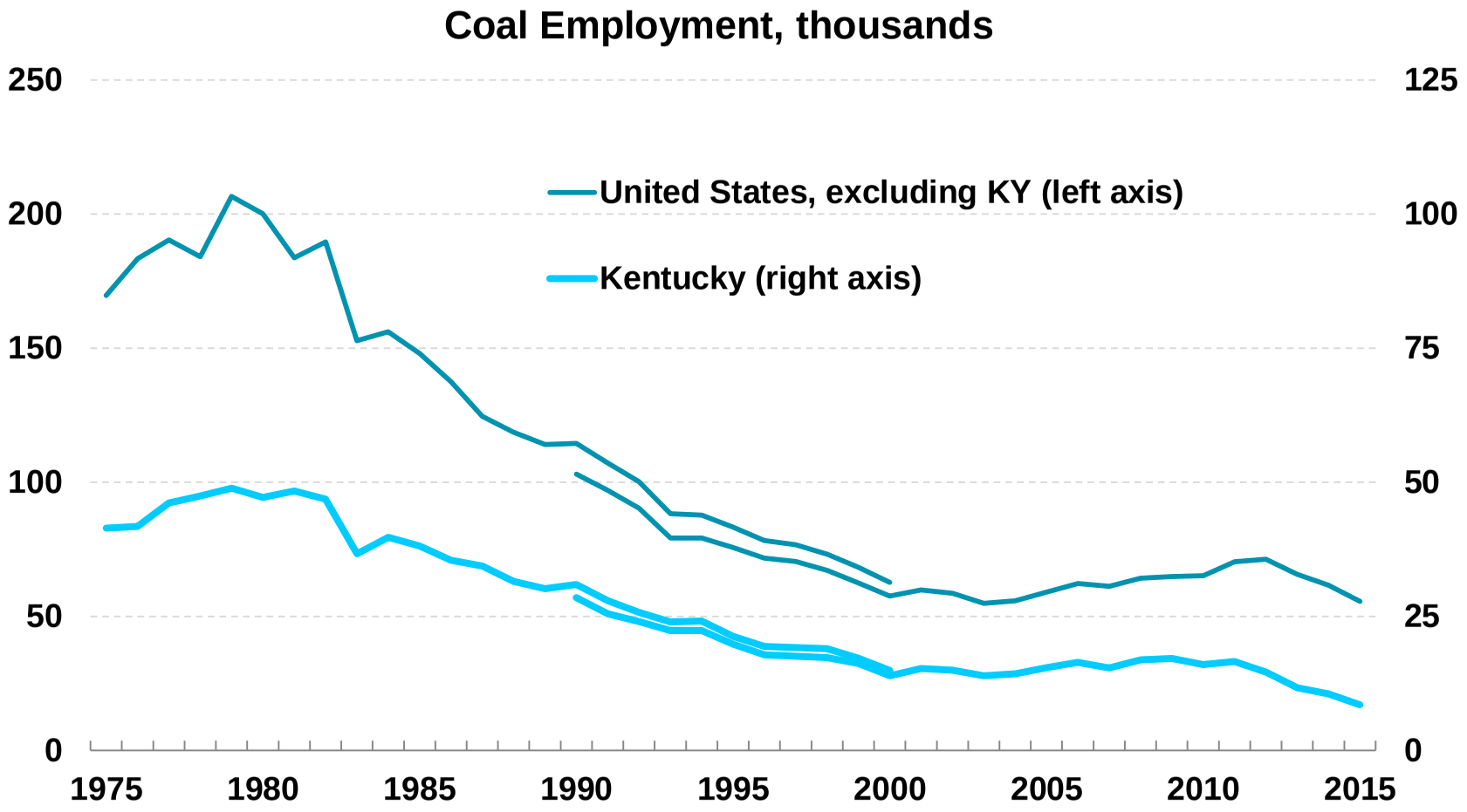
The Coal Mining Fatality Rate Is Volatile but Trending Lower



Frequency of observation: annual; latest available data point: 2015
Source: Mine Safety and Health Administration (MSHA), www.msha.gov/stats/centurystats/coalstats.asp

Coal Mining Employment: Kentucky

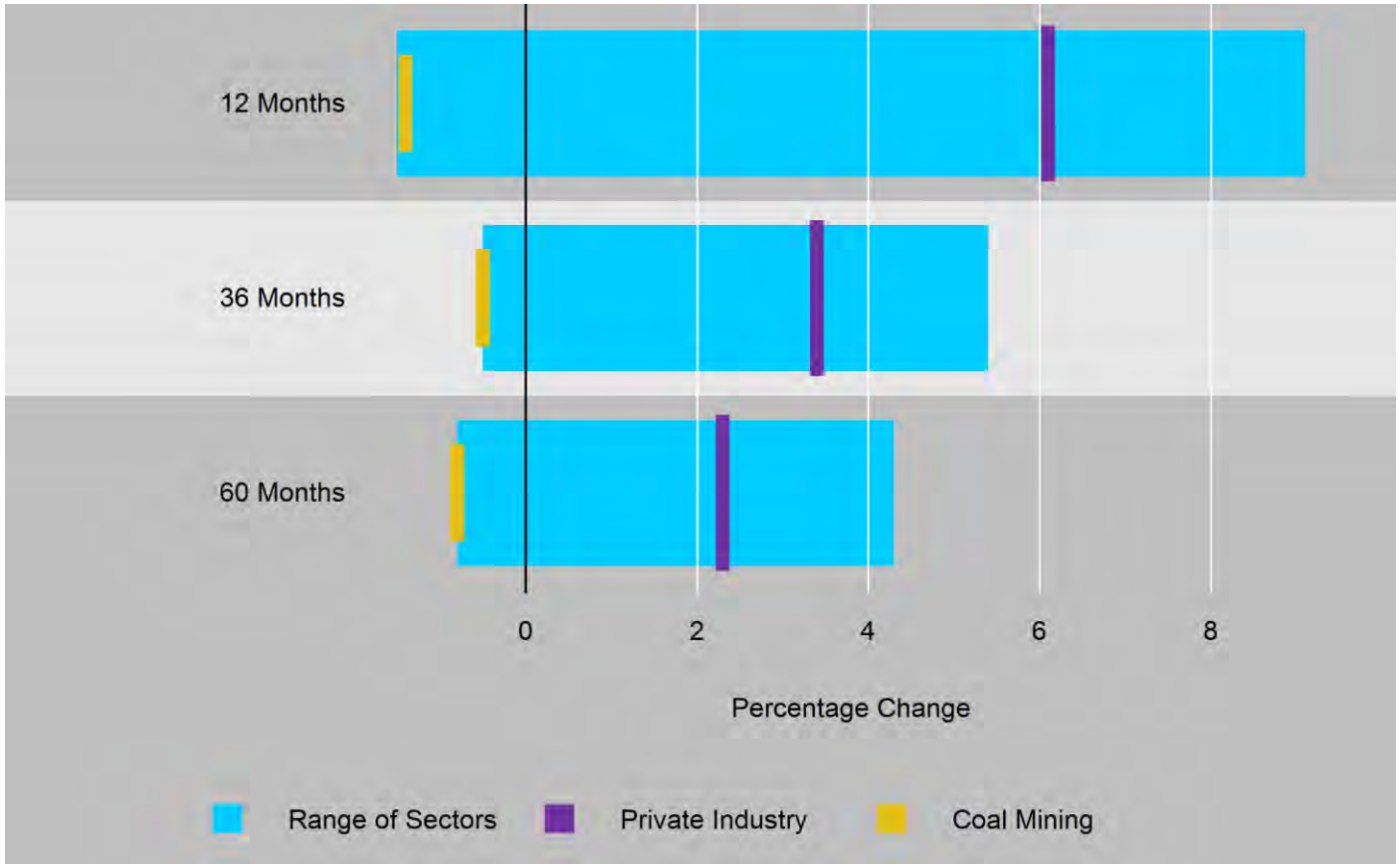
Employment Is Down Both Nationally And in Kentucky



1975–2000: SIC-based; 1990–2000: SIC-based data reconstructed to NAICS; 2001–2015: NAICS-based
Frequency of observation: annual; latest available data point: 2015 (preliminary)
Sources: Moody's Economy.com; US Bureau of Labor Statistics, Quarterly Census of Employment and Wages; www.bls.gov/cew

Wage Growth in Coal Mining: Kentucky

Growth of Coal Mining Wages Have Not Kept Pace With Private Industry Wages



Wage growth is shown for Kentucky's Average Weekly Wage (AWW) in all industry sectors and in NAICS 2121 Coal Mining.
All establishment sizes, private ownership.
Frequency of observation: quarterly. Latest available data point: December 2015 (preliminary)
Average Annual Rate of Wage Growth, December 2015 compared to 12, 36, and 60 months prior, respectively.
Source: US Bureau of Labor Statistics, Quarterly Census of Employment and Wages; www.bls.gov/cew

Challenging Outlook for Coal Mining

- Central Appalachian (CAPP) coal production is in decline. Three main causes are:
  - Increased extraction costs as the best reserves are increasingly mined out.
  - Cheap natural gas encourages fuel switching.
  - Reduction in coal-fired generation capacity.
- Since 2000, CAPP coal mining has become increasingly expensive, especially underground.
  - The thickest and most accessible coal seams have already been mined out. What remains is harder and more expensive to extract.

Source: US Energy Information Administration (EIA)

State Advisory
FORUMS 2016

Q & A

State Advisory
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Closing Remarks
Thank You!

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FORUMS 2016

Glossary

Glossary

- **Assigned Risk Adjustment Program (ARAP)**—An assigned risk market program that surcharges residual market risks based on the magnitude of their experience rating modification.
- **Calendar Year (CY)**—Experience of earned premium and loss transactions occurring within the calendar year beginning January 1, irrespective of the contractual dates of the policies to which the transactions relate and the dates of the accidents.
- **Calendar-Accident Year (AY)**—The accumulation of loss data on all accidents with the date of occurrence falling within a given calendar year. The premium figure is the same as that used in calendar year experience.
- **Claim Frequency**—The number of claims per unit of exposure; for example, the number of claims per million dollars of premium or per 100 workers.

Glossary

- **Claim Severity**—The average cost of a claim. Severity is calculated by dividing total losses by the total number of claims.
- **Combined Ratio**—The sum of the (1) loss ratio, (2) expense ratio, and (3) dividend ratio for a given time period.
- **Detailed Claim Information (DCI)**—An NCCI Call that collects detailed information on an individual workers compensation lost-time claim basis, such as type of injury, whether or not an attorney was involved, timing of the claim's report to the carrier, etc.
- **Direct Written Premium (DWP)**—The gross premium income adjusted for additional or return premiums, but excluding any reinsurance premiums.

Glossary

- **Indemnity Benefits**—Payments by an insurance company to cover an injured worker's time lost from work. These benefits are also referred to as "wage replacement" benefits.
- **Loss Ratio**—The ratio of losses to premium for a given time period.
- **Lost-Time (LT) Claims**—Claims resulting in indemnity benefits (and usually medical benefits) being paid to or on behalf of the injured worker for time lost from work.
- **Medical-Only Claims**—Claims resulting in only medical benefits being paid on behalf of an injured worker.
- **Net Written Premium (NWP)**—The gross premium income adjusted for additional or return premiums and including any additions for reinsurance assumed and any deductions for reinsurance ceded.

Glossary

- **Permanent Partial (PP)**—A disability that is permanent but does not involve a total inability to work. The specific definition and associated workers compensation benefits are defined by statute and vary by jurisdiction.
- **Policy Year (PY)**—The year of the effective date of the policy. Policy year financial results summarize experience for all policies with effective dates in a given calendar year period.
- **Schedule Rating**—A debit and credit plan that recognizes variations in the hazard-causing features of an individual risk.
- **Take-Out Credit Program**—An assigned risk program that encourages carriers to write current residual market risks in the competitive voluntary marketplace.
- **Temporary Total (TT)**—A disability that totally disables a worker for a temporary period of time.

State Advisory
FORUMS 2016

Appendix

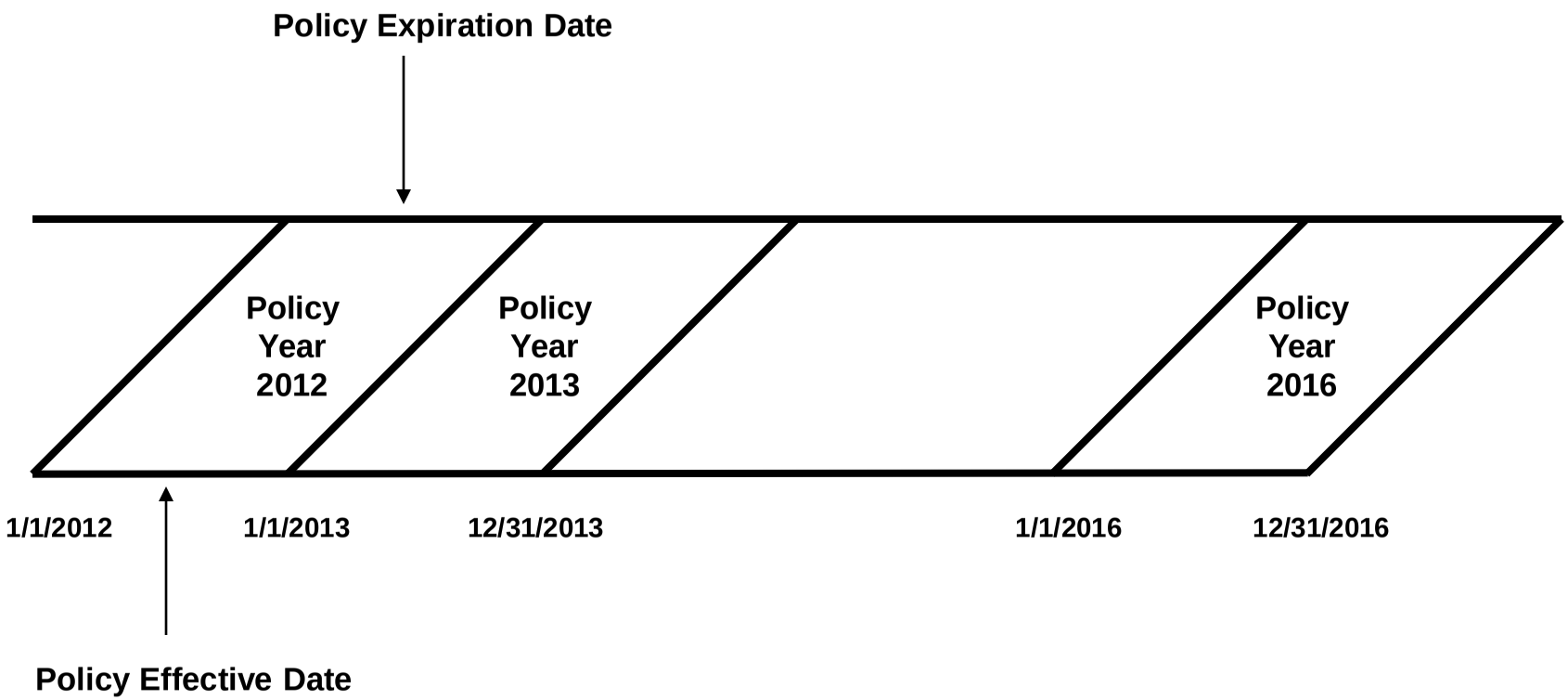
NCCI's Workers Compensation Resources

- Financial Aggregate Calls
  - Used for aggregate ratemaking
- ***Statistical Plan for Workers Compensation and Employers Liability Insurance (Statistical Plan)***
  - Used for class ratemaking
- Detailed Claim Information
  - In-depth sample of lost-time claims
- Policy Data
  - Policy declaration page information

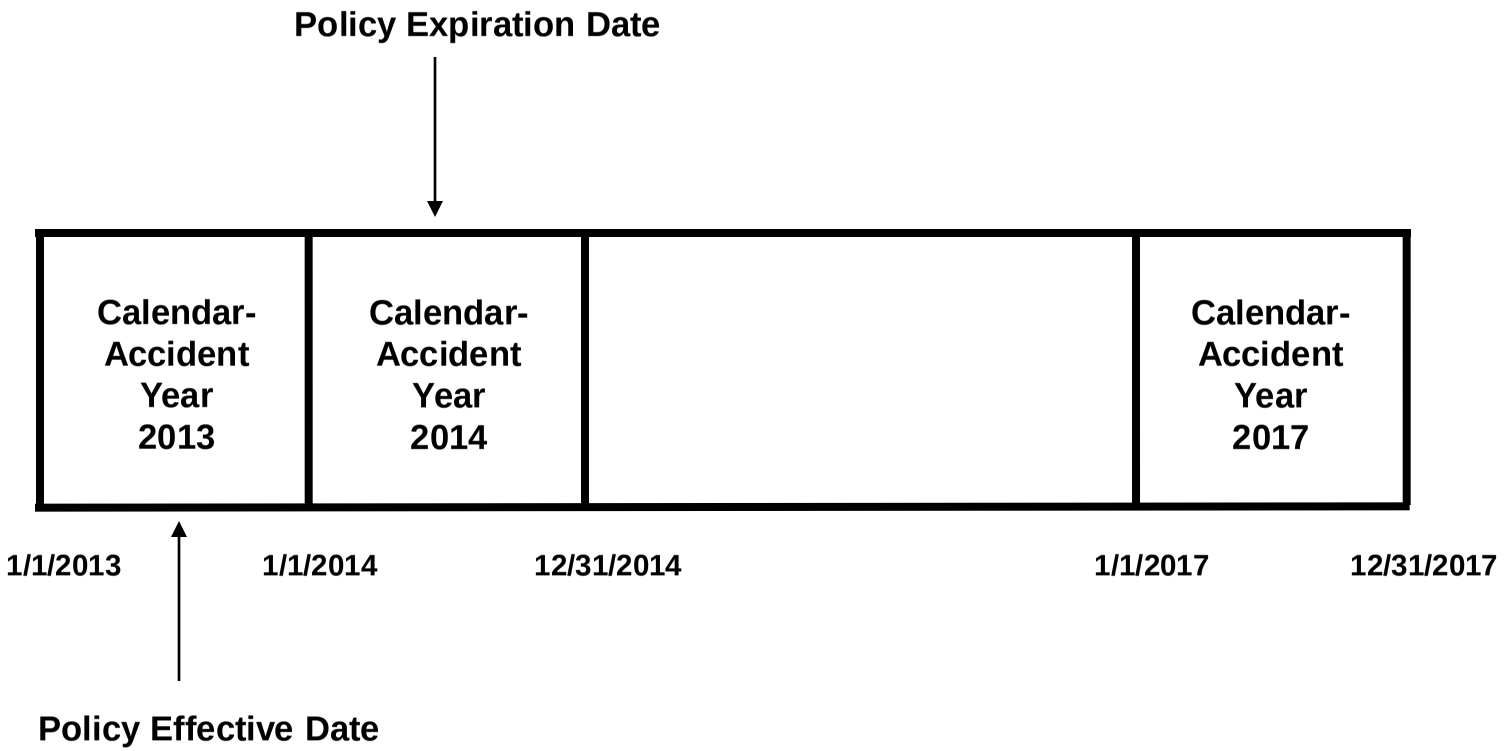
Financial Aggregate Calls

- Collected Annually
  - Policy and calendar-accident year basis
  - Statewide and assigned risk data
- Premiums, Losses, and Claim Counts
  - Evaluated as of December 31
- Purpose
  - Basis for overall aggregate rate indication
  - Research

Policy Year Financial Aggregate Data



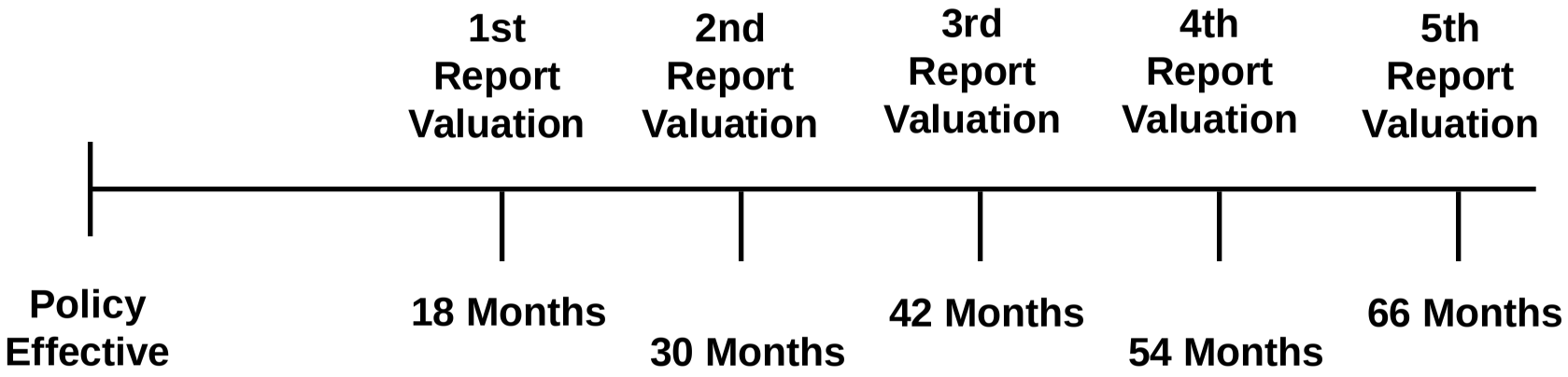
Calendar-Accident Year Financial Aggregate Data



Statistical Plan for Workers Compensation and Employers Liability Insurance (Statistical Plan) Data

- Experience by Policy Detail
  - Exposure, premium, and experience rating modifications
  - Individual claims by injury type
- Purposes
  - Classification relativities
  - Experience Rating Plan
  - Research

Valuation of Statistical Plan Data



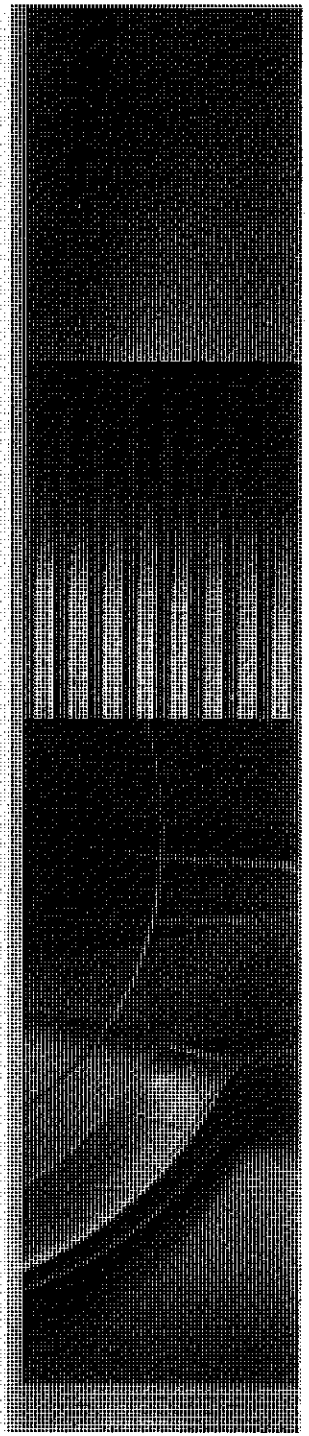
Appendix D

Information Provided By Commissioner Dwight Lovan, Department Of Workers' Claims, Kentucky Labor Cabinet

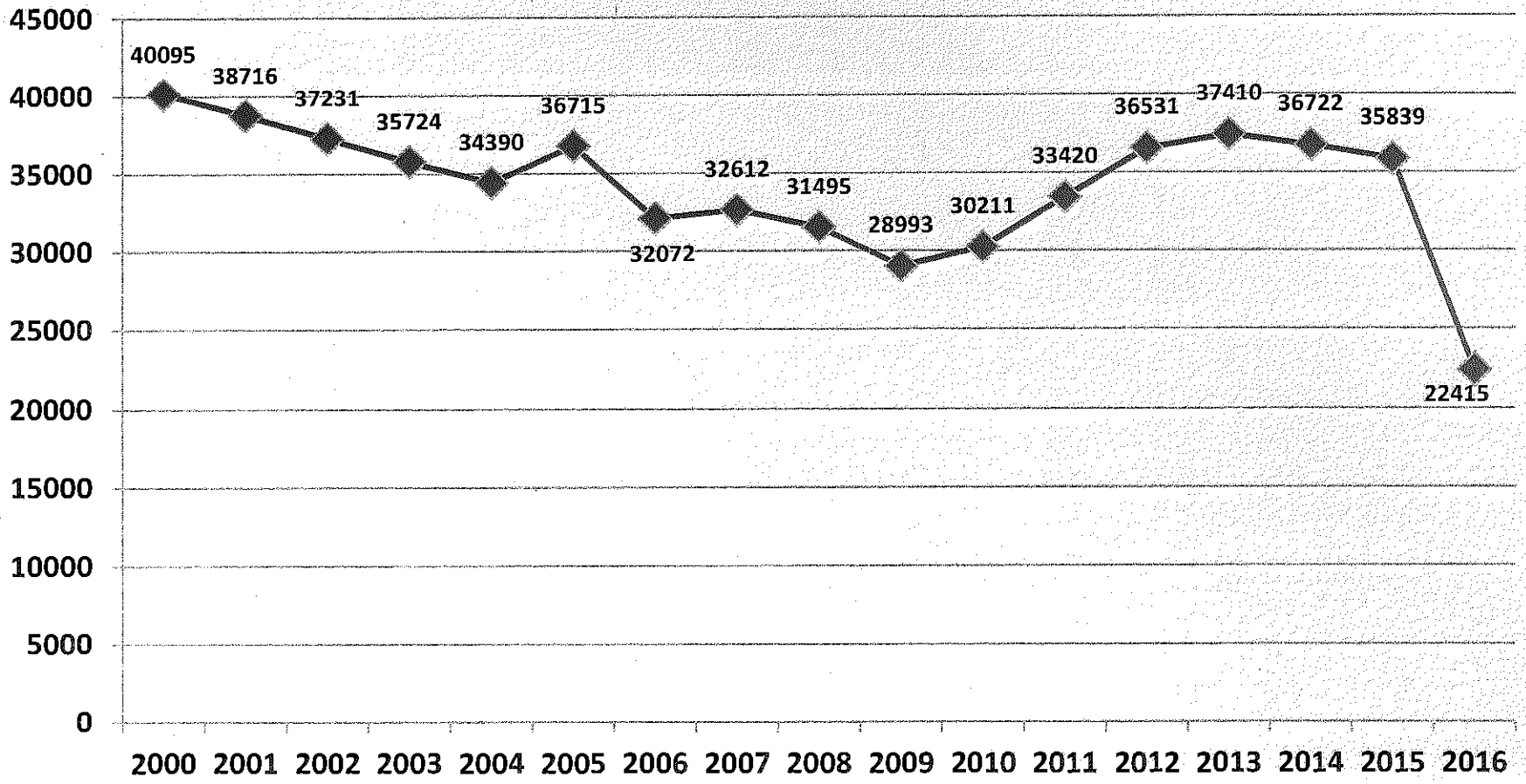
Workers' Compensation Task Force

Dwight T. Lovan, Commissioner, DWC

September 16, 2016

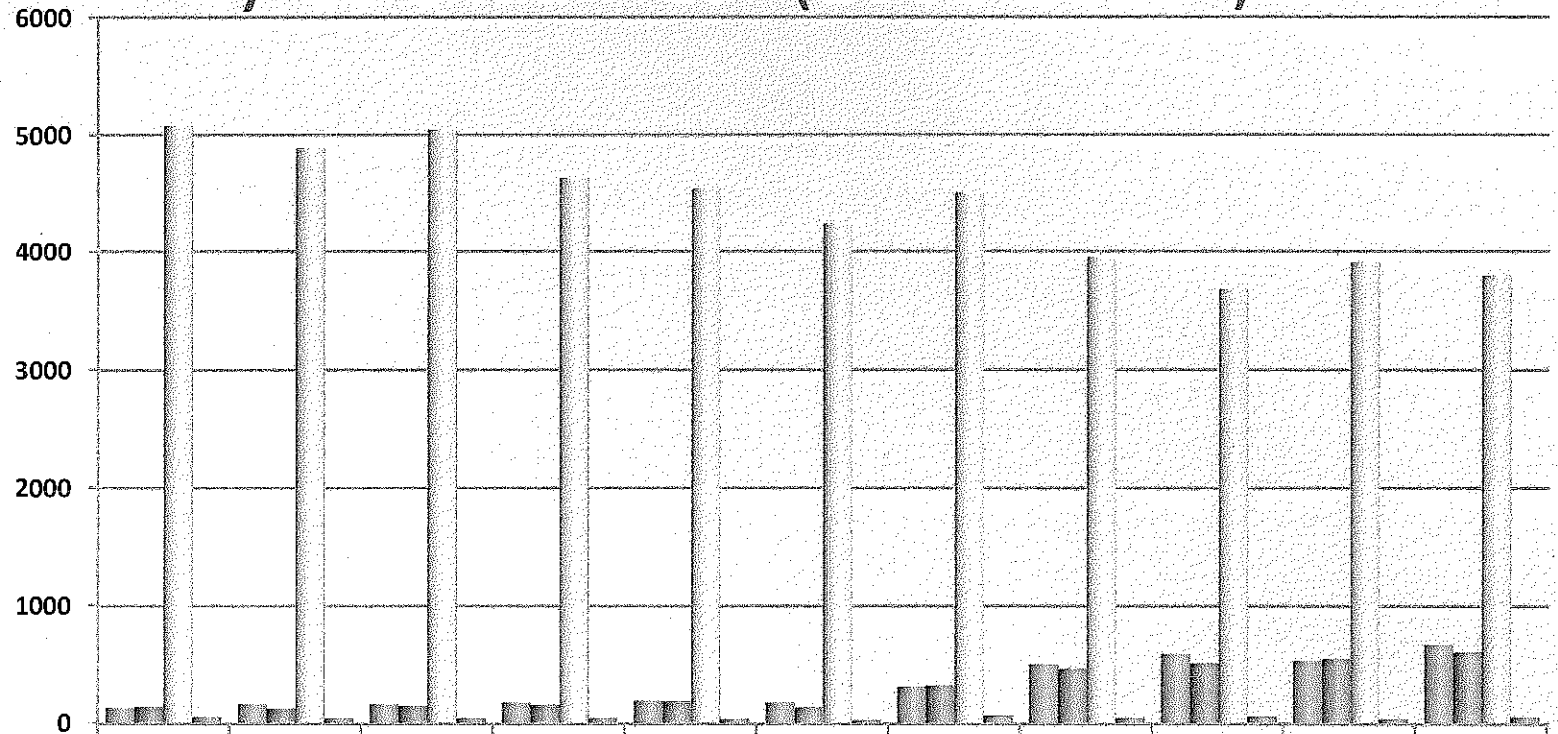


First Reports of Injury by Calendar Year (2000-2016*)



Excludes no lost time reports; data based on date received by DWC. Data includes only information submitted via EDI. *2016 data includes 1/1/2016 thru 8/31/2016. Run date: 9/13/2016. Source: Fran Davis

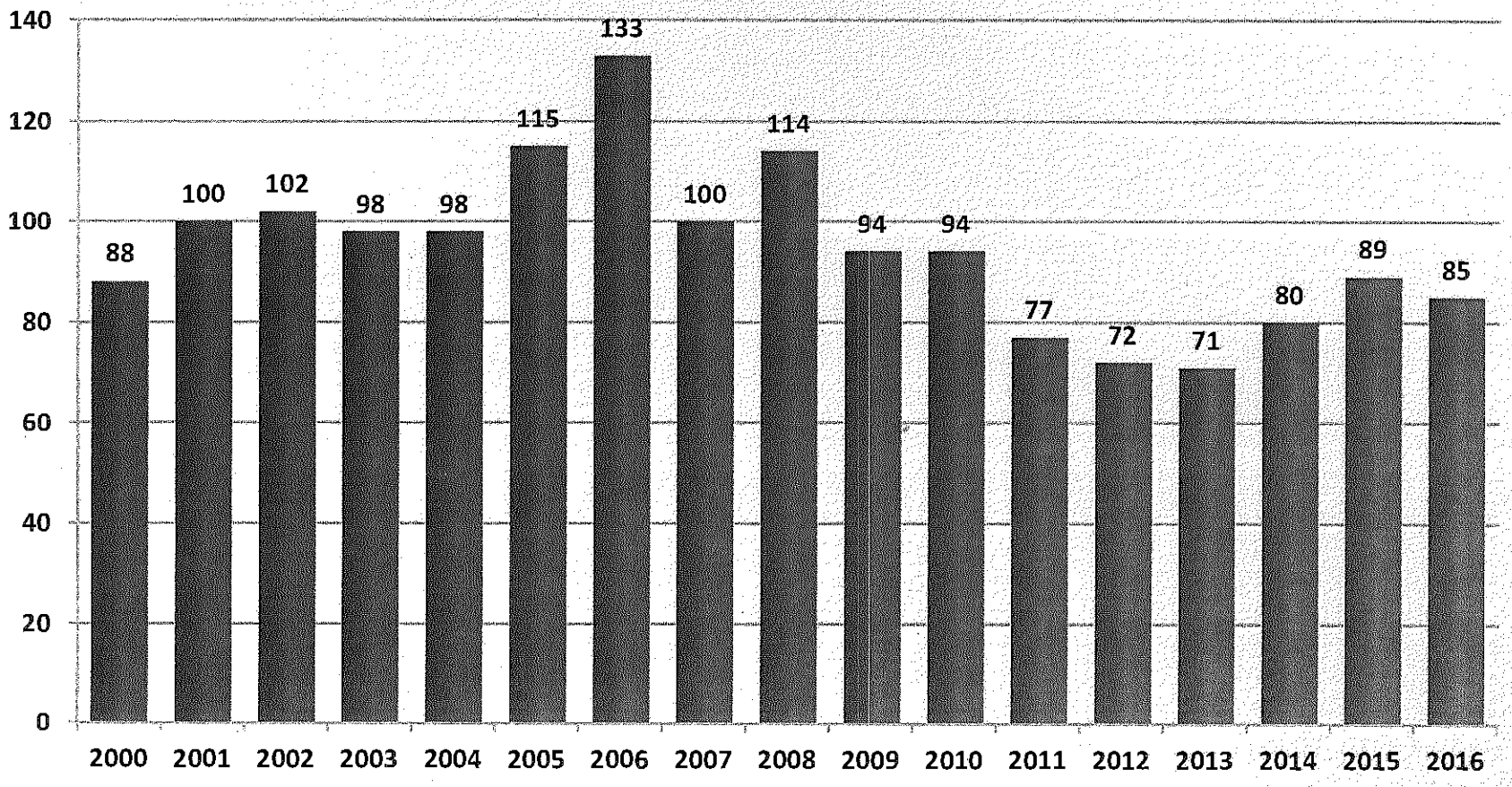
Nature of Claims filed by Calendar Year (2006-2016*)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CWP	137	164	164	179	193	179	308	499	587	533	668
Hearing Loss	138	127	150	158	183	136	318	461	510	545	606
Injury	5074	4884	5039	4622	4533	4239	4497	3948	3679	3902	3791
Other OD	54	46	45	44	41	27	69	49	59	39	54

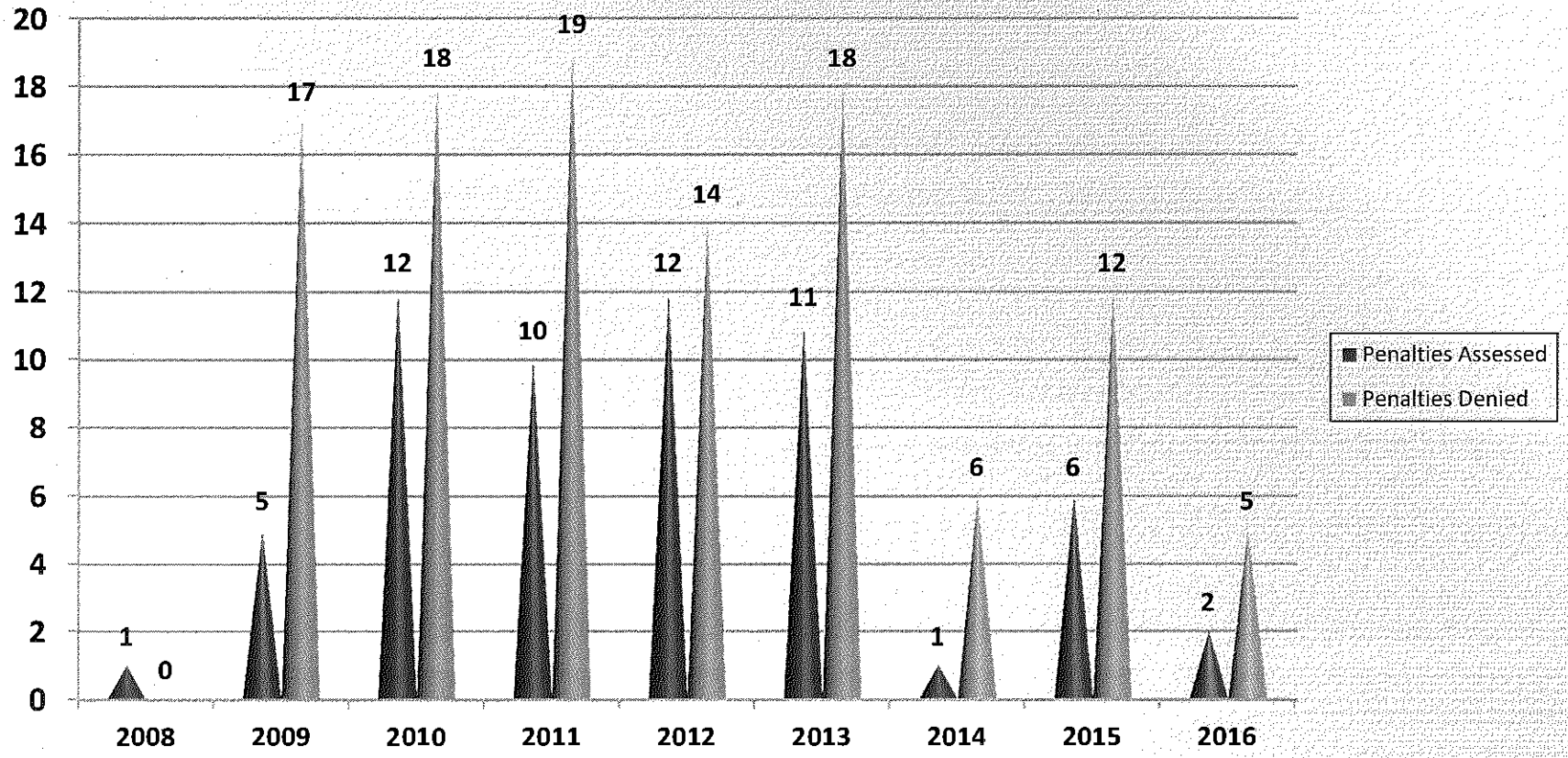
Claims by File Date of the application and sorts by nature type specified on the application.
*2016 data contains information from 1/1/2016 thru 8/31/2016. Run date: 9/13/2016. Source: Fran Davis

Fatalities Reported to DWC by Calendar Year (2000-2016*)
Work-Relatedness Not Determined



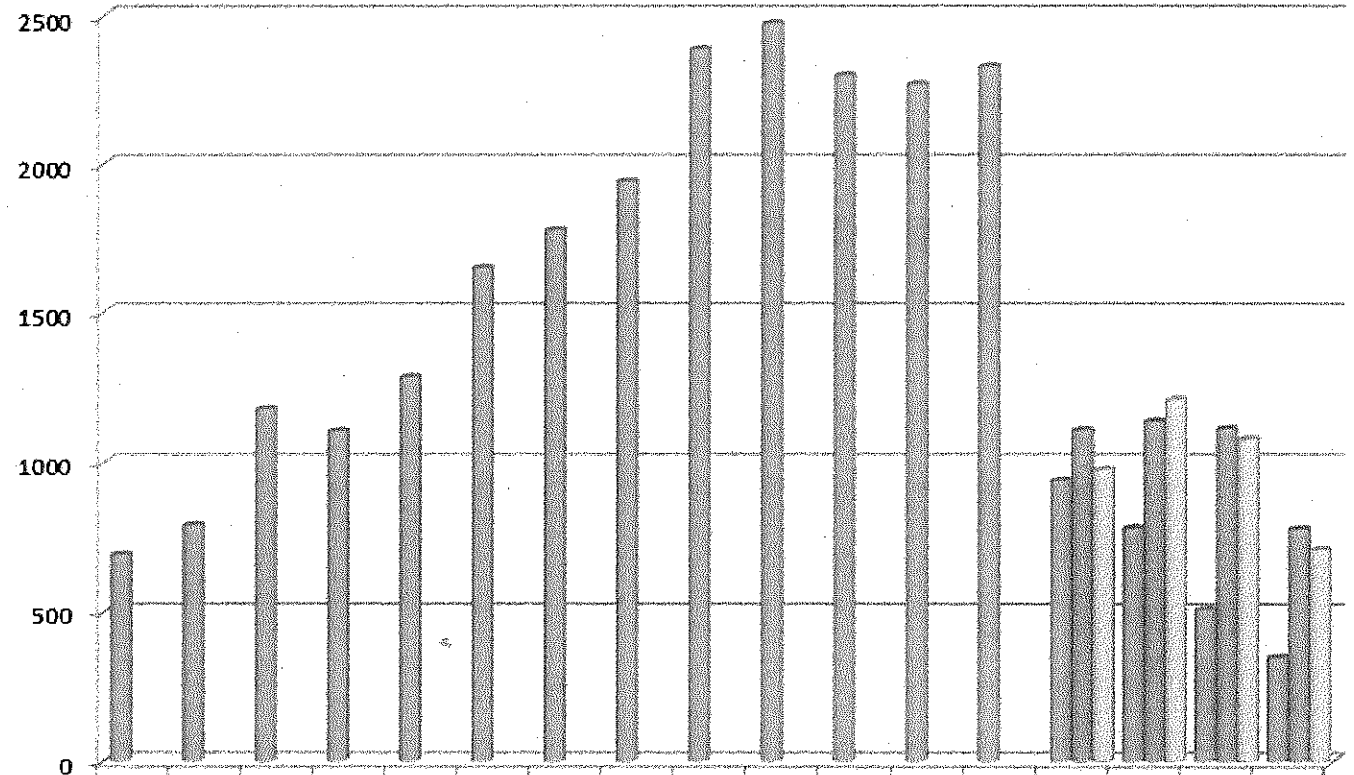
Data based on date received and date of death. Data not scrutinized for work-relatedness.
*2016 data includes 1/1/2016 thru 8/31/2016. Run date: 9/14/2016. Source: Fran Davis

Safety Penalties by Calendar Year (2008-2016*)



Data based on status codes SVPD and SVPA. *2016 data contains information from 1/1/2016 thru 8/31/2016.
Run date: 9/13/2016. Source: Fran Davis

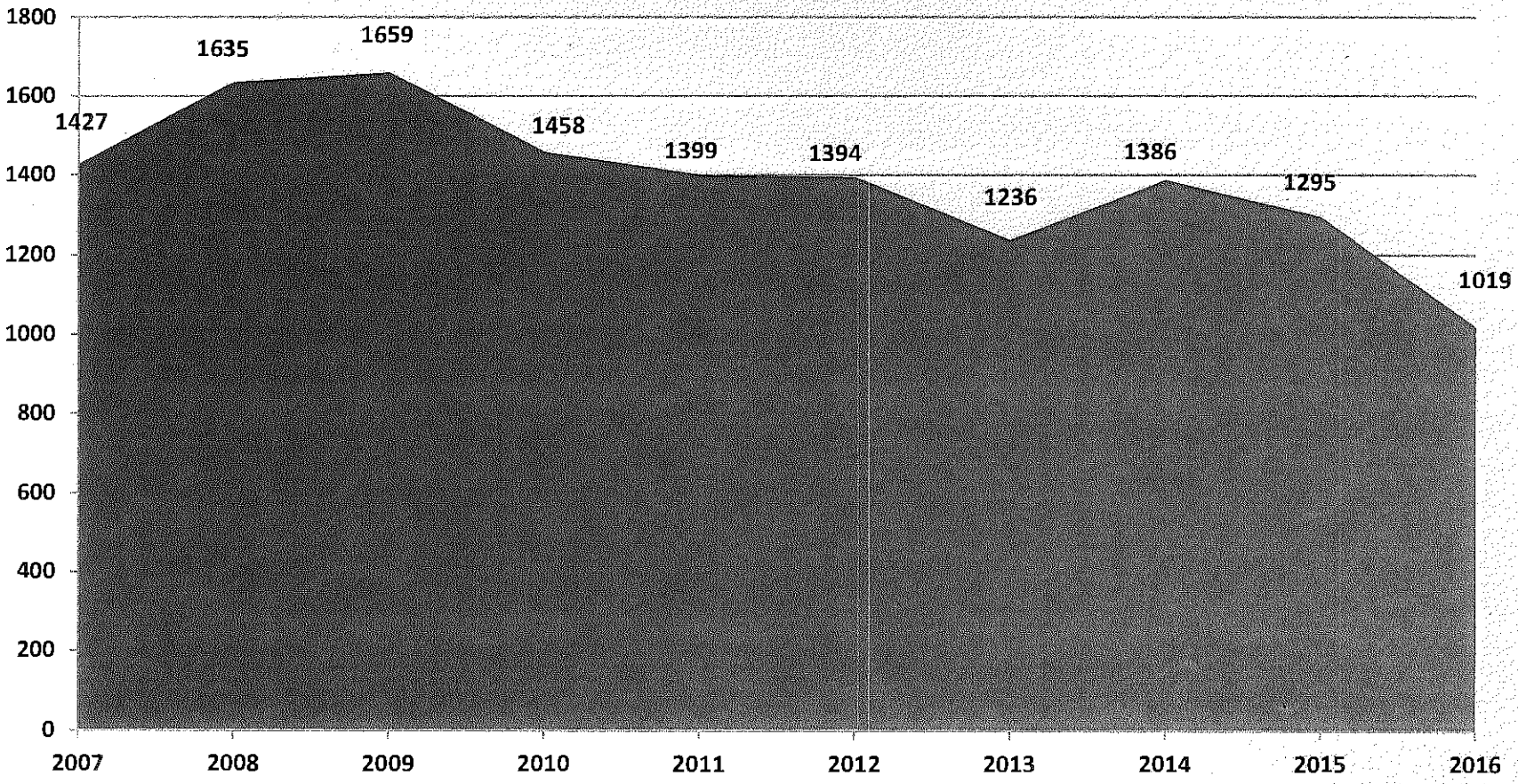
Medical Disputes Program Statistics
Includes Reopenings on Post Award Medical Disputes (2000-2016*)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Initial Claim Medical Disputes														937	780	510	348
Post Award Medical Disputes														1106	1135	1111	777
Reopenings														974	1208	1078	709
Total Medical Disputes	693	791	1176	1103	1283	1648	1772	1939	2384	2471	2295	2266	2326	2043	1915	1621	1125

Data based on status date. Data includes medical disputes filed with an application for resolution of claim as well as post award medical disputes. *2016 data contains information from 1/1/2016 thru 8/31/2016. CY 2000-2012 included initial and post award medical disputes. Run date: 9/13/2016. Source: Fran Davis

Total Reopenings by Calendar Year (2007-2016*)



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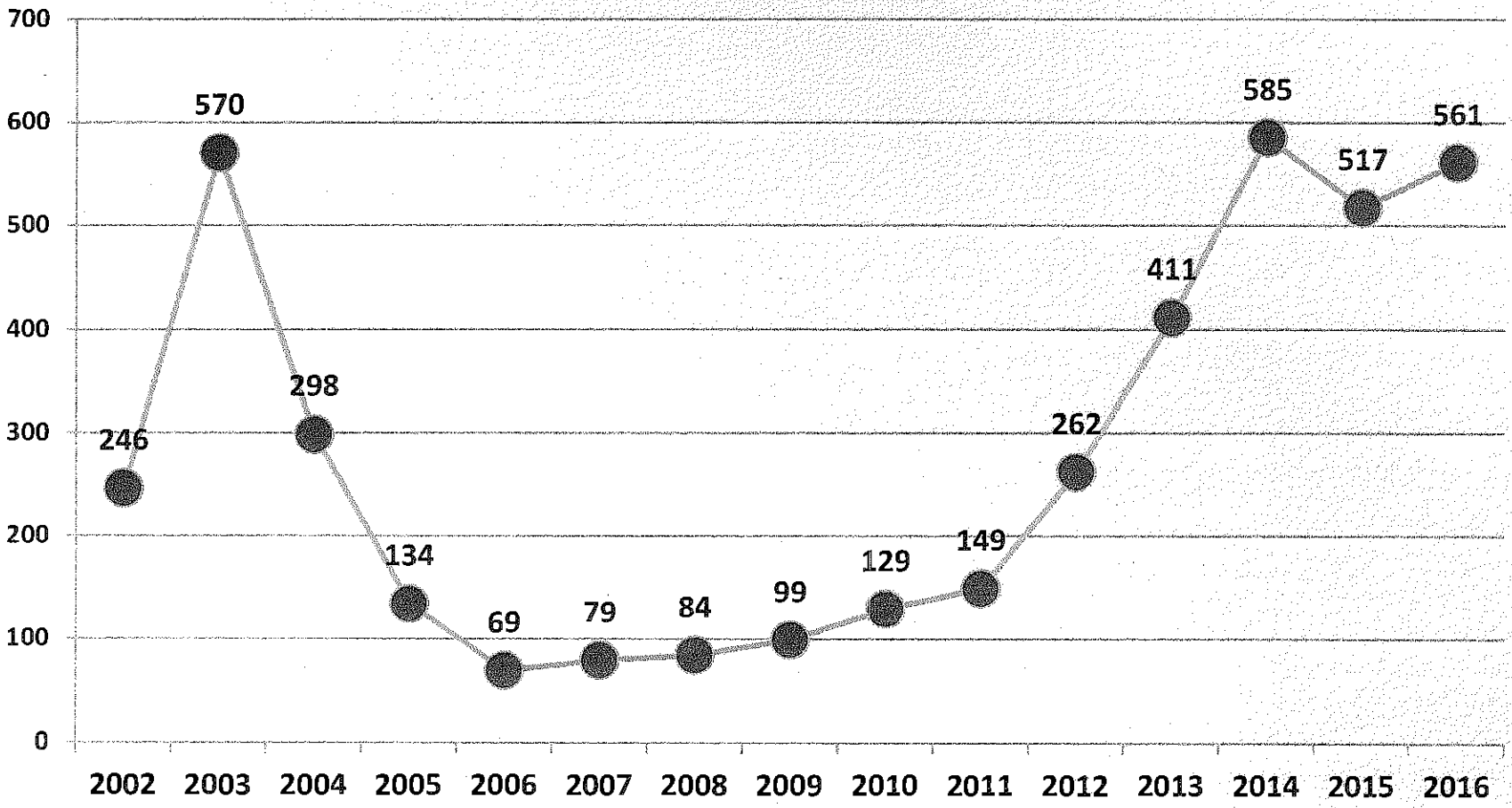
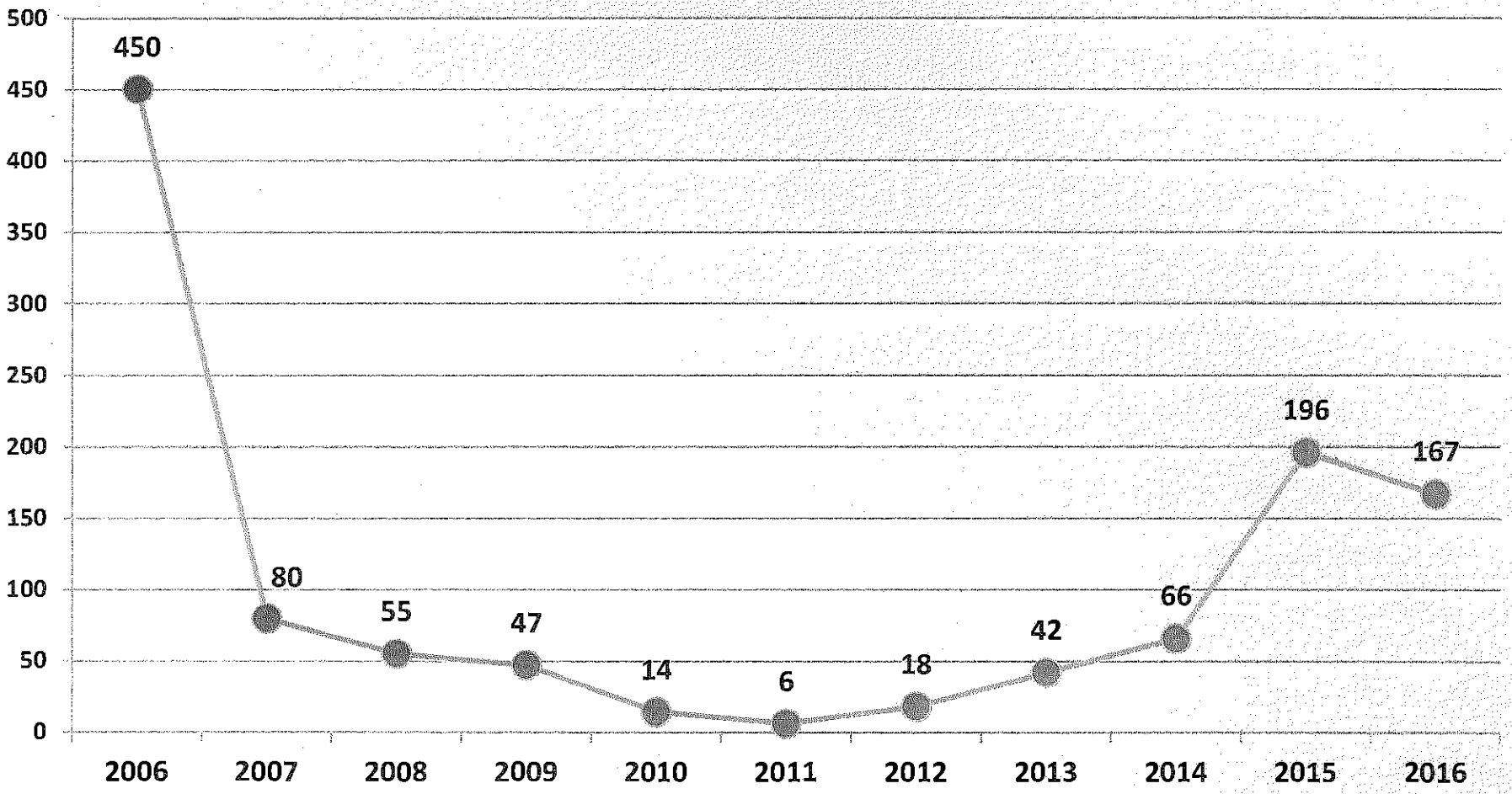
New CWP Claims Filed by Calendar Year (7/15/2002 – 8/31/2016)



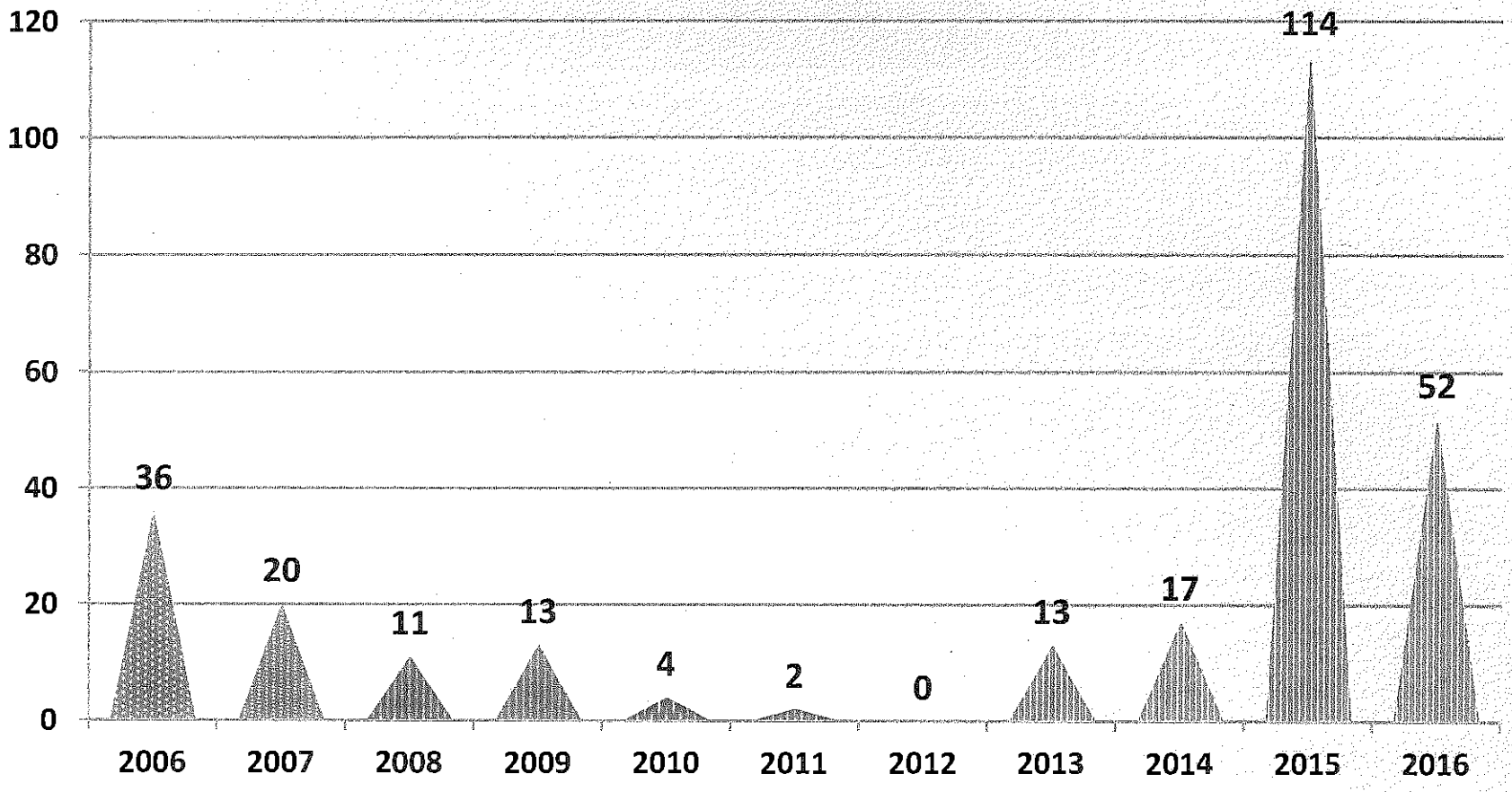
CWP Claims based on status codes created specifically for HB 348 (ACWP). *2016 data contains information from 1/1/2016 thru 8/31/2016. Run date: 9/13/2016. Source: Fran Davis

CWP Dismissals by Calendar Year



Dismissals on CWP Claims during specified calendar year.
2016 data contains information from 1/1/16 through 8/31/2016. Run date: 9/8/16; Source: Fran Davis

CWP Awards by Calendar Year



Awards issued on CWP Claims during specified calendar year.
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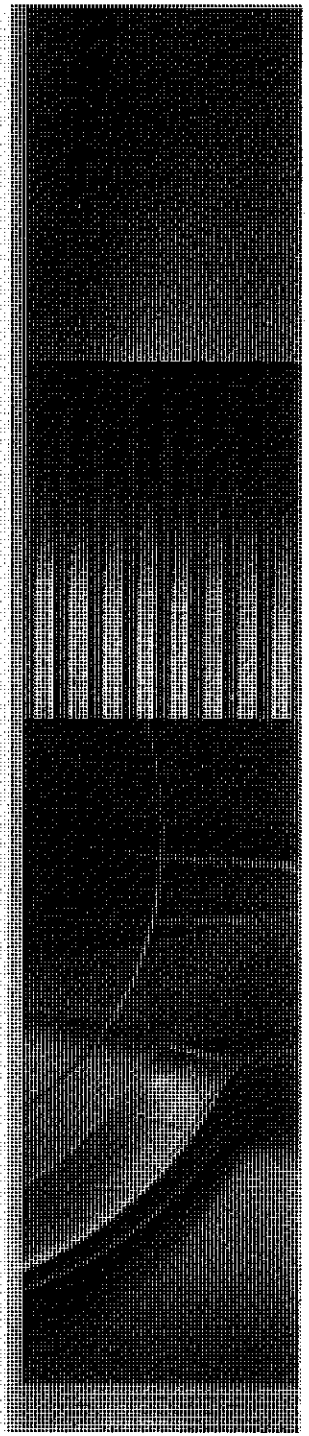
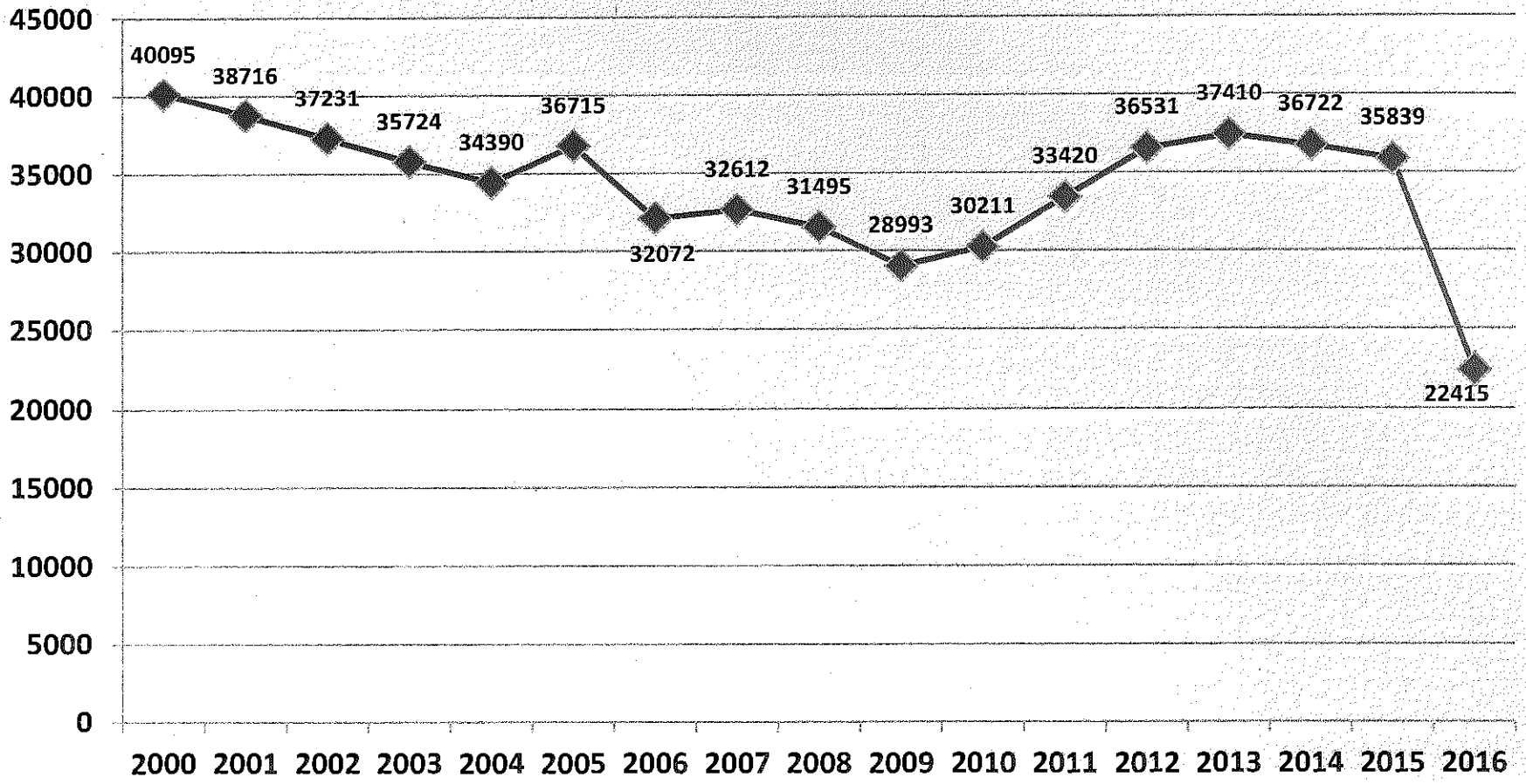
Workers' Compensation Task Force

Dwight T. Lovan, Commissioner, DWC

September 16, 2016



First Reports of Injury by Calendar Year (2000-2016*)



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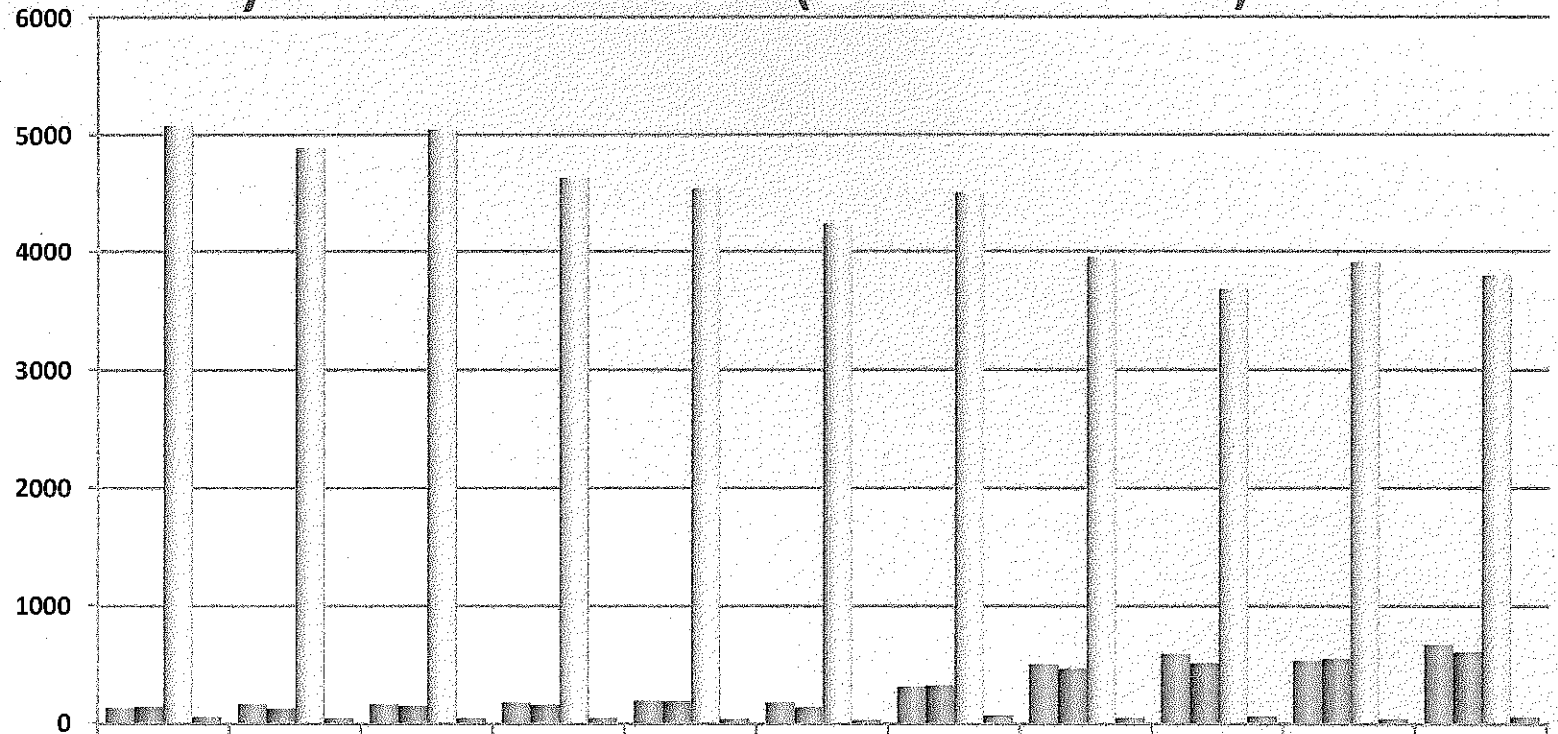

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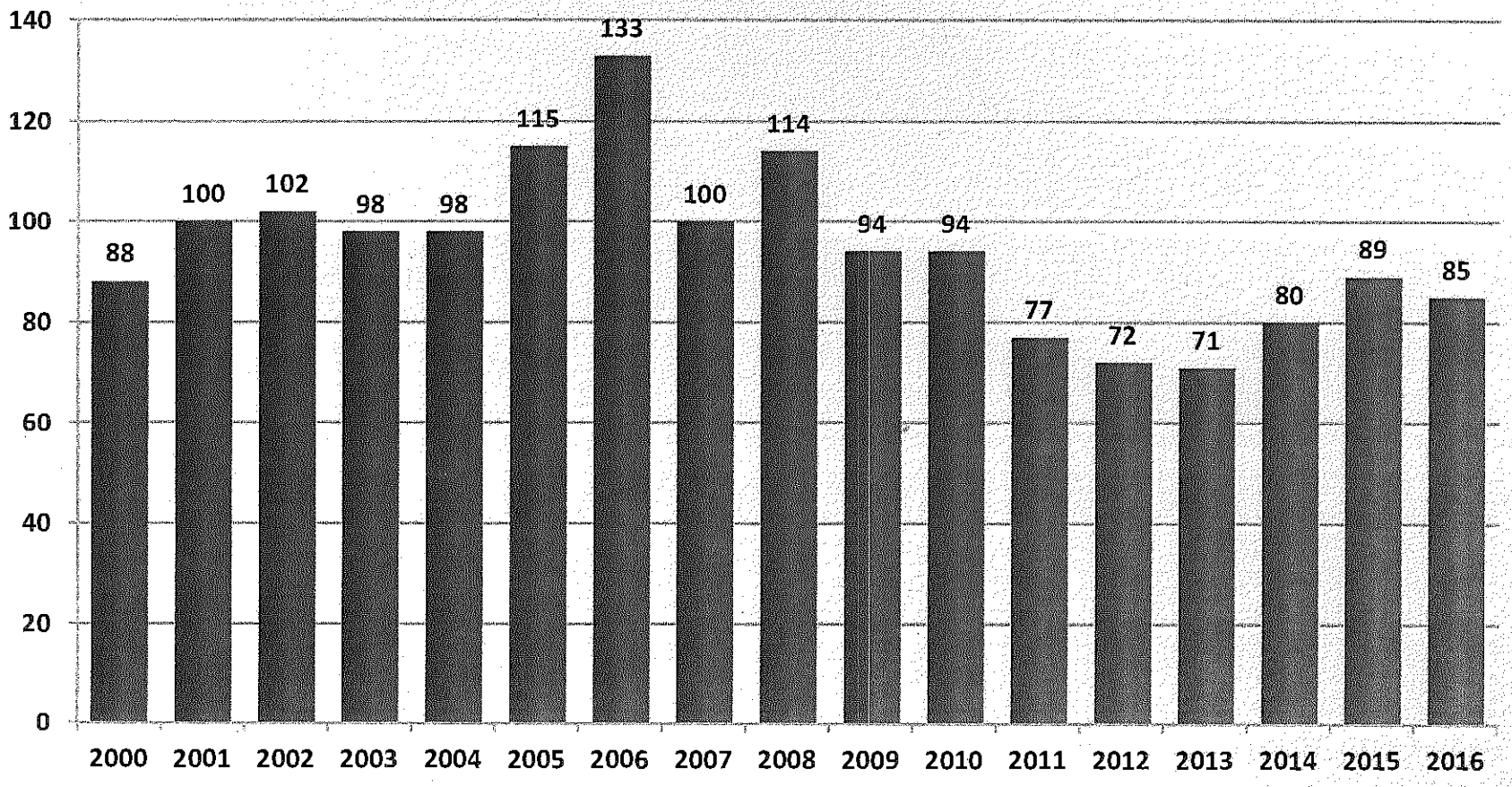

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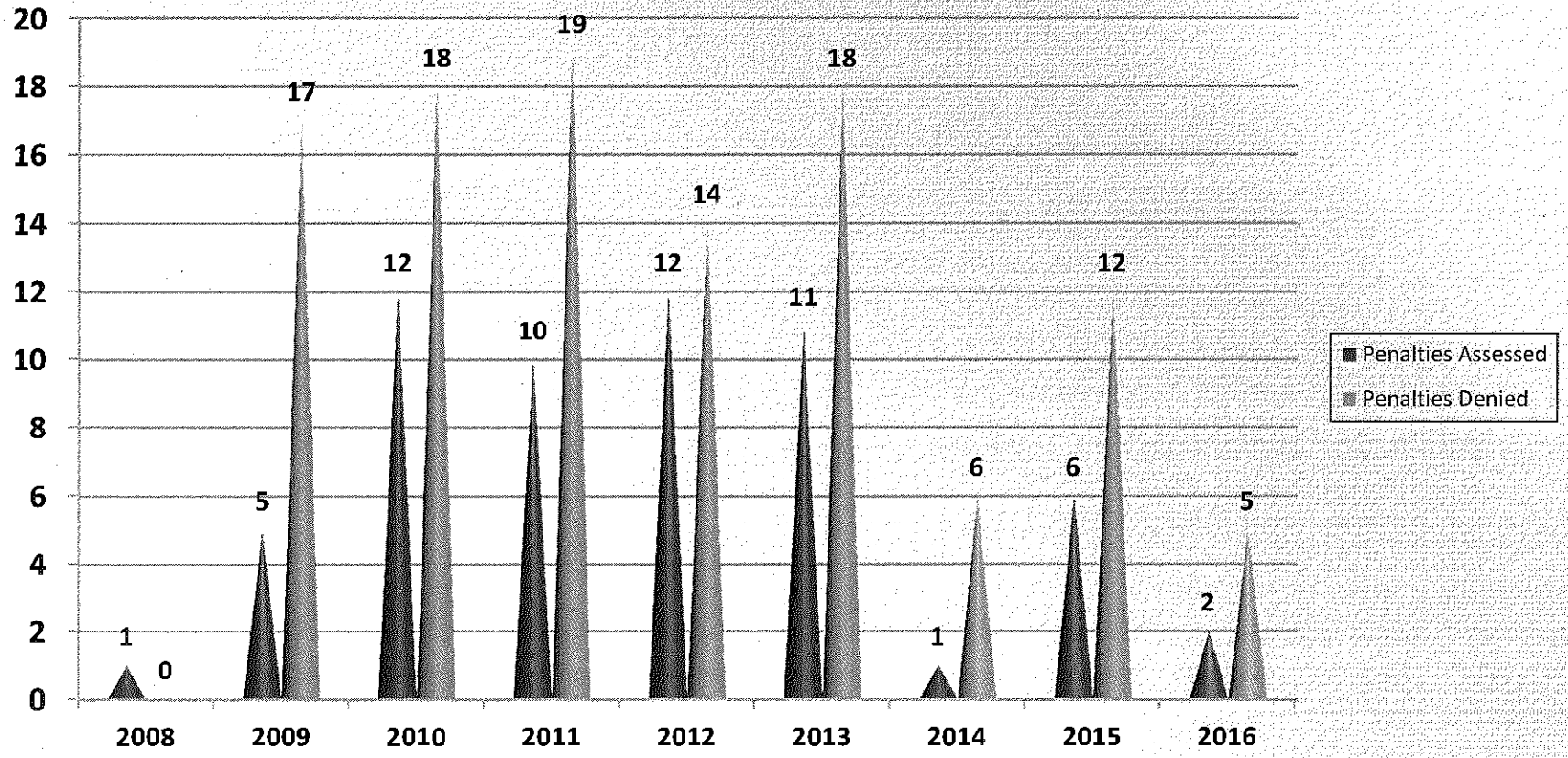

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Medical Disputes Program Statistics
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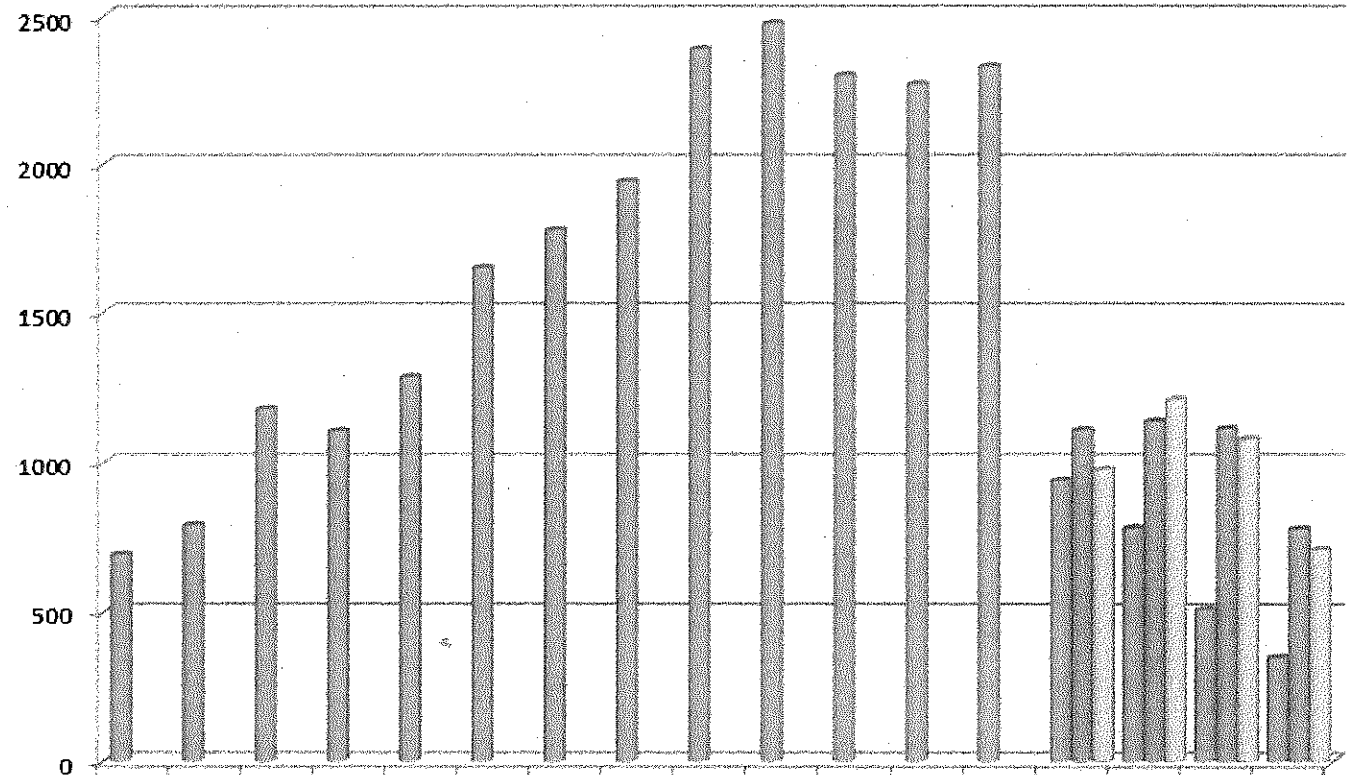

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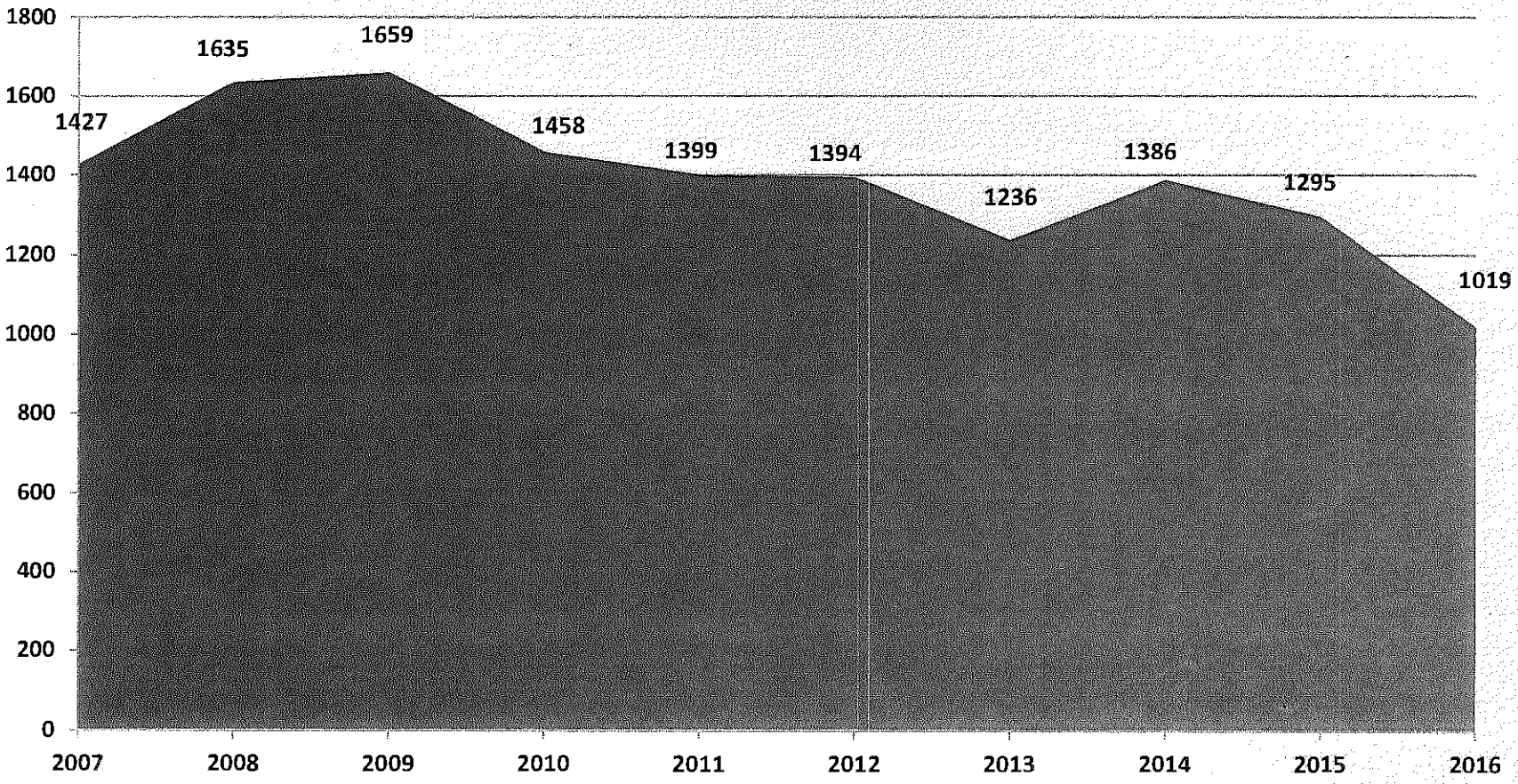
Total Reopenings by Calendar Year (2007-2016*)



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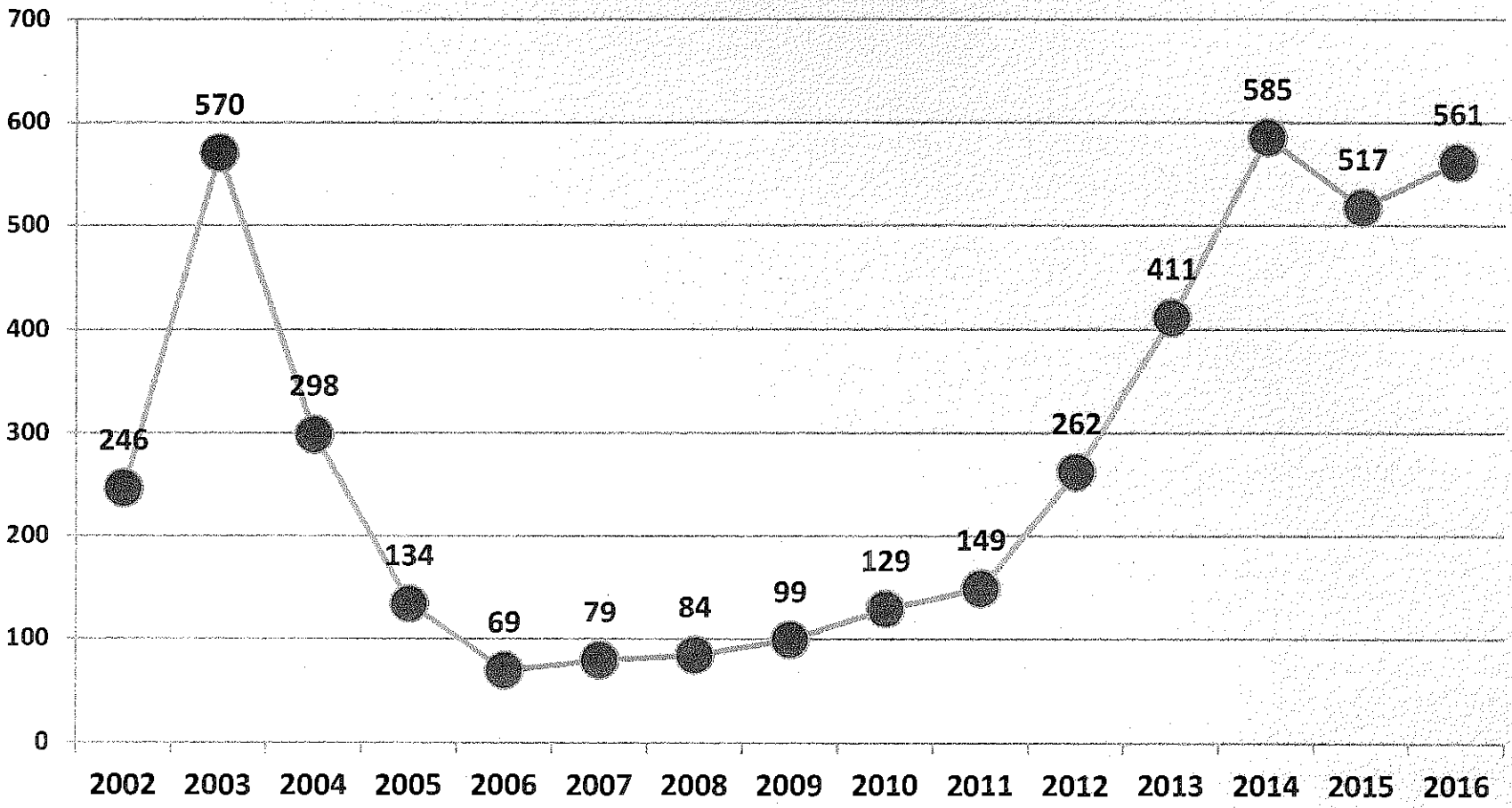

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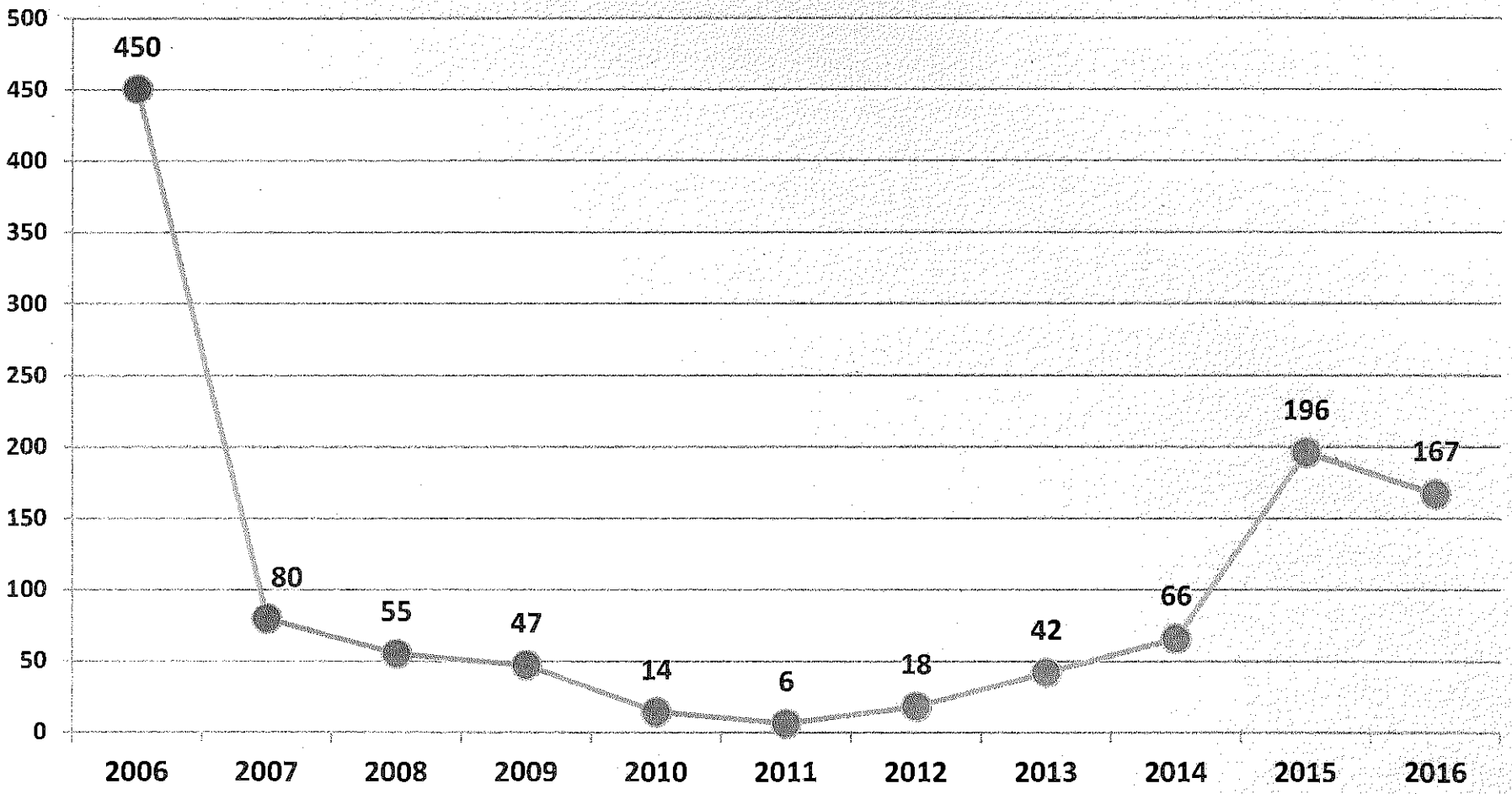
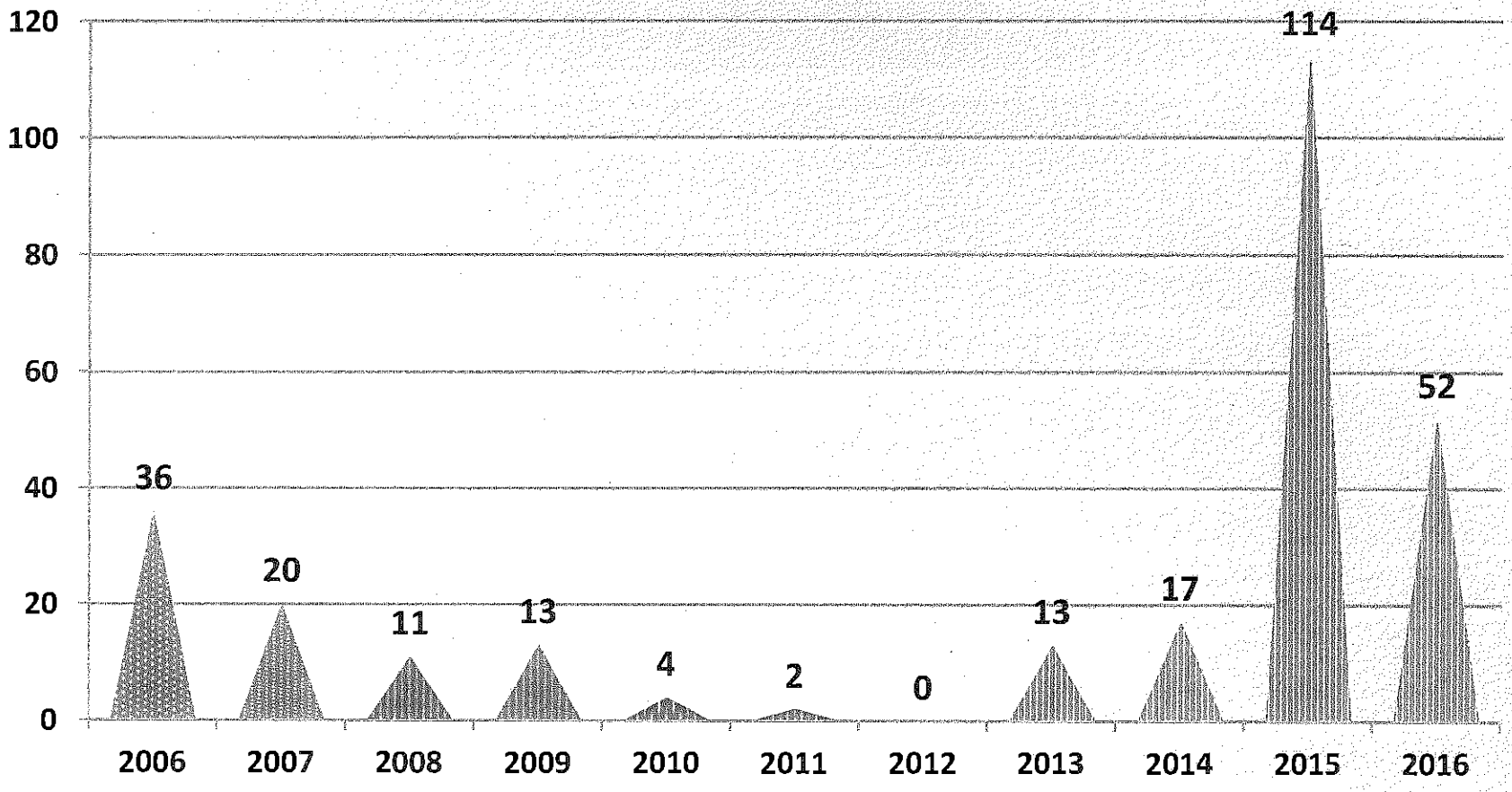
CWP Dismissals by Calendar Year



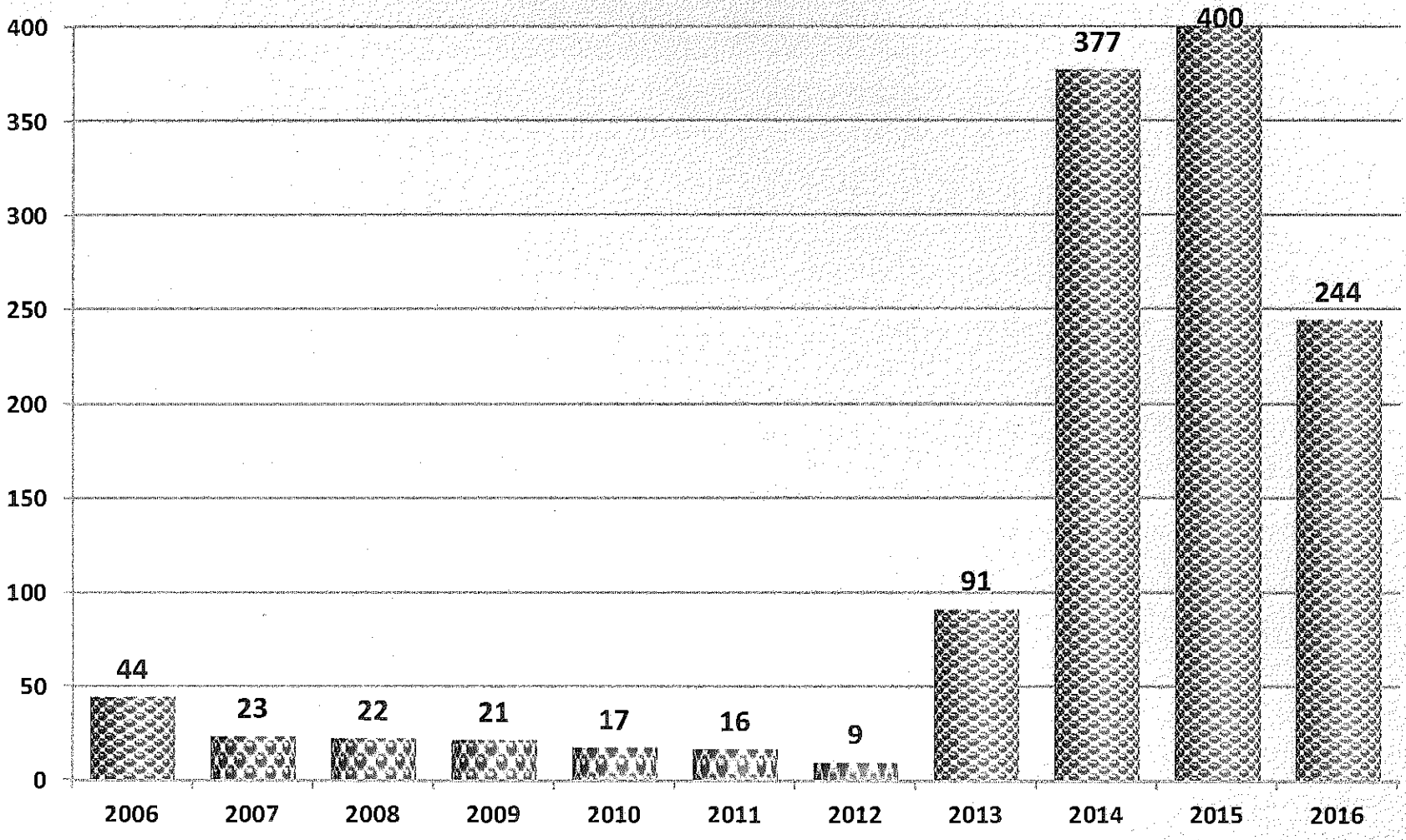
Dismissals on CWP Claims during specified calendar year.
2016 data contains information from 1/1/16 through 8/31/2016. Run date: 9/8/16; Source: Fran Davis

CWP Awards by Calendar Year



Awards issued on CWP Claims during specified calendar year.
2016 data contains information from 1/1/16 through 8/31/2016. Run date: 9/8/16; Source: Fran Davis

CWP Agreements by Calendar Year



Agreements issued on CWP Claims during specified calendar year.
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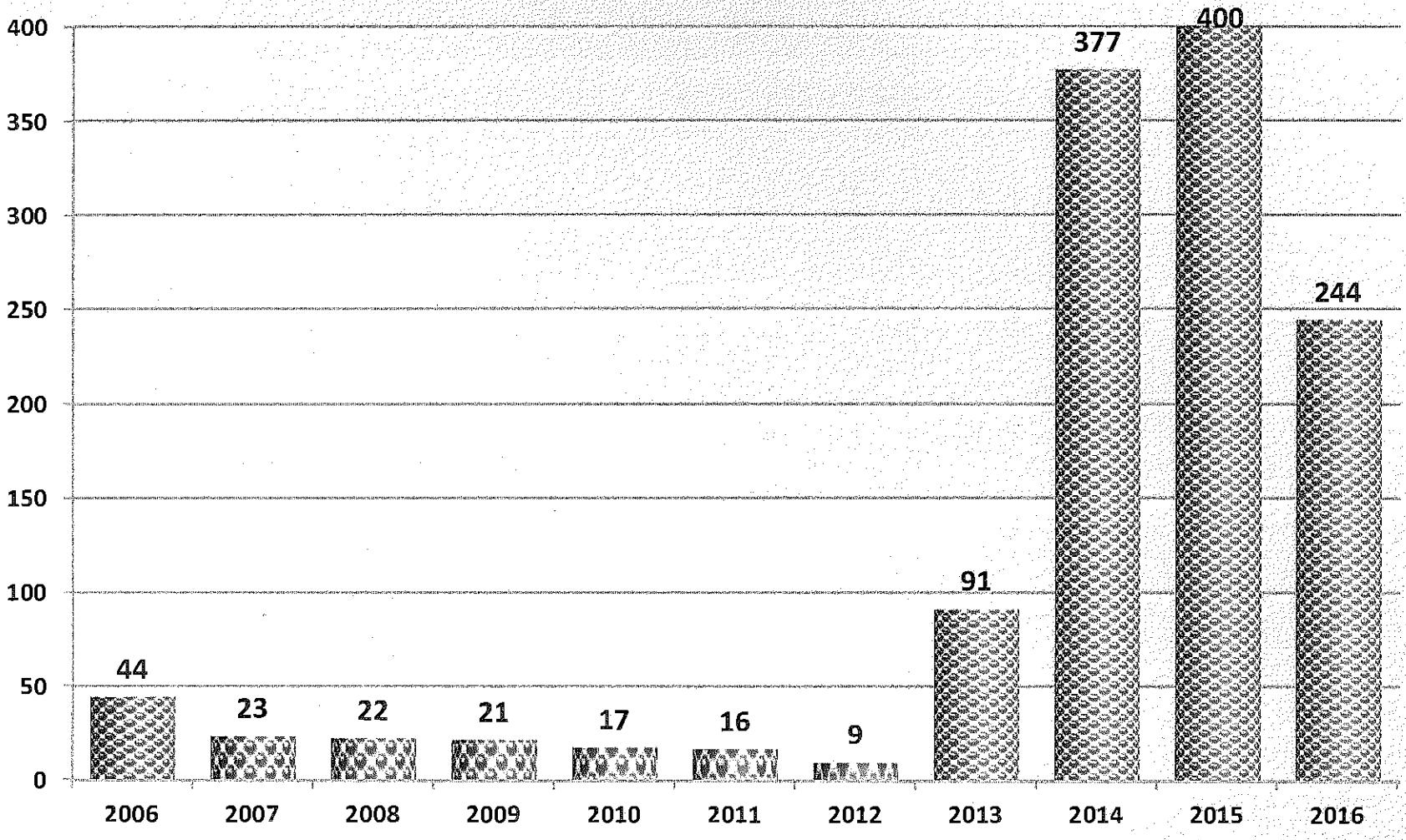
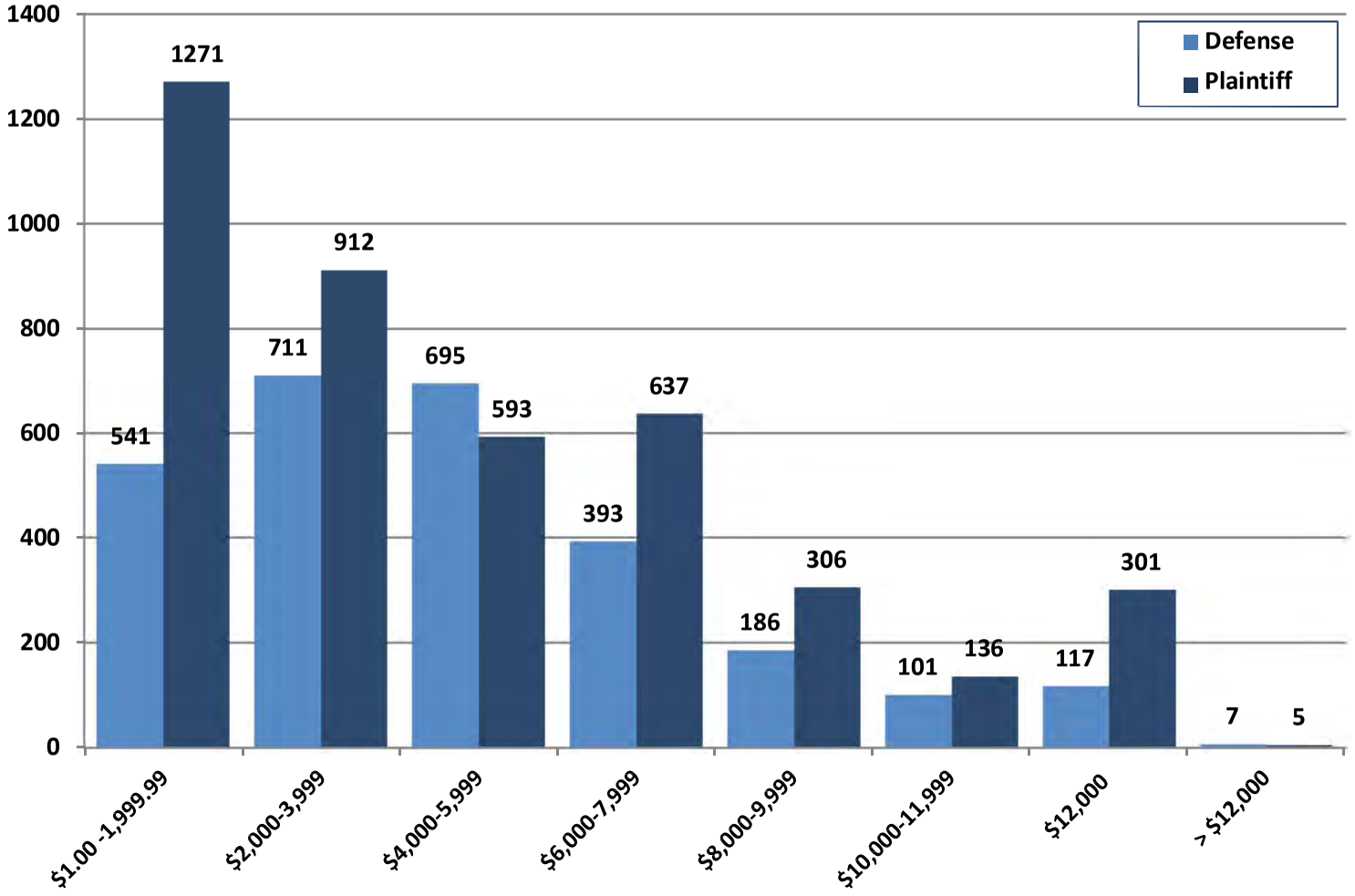
CWP Agreements by Calendar Year



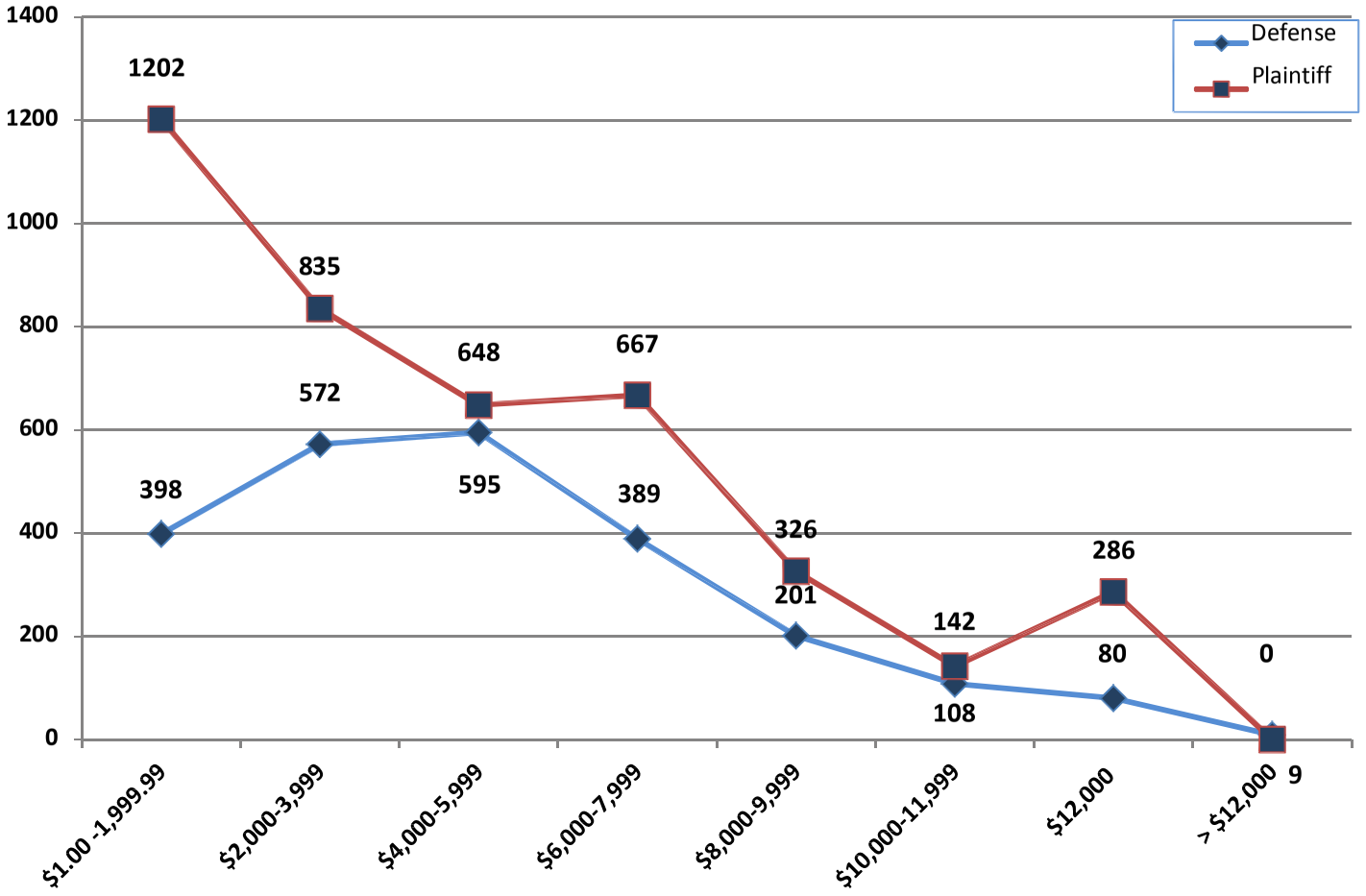
Agreements issued on CWP Claims during specified calendar year.
2016 data contains information from 1/1/16 through 8/31/2016. Run date: 9/8/16; Source: Fran Davis

Attorney Fee Distribution by Party by Calendar Year 2010-2016*

Attorney Fees
Calendar Year 2010

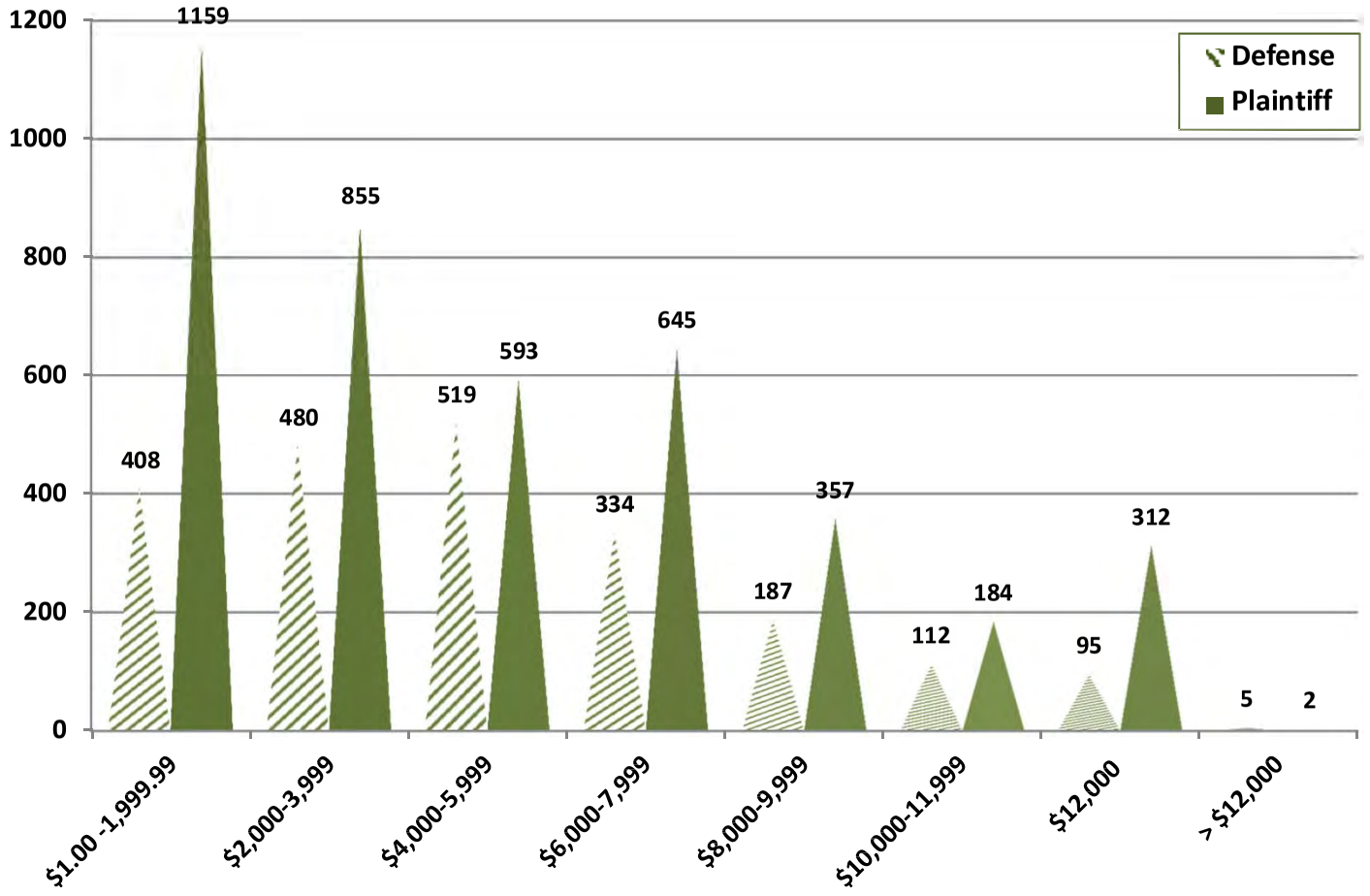


Attorney Fees
Calendar Year 2011

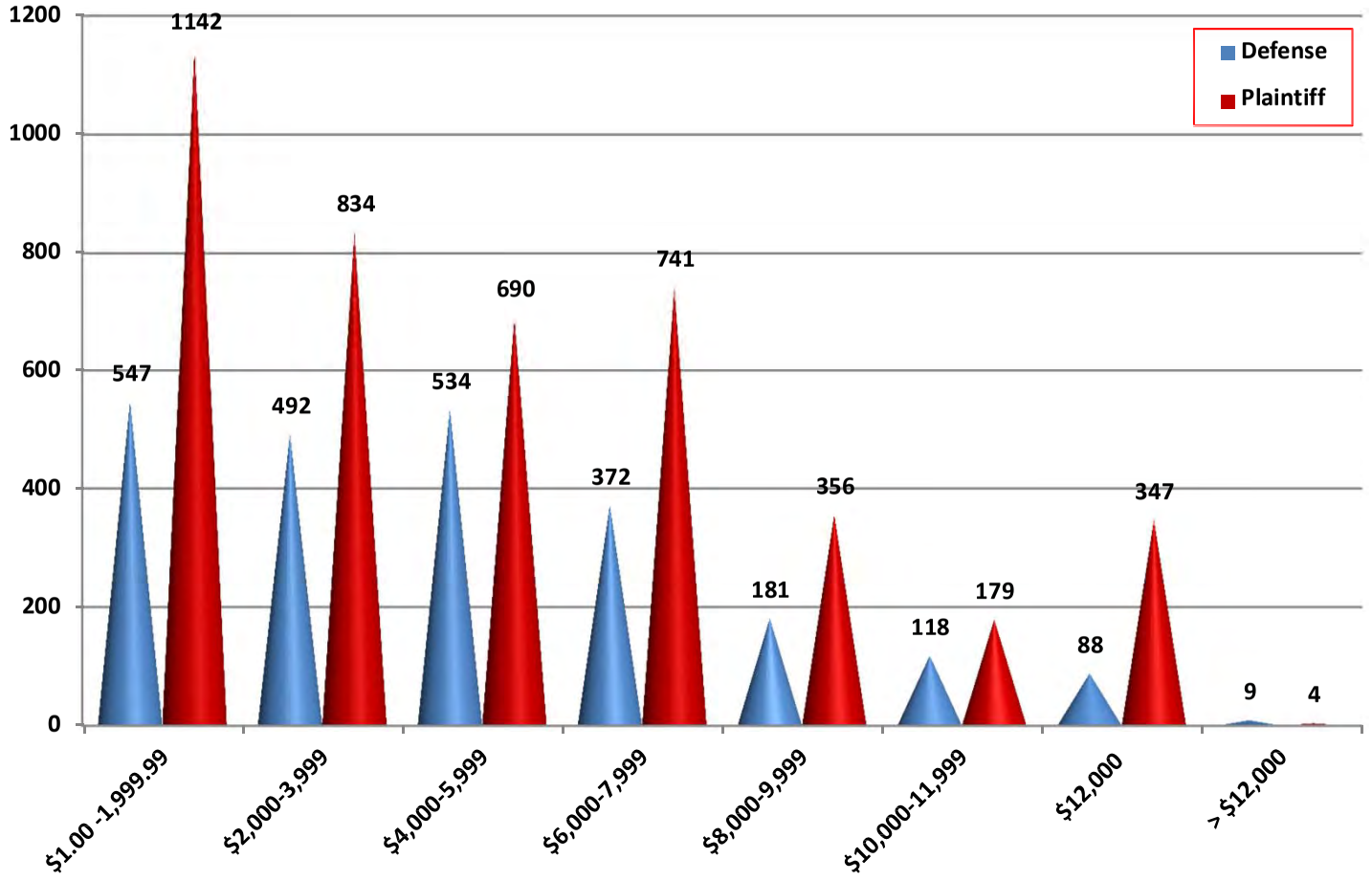


> 12K – 9 for Defense and 0 for Plaintiff

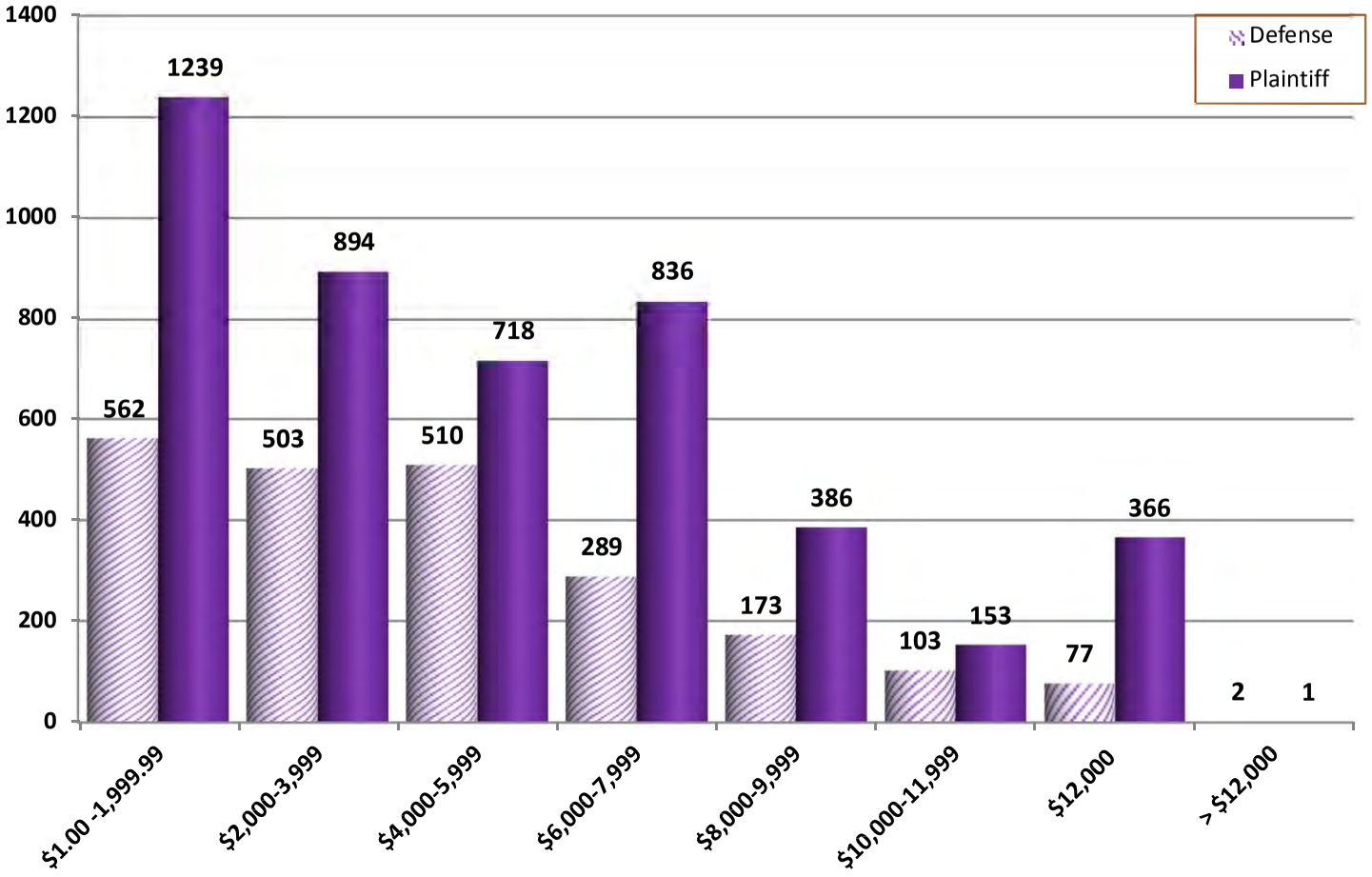
Attorney Fees
Calendar Year 2012



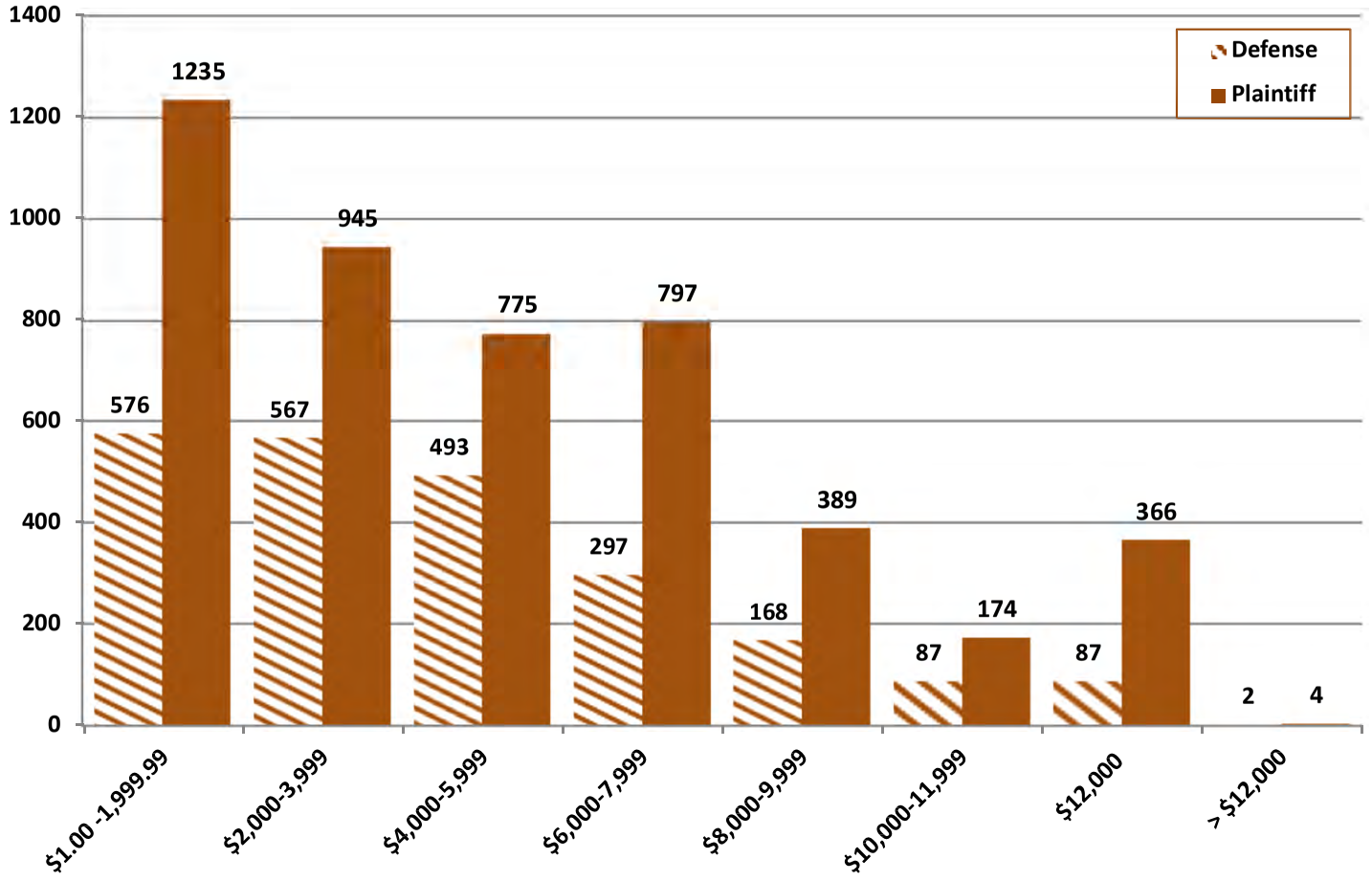
Attorney Fees
Calendar Year 2013



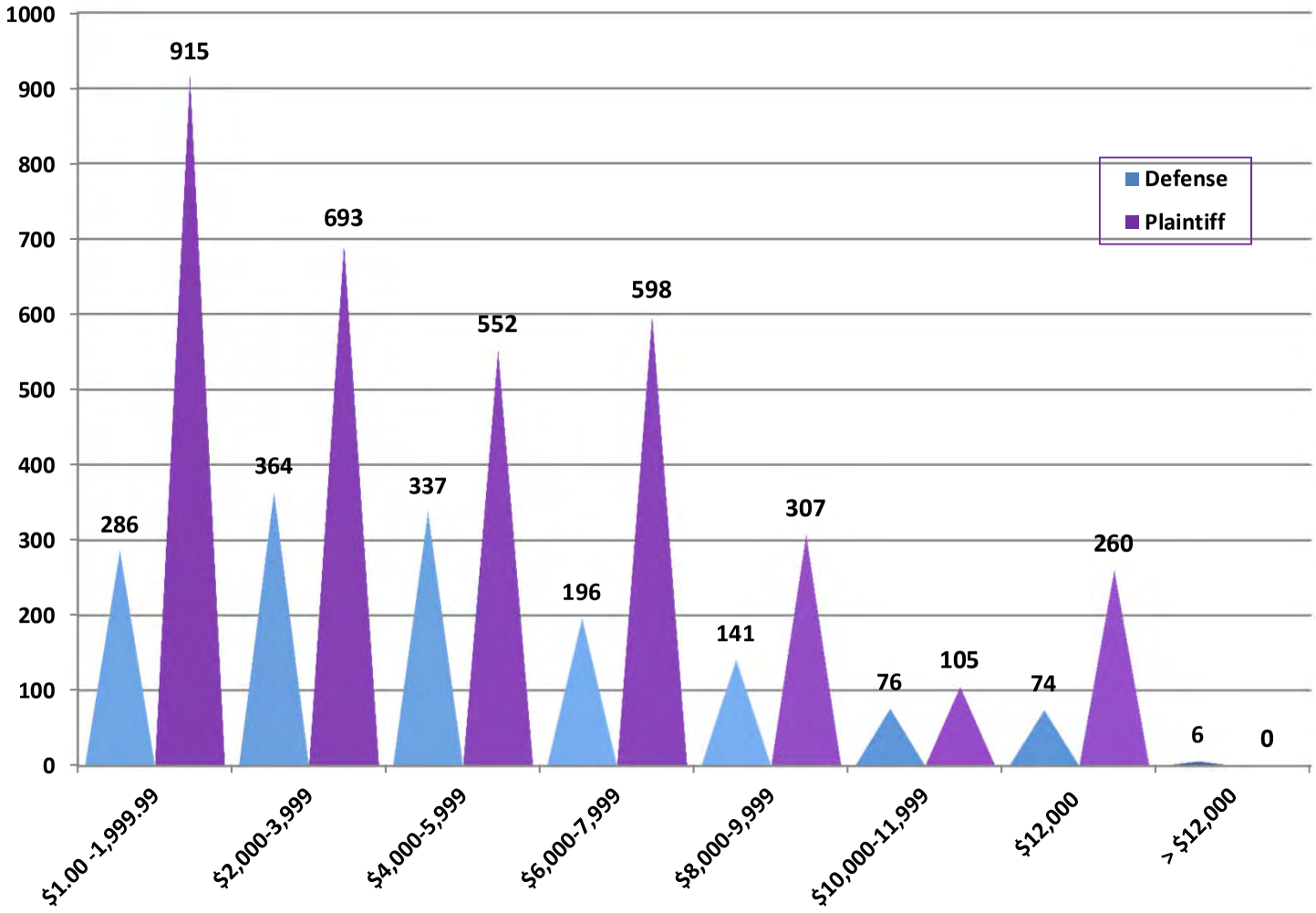
Attorney Fees
Calendar Year 2014



Attorney Fees
Calendar Year 2015



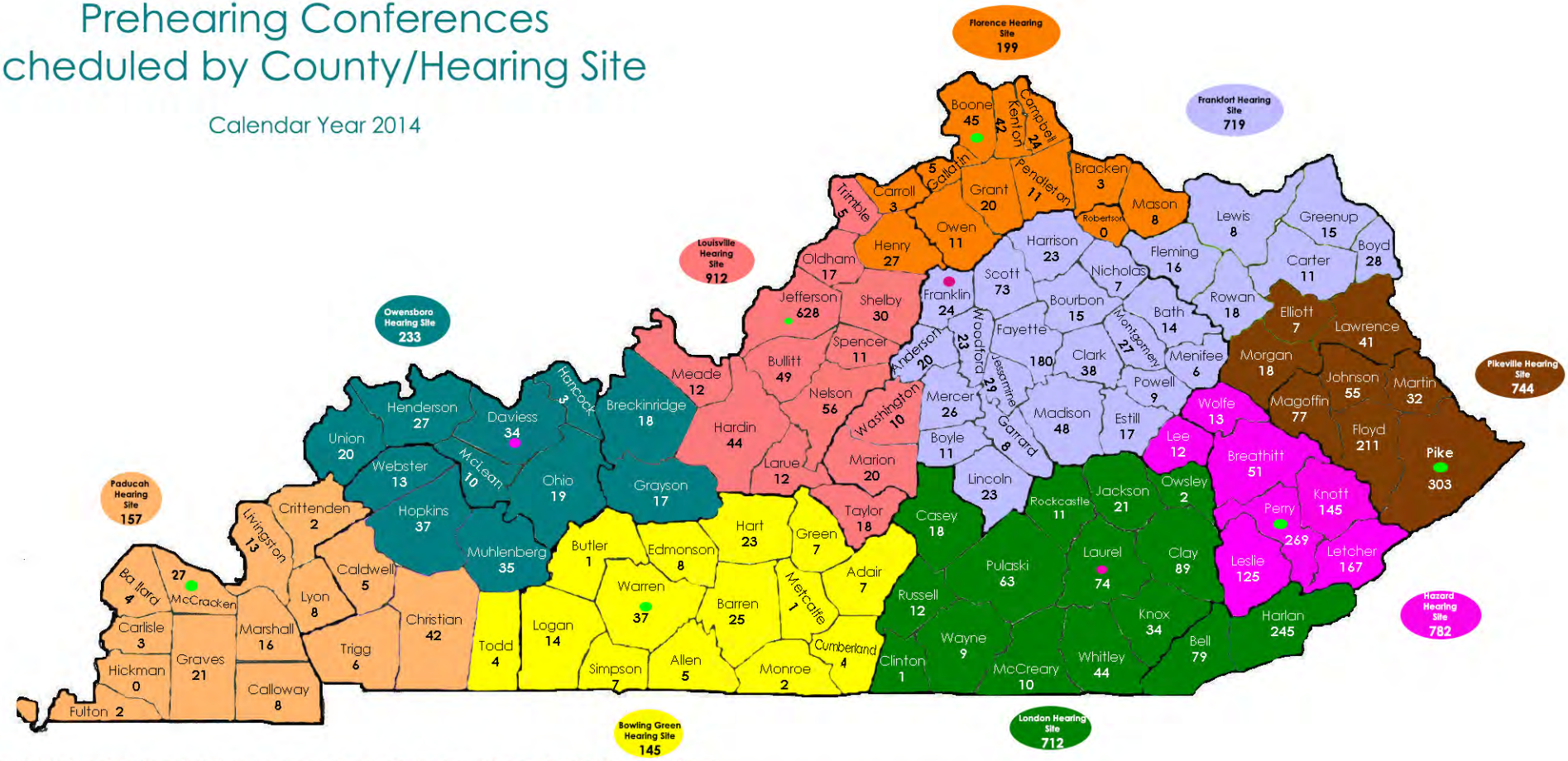
Attorney Fees
Calendar Year 2016*



*2016 data includes information from 1/1/16 through 9/30/2016

Formal Hearings & Prehearing Conferences Scheduled by County/Hearing Site

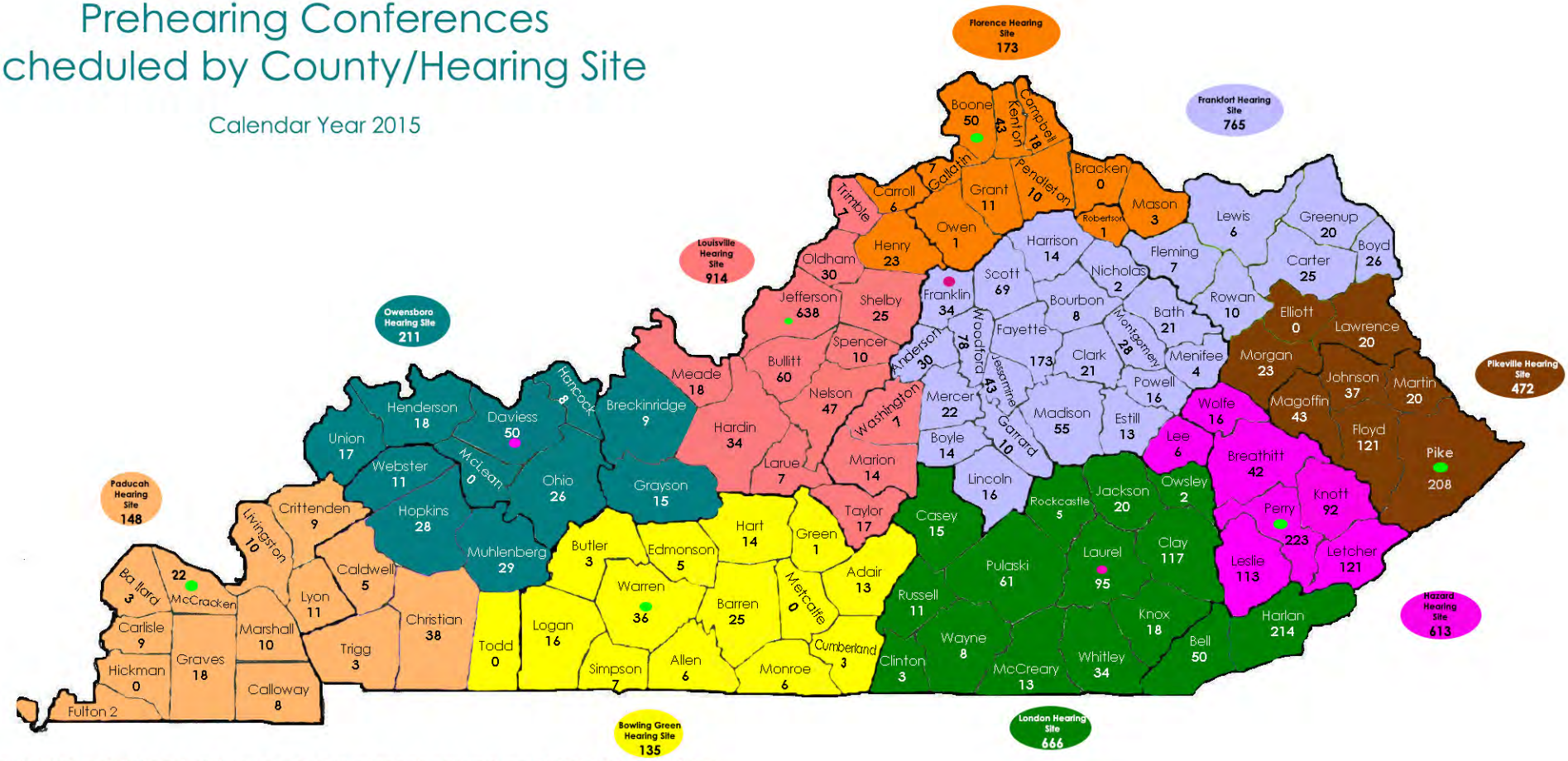
Calendar Year 2014



Duplicates contained within as a result of rescheduled conferences/hearings.
Run date: 1-23-2015; Frankfort Hearing Site contains 2 additional prehearing conf/hearings due to unknown county assoc.
318 other prehearing conf/hearings were scheduled in various regions due to out of state addresses. Source: Information & Research

Formal Hearings & Prehearing Conferences Scheduled by County/Hearing Site

Calendar Year 2015

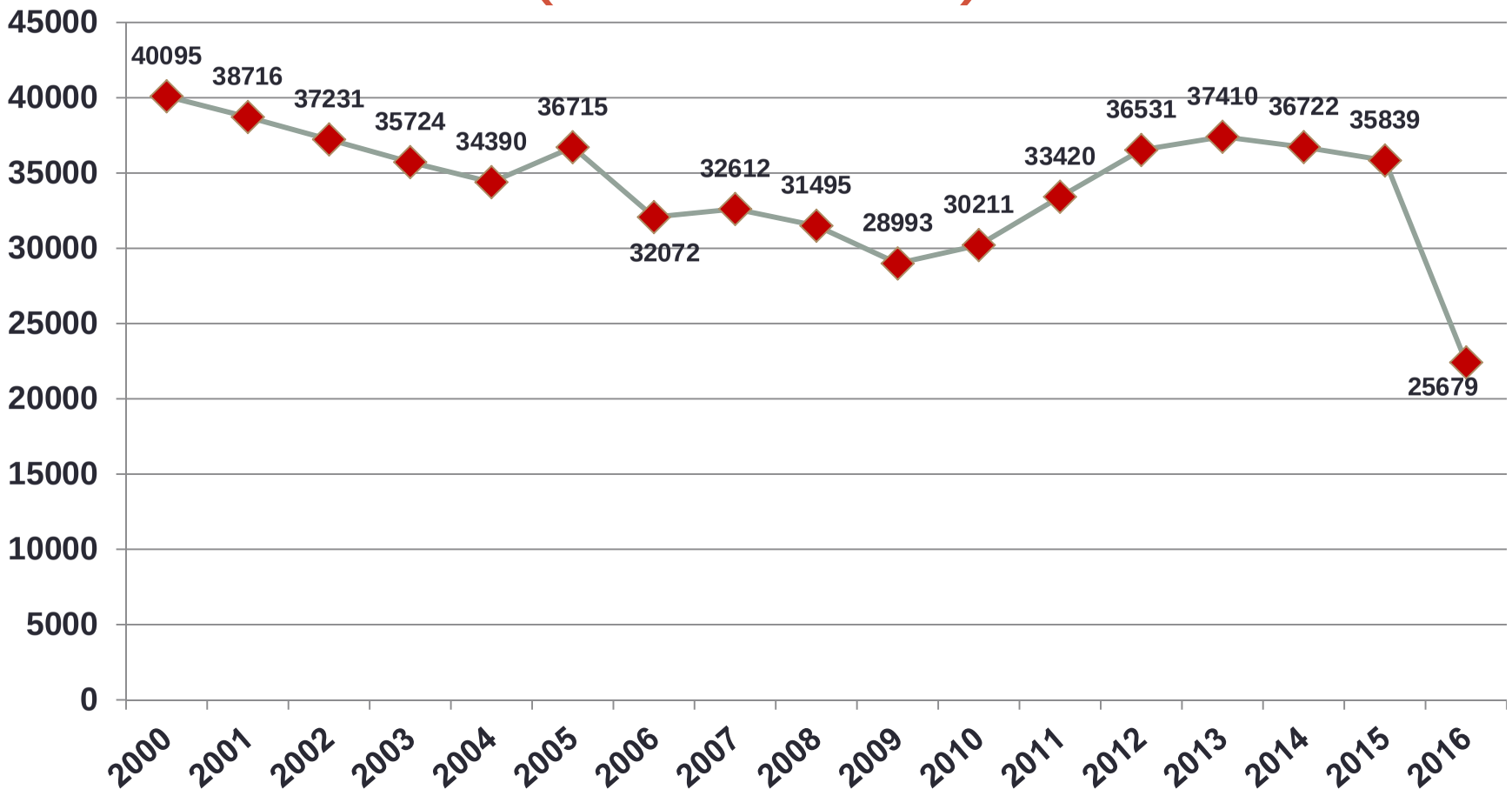


Duplicates contained within as a result of rescheduled conferences/hearings.
Run date: 3/8/2016
254 other prehearing conf/hearings were scheduled in various regions due to out of state addresses. Source: Fran Davis/DWC

WORKERS' COMPENSATION TASK FORCE

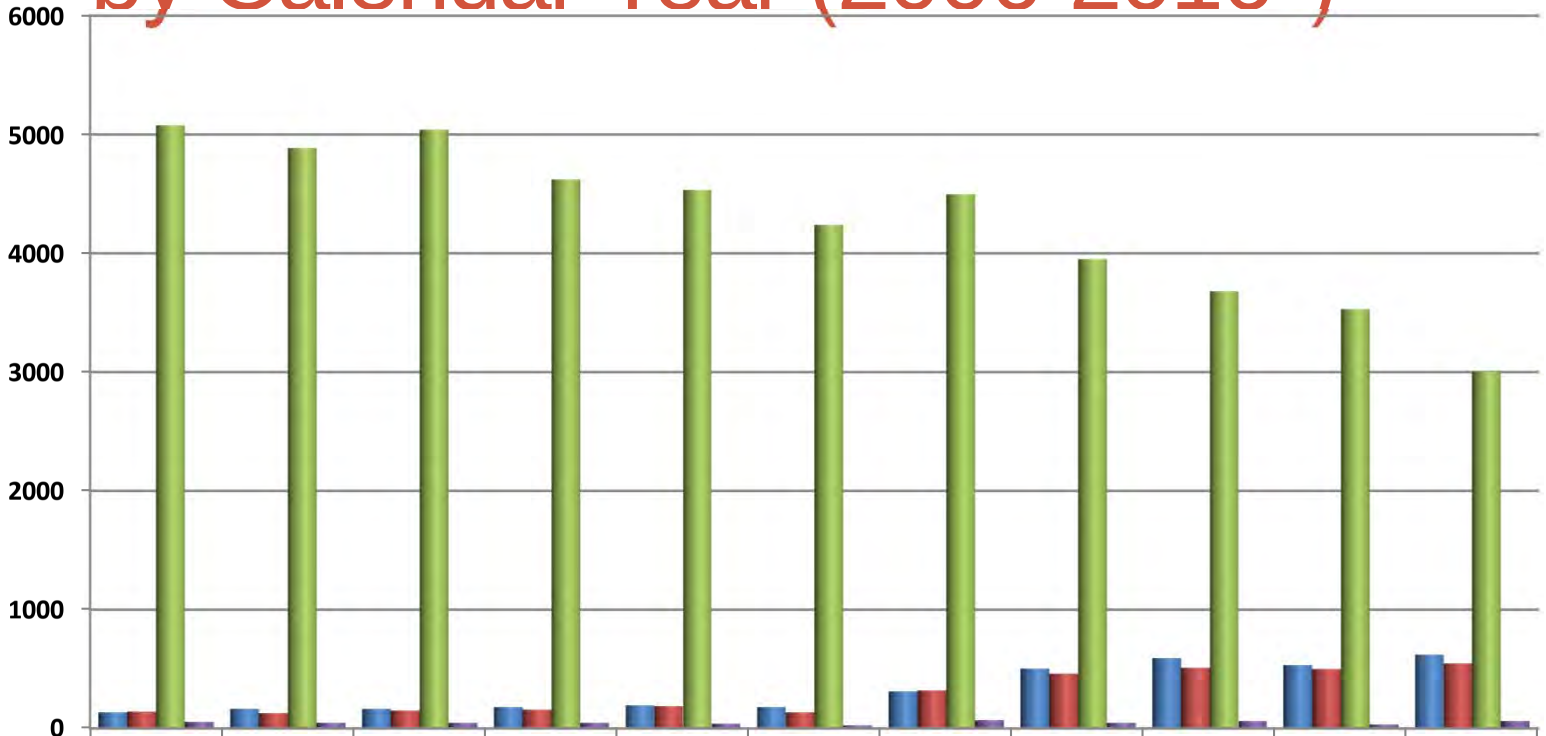
Dwight T. Lovan, Commissioner, DWC
October 21, 2016

First Reports of Injury by Calendar Year (2000-2016*)



Excludes no lost time reports; data based on date transactions are received by DWC. Data includes only information submitted via EDI.
*2016 data includes 1/1/2016 thru 9/30/2016. Run date: 10/18/2016. Source: DWC

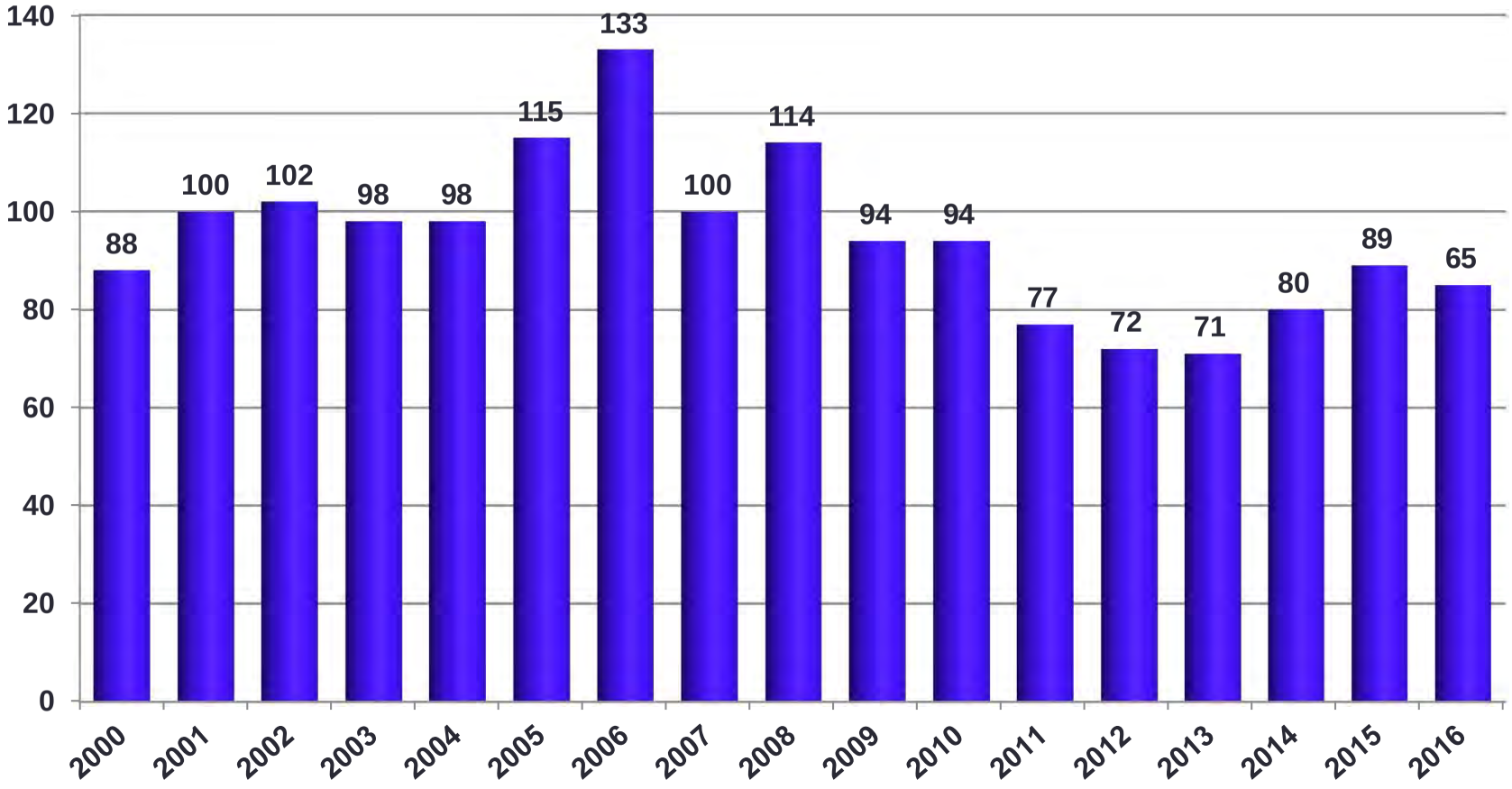
Distribution of Claims by Nature Type by Calendar Year (2006-2016*)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CWP	137	164	164	179	193	179	308	499	587	530	620
Hearing Loss	138	127	150	158	183	136	318	461	510	498	544
Injury	5074	4884	5039	4622	4533	4239	4497	3948	3679	3528	3002
Other OD	54	46	45	44	41	27	69	49	59	34	62

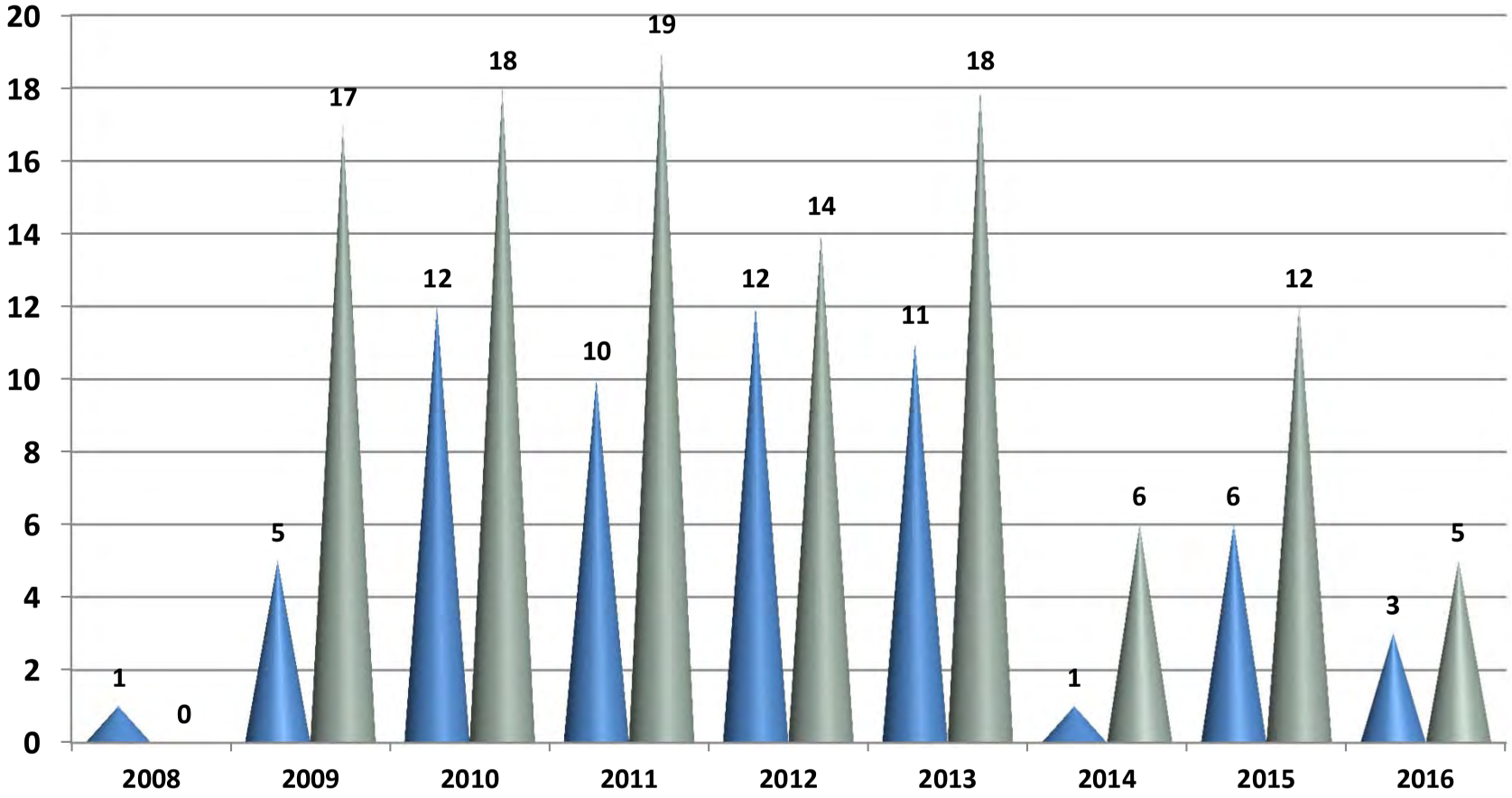
Claims by File Date of the application and sorts by nature type specified on the application. Errors were found in CY 15 and CY 16 data published 9/16/16. Please see corrected numbers above. *2016 data contains information from 1/1/2016 thru 9/30/2016. Run date: 10/18/2016. Source: DWC

Fatalities Reported to DWC by Calendar Year (2000-2016*)
Work-Relatedness Not Determined



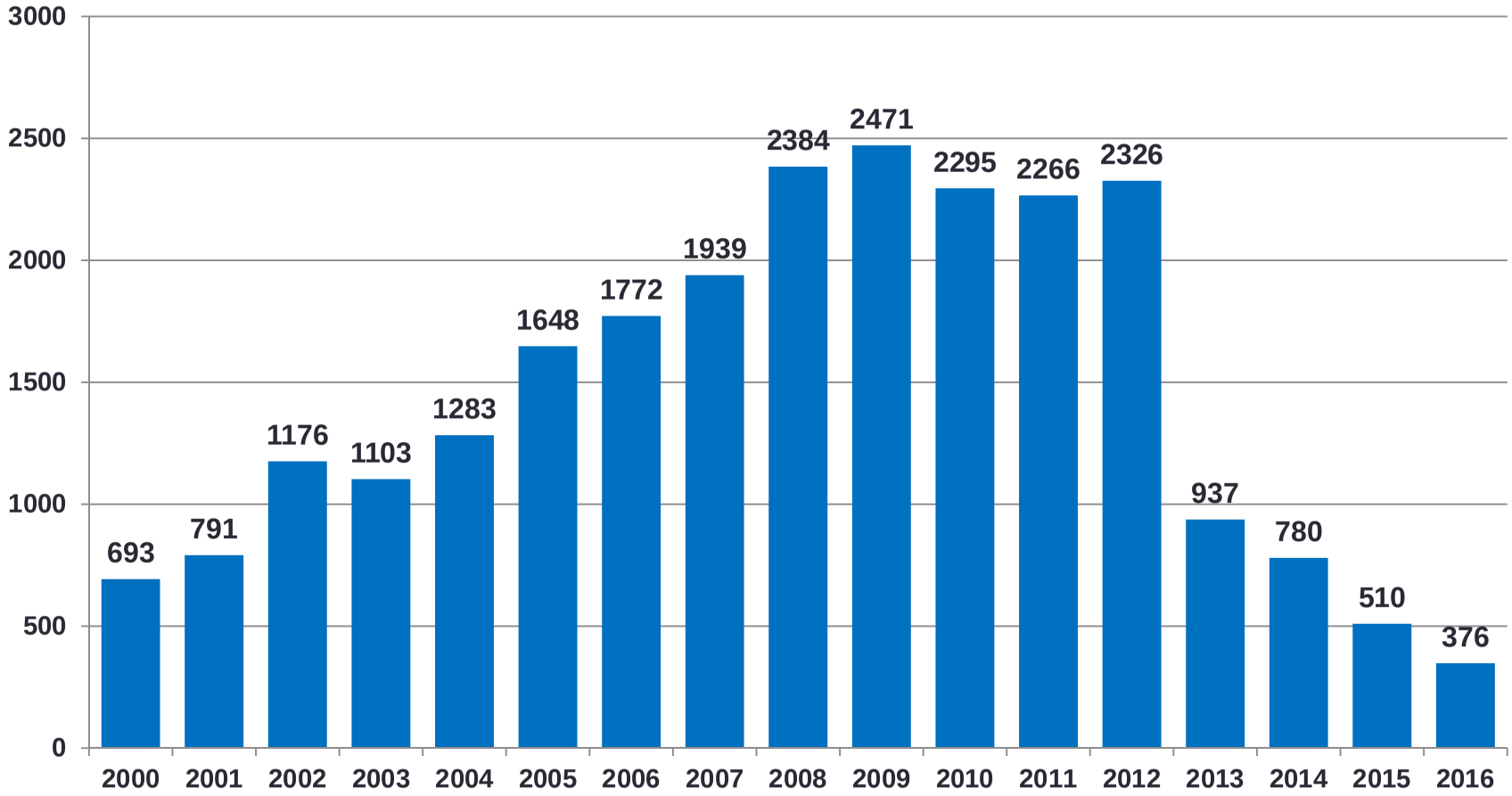
Data based on date received. Data not scrutinized for work-relatedness. *2016 data includes 1/1/2016 thru 9/30/16. There was a data entry error for Cy 2016 and this has been corrected above. Run date: 10/18/16. Source: DWC

Safety Penalties by Calendar Year (2008-2016*)



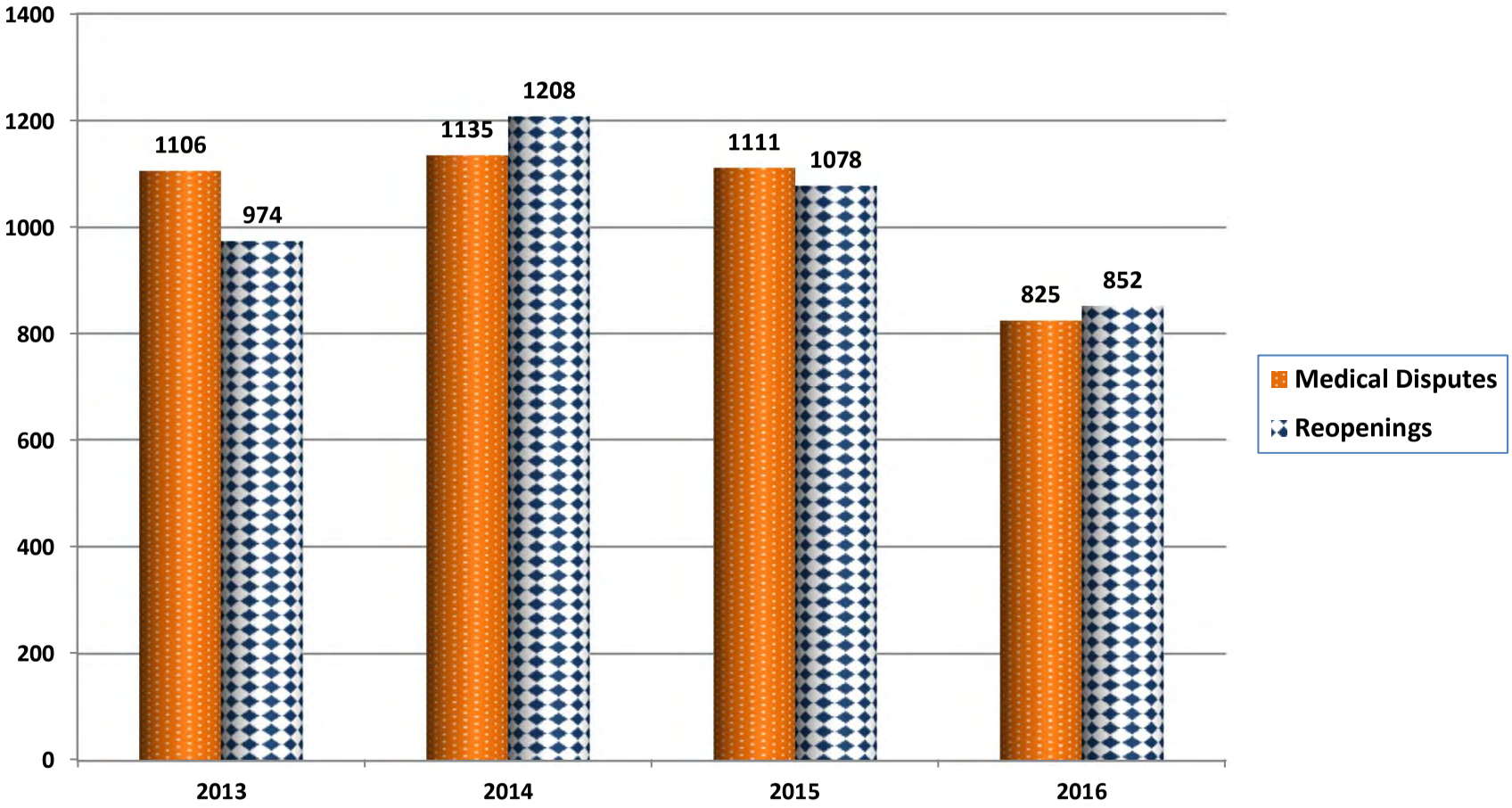
Data based on status codes SVPD and SVPA. *2016 data contains information from 1/1/2016 thru 9/30/2016.
Run date: 10/19/2016. Source: DWC

Medical Disputes by Calendar Year (2000-2016*)



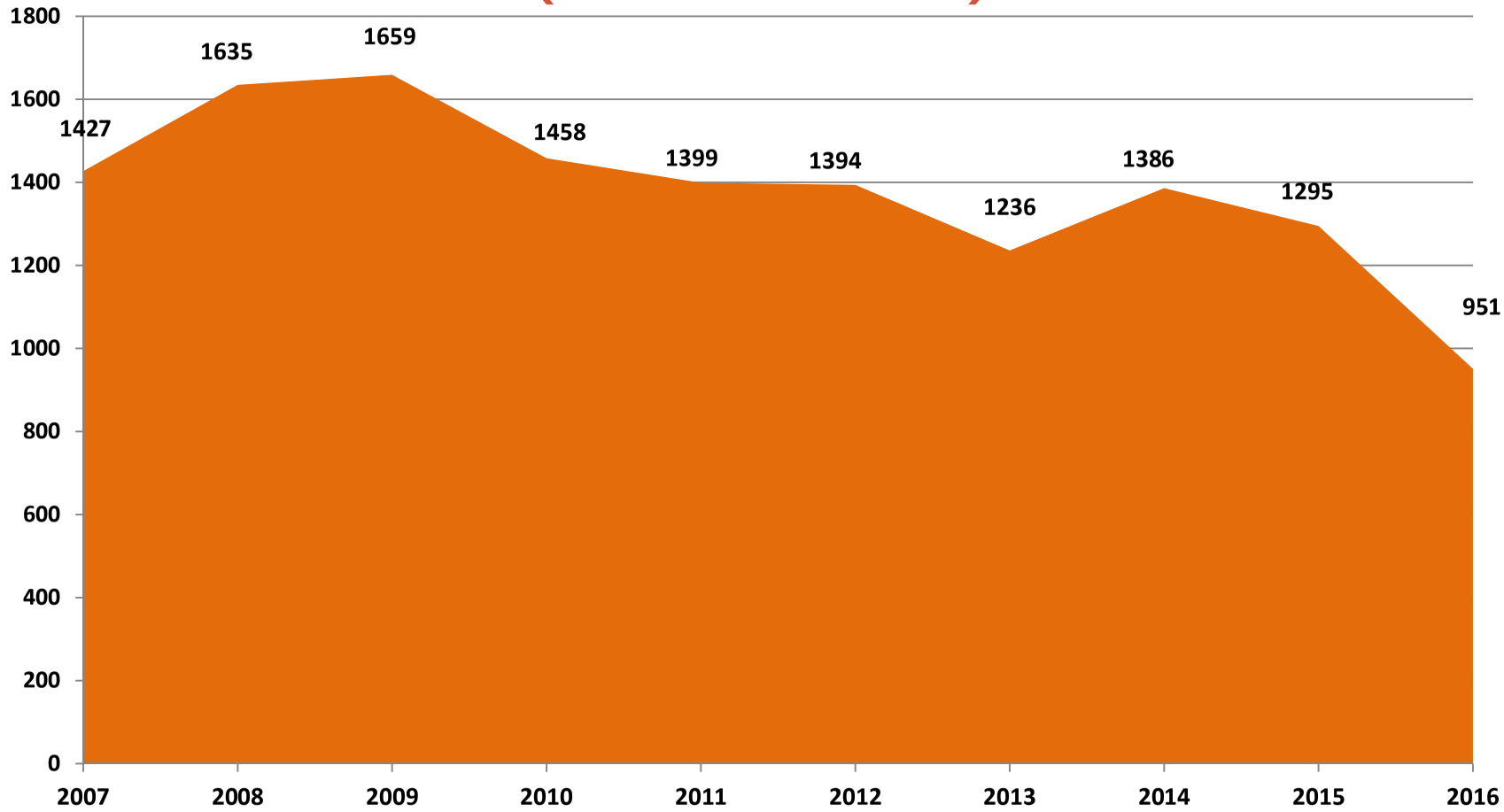
Data based on status date (MMFDs). This does not include the Medical Dispute Docket. These medical disputes were filed in conjunction with application for resolution of claims. *2016 data contains information from 1/1/2016 thru 9/30/2016. Run date: 10/19/2016. Source: DWC

Medical Dispute Program Statistics (1/1/2013 thru 8/31/2016)



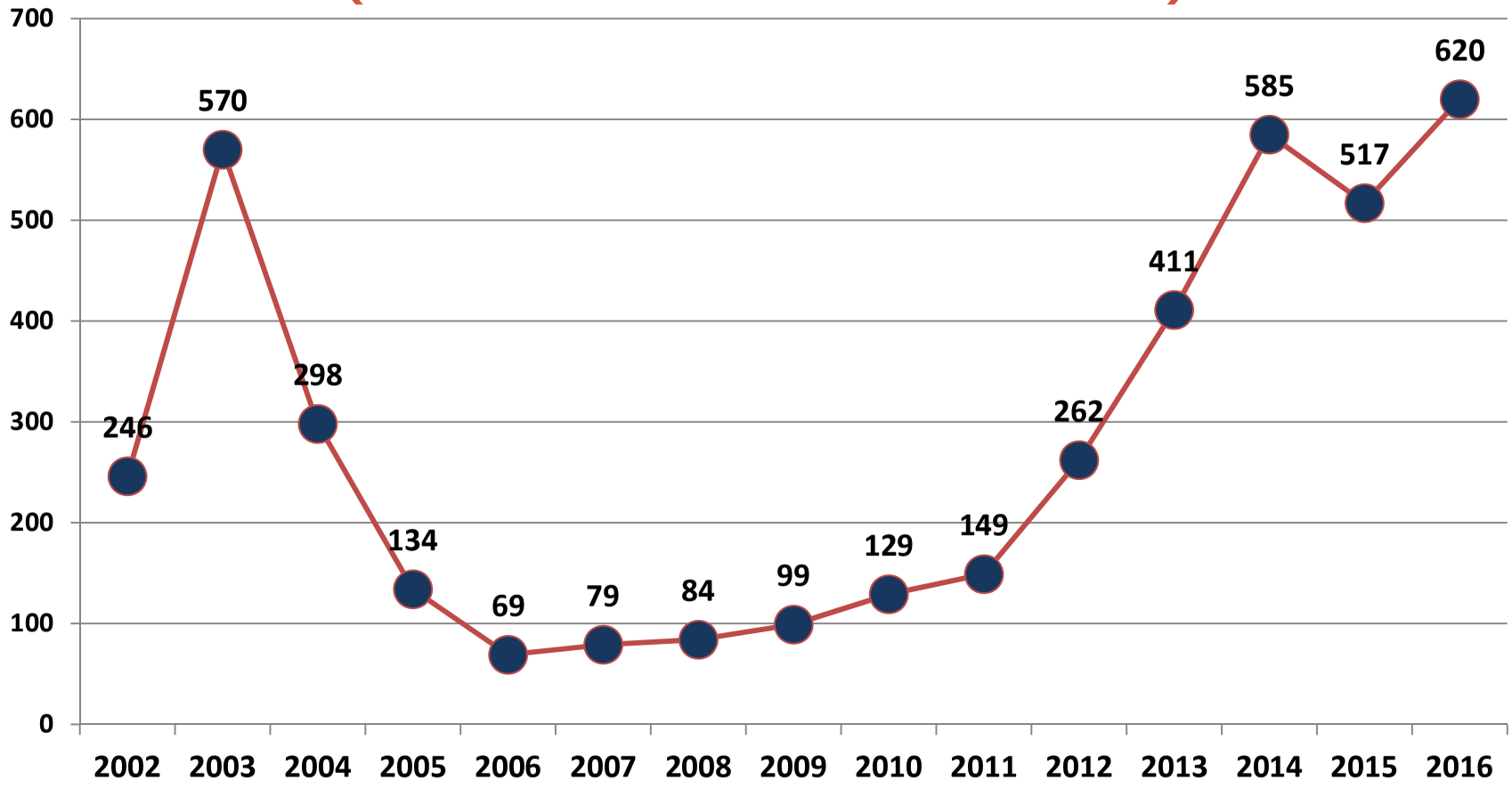
Medical Dispute program assignments (ASMD) and Reopenings (ROMD). *2016 data contains information from 1/1/2016 thru 9/30/2016. Run date: 10/19/2016 Source: DWC

Total Reopenings by Calendar Year (2007-2016*)



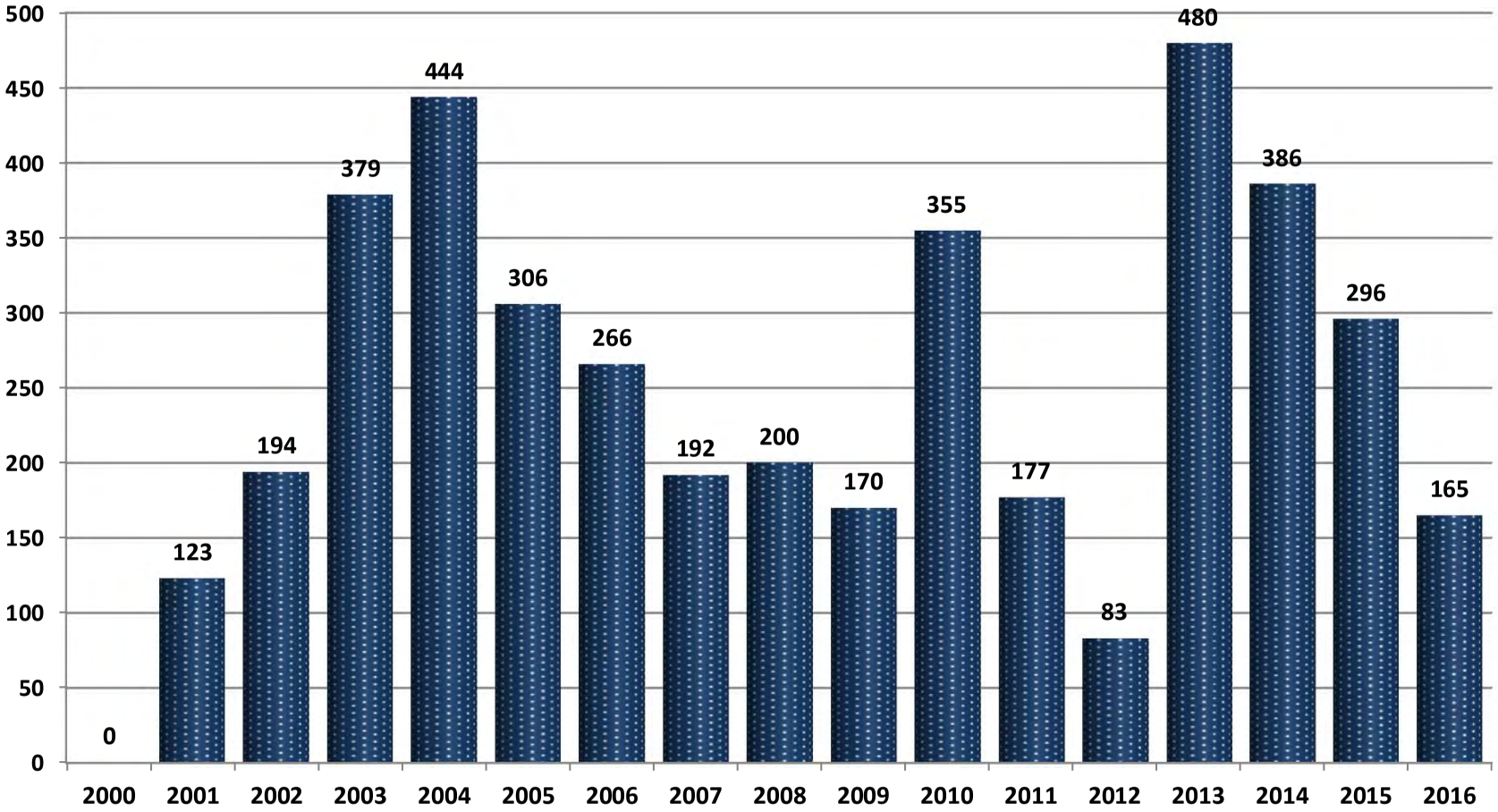
Data based on status codes MROP and ROMD. This includes all reopenings. *2016 data contains information from 1/1/2016 thru 9/30/2016. Previous 2016 data was incorrect. The LMS data included duplicate counts for consolidated cases and these have now been removed. Run date: 10/18/2016. Source: DWC

New CWP Claims Filed by Calendar Year (7/15/2002 – 9/30/2016)



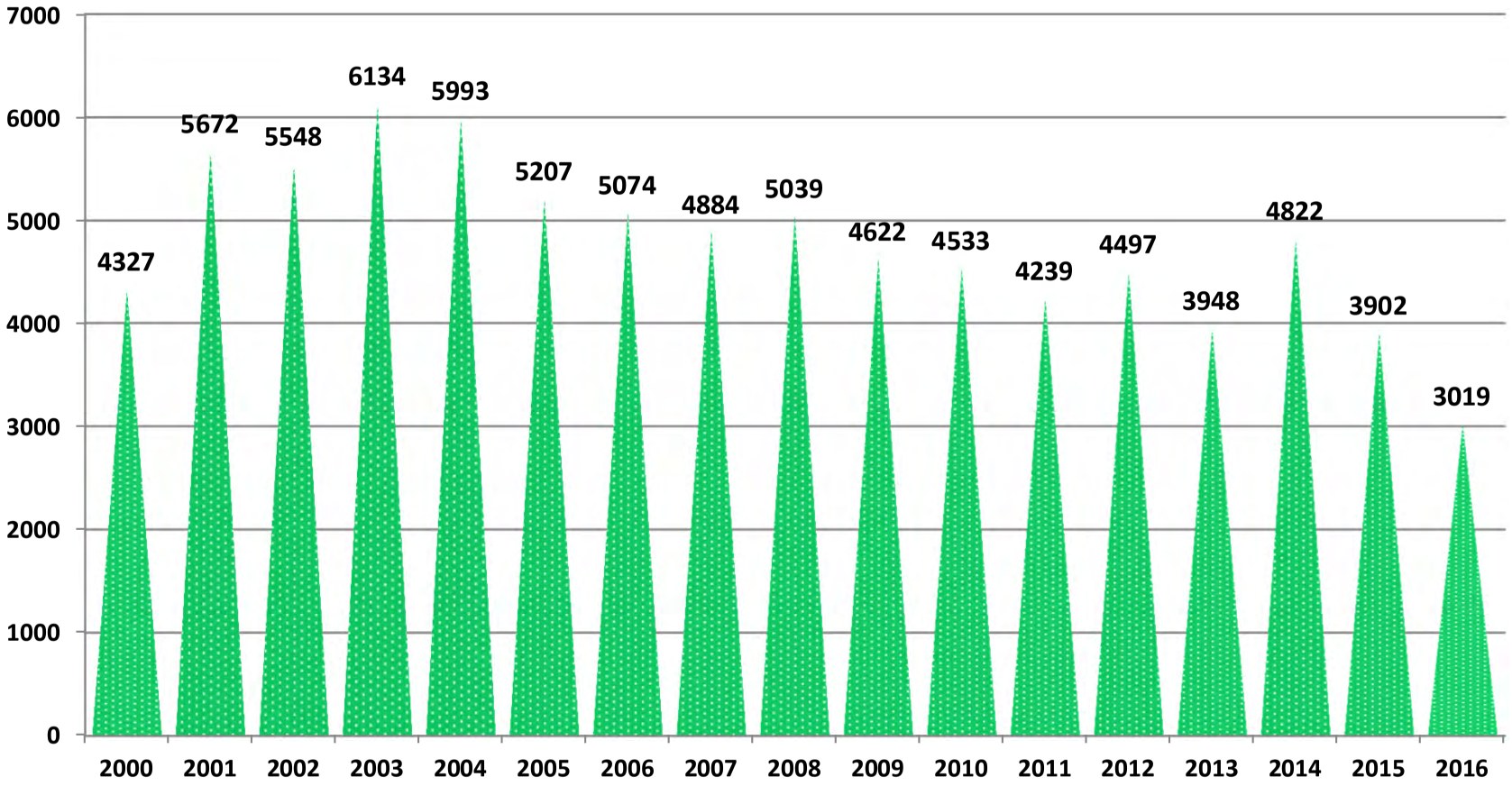
CWP Claims based on status codes created specifically for HB 348 (ACWP). *2016 data contains information from 1/1/2016 thru 9/30/2016. 2016 forward, we utilize the actual CWP application and nature as a counter instead of the assignment of the claim.
Run date: 10/19/2016. Source: DWC

Hearing Loss Claims by Date of Last Exposure (2000-2016*)



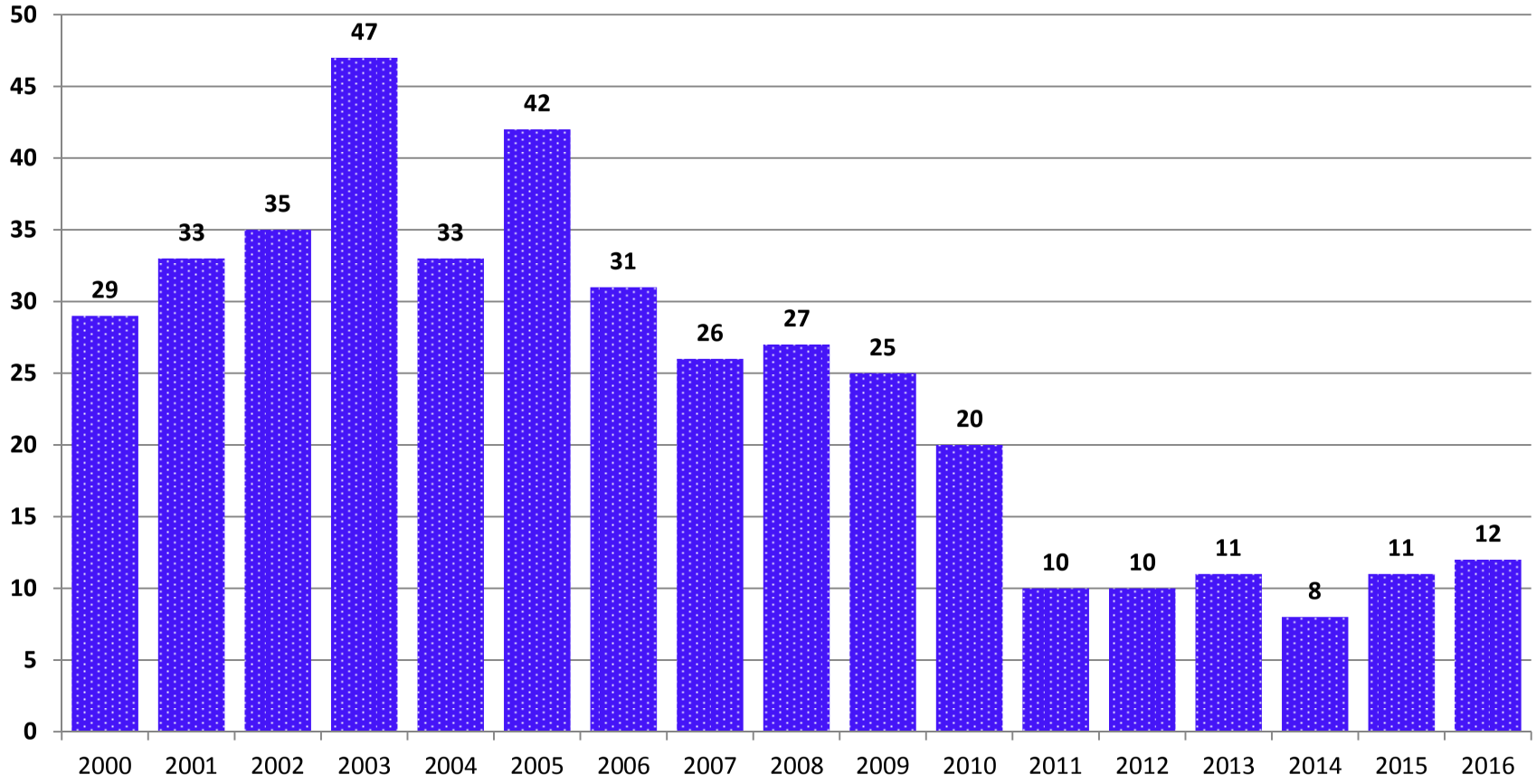
Hearing loss claims filed by *date of last exposure*. Nature restricted to nature 72. CY2012 forward includes natures 72 and 31.
*2016 data contains information from 1/1/2016 thru 9/30/2016. Run date: 10/18/2016. Source: DWC

‘Injury’ Claims by Calendar Year (2000-2016*)



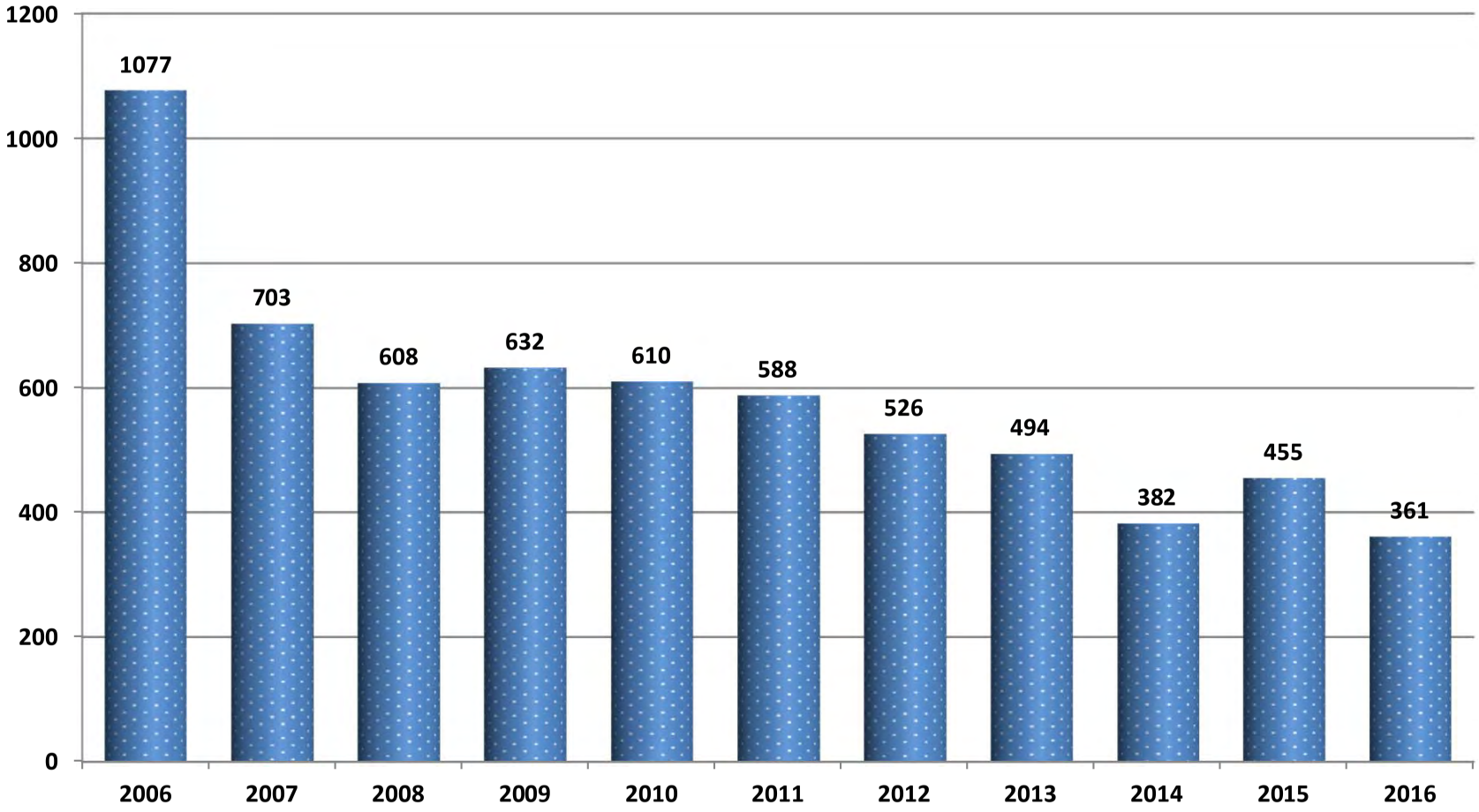
Injury Claims by File Date of the application for resolution of claim and ‘injury’ nature types. *2016 data contains information from 1/1/2016 thru 9/30/2016. Run date: 10/19/2016. Source: DWC

‘Occupational Disease’ Claims Other than CWP by Date of Last Exposure (2000-2016*)



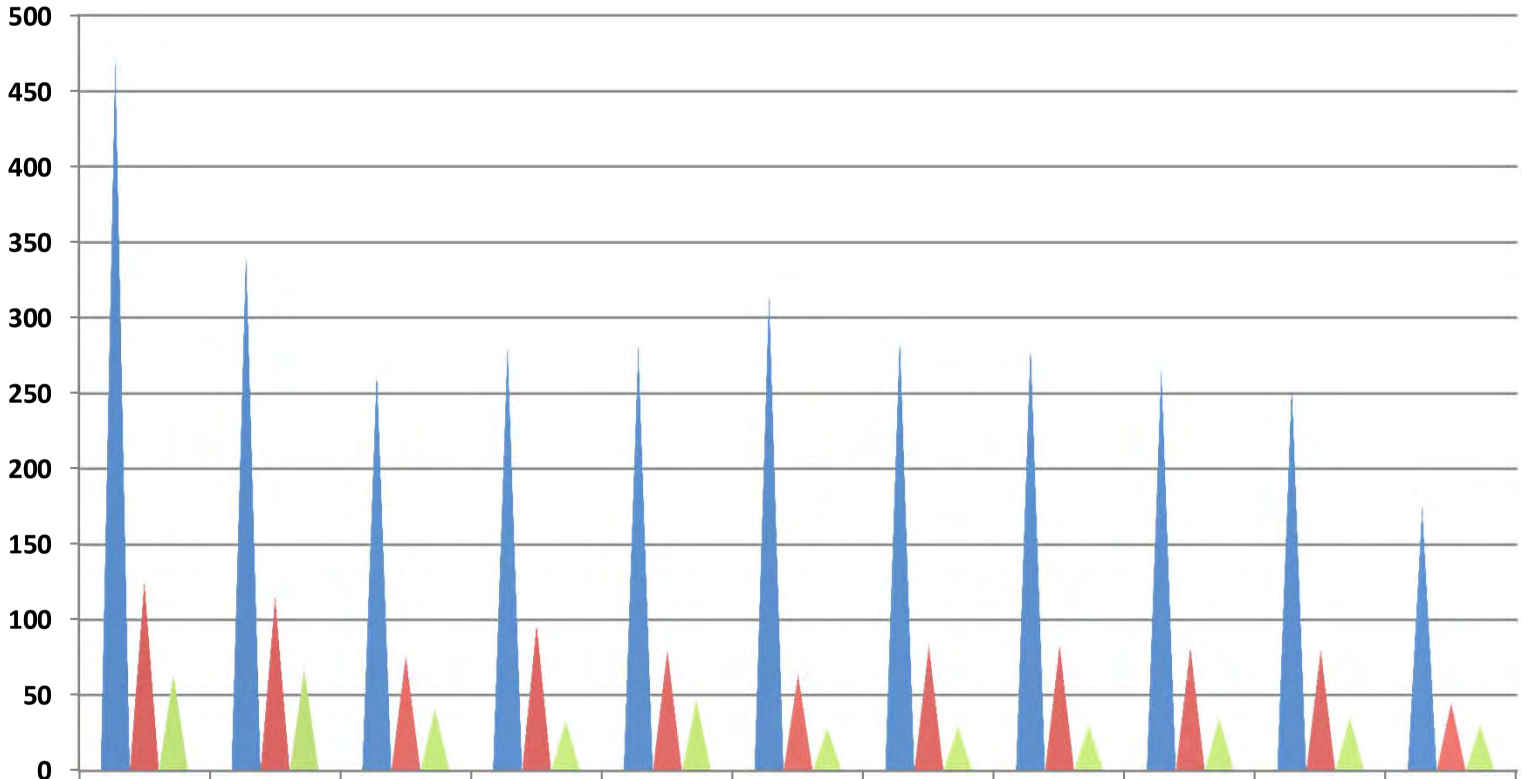
OD Claims by date of last exposure. Natures restricted to 60, 61, 63, 64, 65, 66, 67, 68, 70, 71, 73, 74, 75, 79.
*2016 data contains information from 1/1/2016 thru 9/30/2016. After close scrutiny of the data, previous 2016 data was incorrect. It included injury and CWP data in the total. This has been corrected above. Run date: 10/19/2016. Source: DWC

Dismissals by Calendar Year (2006-2016*)



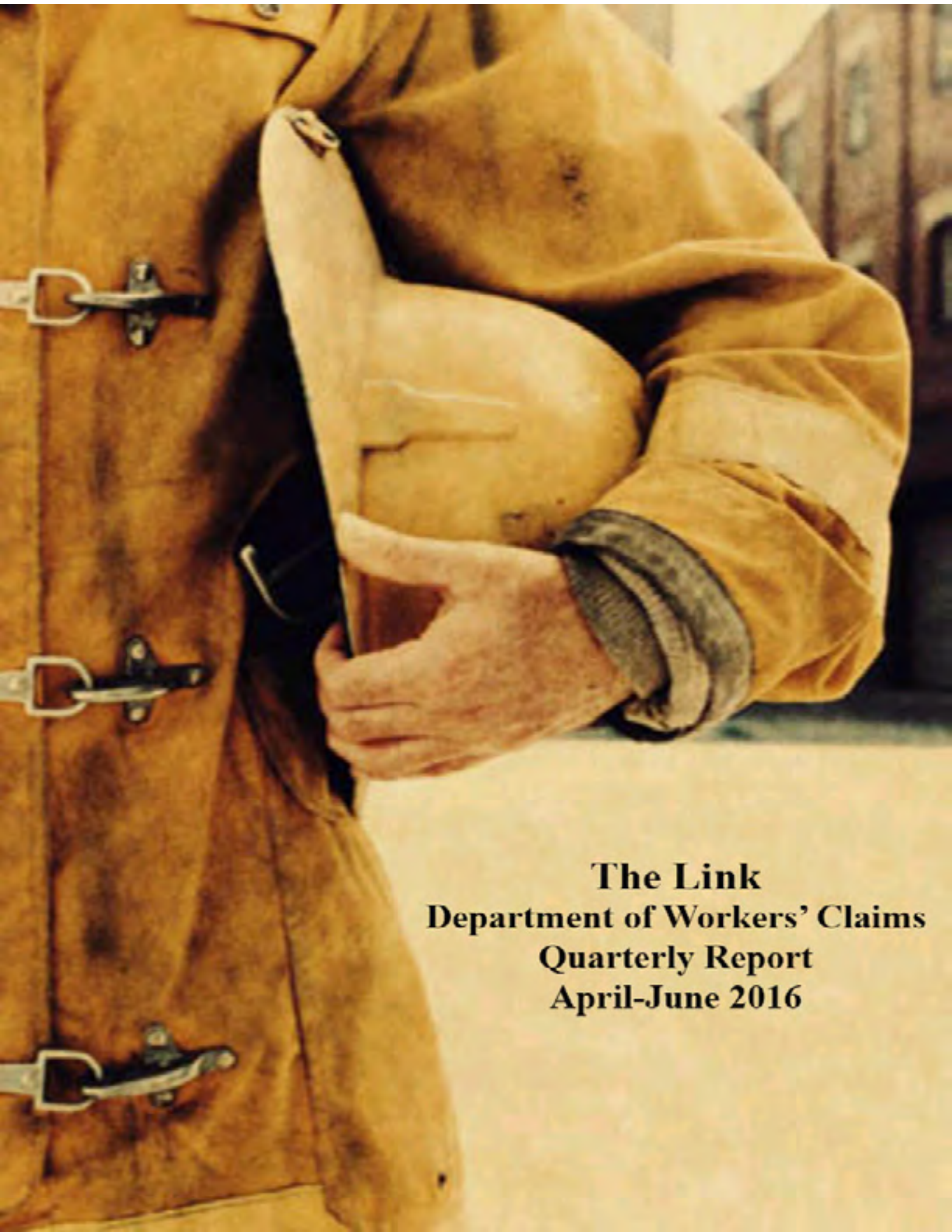
Data run by Dismissal code (BODI) with answer codes of reopening and claim dismissed. Calendar year by status date.
Run date: 10/18/2016. Source; DWC

Appeals by Calendar Year (2006-2016*)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Board	471	344	266	282	281	316	288	283	267	256	175
Court of Appeals	125	115	76	97	80	64	83	83	82	80	45
Supreme Court	64	67	41	33	47	28	29	30	35	35	30

Data run by appeal codes (ANASC, ANABD, AAKPR). Calendar Year by status date. Run date: 10/20/2016
Source: DWC



The Link

Department of Workers' Claims

Quarterly Report

April-June 2016

Table of Contents

Update to the DWC's Litigation Management System

The fourth quarter of 2016, the DWC opened registration for LMS to all stakeholders. The next logical step was to introduce a high level overview of what functionality exists in LMS, a view into the layout of the system and the actual viewing of claim data upon association to a particular claim. The DWC did this in a series of webinars, which included but was not limited to LMS Registration and Business Groups, Claims Association, Filing a Claim, and Application Attachments. These webinars were quite successful and provided useful insight into the system for the workers' compensation community. The DWC did two rounds of webinars to ensure that everyone who wanted to attend had ample opportunity to do so.

These webinars provided useful insight to the DWC to allow us to better understand the business flows of the external users. Aside from the normal telephone exchange, the DWC established an LMS team email to allow for effective and efficient communication between the internal and external users of LMS and the LMS team. This allows for easy tracking and documentation of issues and suggestions made to enhance system functionality.

The DWC continued to work with the vendor, CapTech, to finalize the system. The builds consisted of bug fixes and enhancements – primarily minor tweaks to system functions. In addition, the DWC continued working with the Commonwealth Office of Technology (COT) to work on establishing guidelines for the system, such as maintaining 24/7 access/uptime, maintenance windows and security.

The DWC scheduled an LMS Training Tour around the Commonwealth to begin the latter part of July, 2016. This tour includes Paducah, Madisonville, Owensboro, Somerset, Bowling Green, Lexington, Louisville, Pikeville, Florence and Hazard. The intent of these trainings is to dig deeper into the functionality of the LMS system and provide stakeholders the tools necessary to be successful using LMS.

The DWC continued communicating with Kentucky Stakeholders via the communication network, the DWC web site, webinars and public presentations to keep everyone up to date on LMS progression.

DWC Quarterly Statistics

Distribution of FROI's by Industry

	First * Reports
Accommodation and Food Services	481
Admin. & Support & Waste Mgmt and Remediation Services	728
Agriculture, Forestry, Fishing & Hunting	126
Arts, Entertainment & Recreation	65
Construction	429
Educational Services	494
Finance and Insurance	90
Health Care and Social Assistance	834
Information	75
Mgmt. of Companies & Enterprises	10
Manufacturing	1,545
Mining	397
Other Services Except Public Admin.	183
Professional, Scientific & Technical Services	151
Public Administration	822
Real Estate and Rental & Leasing	70
Retail Trade	703
Services	0
Transportation and Warehousing	783
Transportation/Public Utilities	0
Wholesale Trade	277
Unclassified	4
Utilities	49

***This only includes First Report of Injury (FROIs) submitted via Electronic Data Interchange (EDI) to the DWC.**

QUARTERLY ACTIVITY*

Lost Time First Reports (FROI)	8,316	Re-openings (overruled)	1
Claims Assigned	1,499	Re-openings (sustained)	1
Re-openings (motion docket)	19		

MEDICAL DISPUTE PROGRAM

F112-Post Award Medical Dispute Filed	409
PL112-Pre-Lit Medical Dispute Filed	4
ROMD-Motion to Reopen Medical Dispute	369

***The above statistics are derived from the agency database by various dates determined by status code. Specific detals may be obtained by contacting the Division of Information and Research. Individual section breakdown/statistics represent internal section activity that may differ from DWC database.**

Distribution by Body Part (Top Ten)

Claims

Multiple Body Parts	188
Lungs	131
Ears	118
Low Back	89
Shoulders	58
Knee	49
Foot	15
Hand	14
Lower Leg	14
Wrist	14

FROIs

Lower Back	919
Multiple Body Parts	786
Knee	692
Shoulder(s)	662
Finger(s)	656
Hand	503
Wrist	343
Ankle	339
Foot	328
Lower Arm	289

Division of Information & Research

The Division of Information and Research is comprised of two branches, Imaging and Records. This division is charged with a multitude of duties, some of which include:

1) Retrieval, analysis and distribution of agency statistics through various mediums
2) Development and coordination of agency publications
3) Creation of PowerPoint presentations for agency management staff
4) Development and maintenance of the DWC web page
5) Data Entry
6) Electronic Data Interchange
    A) Claims
    B) Proof of Coverage
7) Imaging of documents
8) Open Records requests

Further information about all activities for the quarter relative to the Division of Information & Research follow.

Division of Information & Research Continued

Imaging Branch

The Imaging Branch is comprised of two sections: Imaging and Open Records. It is the responsibility of this branch to input, maintain and disseminate claim litigation information for reference and adjudication by agency staff as well as constituents.

Imaging Section

The Imaging Section is responsible for scanning all hard-copy claims and documentation into the agency's Sharepoint Imaging System, the DWC's storage medium and official record of the DWC.

During this quarter, the Imaging Section scanned 465,270 sheets.

Division of Information & Research Continued

Open Records Section

The Open Records Section responds to requests for claim and first report information pursuant to KRS 61.872(2). Requests are received from a variety of outside parties including attorneys, insurance carriers, employers, the Social Security Administration and the general public. Requests may be submitted by mail, fax or hand delivery. Currently, charges for copies are 15 cents per photocopied page and 75 cents per microfilmed page. Upon receipt of the request, Open Records staff compiles a cost estimate. The estimate is returned to the requesting party. The request is filled upon receipt of payment from the requestor, and materials are mailed by U.S. Mail or United Parcel Services. Open Records staff is not permitted to fax workers' compensation documentation.

A service of pre-employment screening is available to prospective employers through the Open Records Section. Work history may be obtained by submitting a written request along with pre-payment of $2.00 per Social Security Number submitted. Pursuant to KRS 150.170, the Open Records Section also verifies workers' compensation awards for the Department of Fish and Wildlife for individuals applying for free hunting and fishing licenses.

During this quarter, the Open Records Section processed 2,709 written requests, 1,725 pre-employment requests and 1 Fish and Wildlife request.

Division of Information & Research Continued

Records Branch

The Records Branch consists of four sections: Data Entry, Electronic Data Interchange (EDI) Claims, EDI Proof of Coverage (POC) and Research. These sections combine to ensure reliability, accuracy and integrity of the data that is submitted to the Department of Workers' Claims.

Data Entry Section

The Data Entry Section receives and processes the majority of the paper documents, such as motions for extension of time, to file late briefs, to place in/or remove from abeyance; depositions of plaintiffs and physicians; notice of filings of medical reports, wage records, Claim Denials; as well as responses to motions filed in active claims with the Department of Workers' Claims. With the inception of the new Litigation Management System (LMS), Data Entry will receive the documents listed above both electronically as well as paper documents. The Data Entry section has different categories in LMS from which the staff will index the motions, notices, responses, depositions, briefs, etc. into the new system. The section also codes the Administrative Law Judge's (ALJ) number on the paper documents for routing the paper document to the appropriate ALJ.

The Data Entry section is charged with the responsibility of interpreting and coding the documents filed by claimants, attorneys, employers and carriers, and also orders, opinions and awards submitted by the Department's ALJ's.

The Data Entry Section is responsible for updating the agency's database with the appropriate coding to give details regarding the status of a claim. These codes are used by other DWC personnel to ensure quality assistance to claimants, attorneys, employers and carriers. External users are also able, through LMS, to view any documents filed into the system in any claim with which they are associated.

During this quarter, the Data Entry Section indexed 23,201 pieces of mail, 7,211 orders, 468 opinions/awards and 22 docket orders. In the medical dispute process, 1,136 orders and decisions were indexed.

EDI Claims Section

The EDI Claims Section monitors the electronic reports submitted to the DWC by insurance carriers when an injury is reported. First Reports of Injury (FROI) and Subsequent Reports of Injury (SROI) are received daily from third-party administrators and insurance carriers through vendors. Each record goes through program edits prior to acceptance and is scrutinized by EDI staff for accuracy. The EDI staff provide assistance and information to third-party administrators and insurance carriers daily on how to file new FROIs/SROIs or to make changes to existing records. This quarter, the EDI Claims Section received and processed 10,828 records.

Division of Information & Research Continued

EDI Proof of Coverage (POC) Section

Every insurance carrier is required by statute to report coverage and cancellation of coverage of Workers' Compensation Insurance issued to the employers in Kentucky. The EDI POC Section of the Department of Workers' Claims is charged with receiving and maintaining workers' compensation coverage filings for employers doing business in the State of Kentucky. During this quarter, 136,856 proof of coverage transactions were received and processed, 89% of which were accepted.

NCCI
Transactions Processed: 77,759
Acceptance Rate: 92%

CLAIMPORT
Transactions Processed: 45,408
Acceptance Rate: 80%

KESA
Transactions Processed: 12,305
Acceptance Rate: 94%

WORKERS COMPLINK
Transactions Processed: 45
Acceptance Rate: 39%

KAGC
Transactions Processed: 1,339
Acceptance Rate: 94%

Division of Information & Research Continued

Research Section

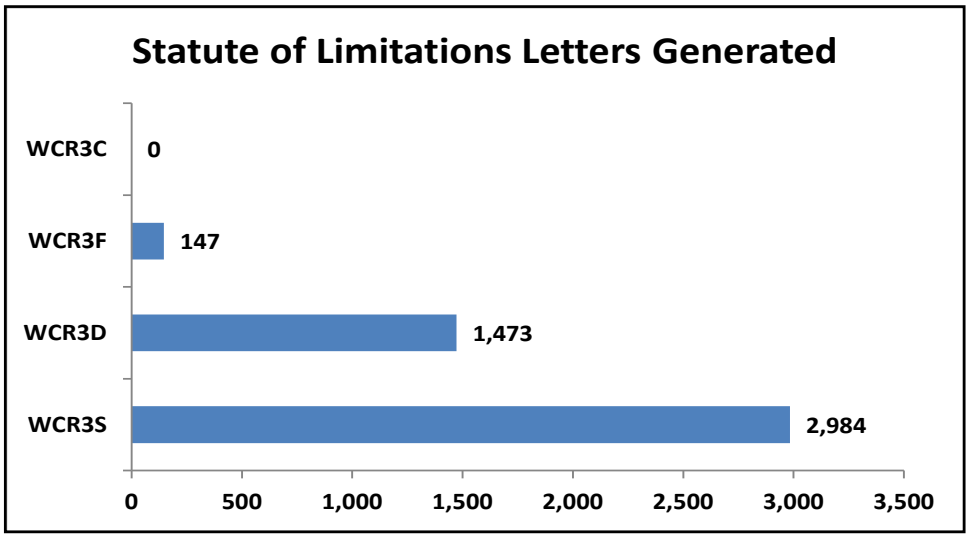
The Research Section coordinates the DWC web site, produces all the agency's publications and has the responsibility of processing WC letters that are driven by statute. During this quarter, the Research Section received 274 pieces of mail and 53 web/email inquiries.

Statute of Limitation letters are generated and processed daily by the Department of Workers' Claims. They are generated by certain Maintenance Type Codes (MTC) that come in on the EDI records. These letters serve as a notice to the injured worker that the statutory timeline for work-related injury has begun.

MTC codes that generate a statute letter are:

MTC S1-9 (excluding S7) and SD, suspension of benefits (WCR3S)
MTC 04, claim denial from carrier (WCR3D)
MTC with a date of death reported (WCR3F)
MTC01 cancellation with open benefits (acts as a suspension of benefits) (WCR3C)

The chart represents the number of letters generated this quarter.



The fatality letters generated are driven by EDI filings submitted to DWC by the insurance carriers. Follow-up filings by the insurance carrier that contain a date of death trigger a fatality letter. This isn't indicative that the fatality actually occurred in the time frame specified.

Office of General Counsel

The attorneys in the Office of General Counsel provide legal representation to the Department.

One of the major functions of the Office of General Counsel is pursuing enforcement actions. Kentucky law requires all employers, except those engaged solely in agriculture, to have workers' compensation insurance or be self-insured. If an employer fails to do so, the employer can be penalized or fined $100.00 to $1,000.00 per employee for each day the employer fails to have insurance or be self-insured.

The Office of General Counsel serves as the prosecutor in enforcement cases in which the employer has been cited and fined for not having workers' compensation coverage. The foremost goal is to have the employer obtain coverage for its employees.

Once coverage is obtained, the Office of General Counsel diligently tries to negotiate a settlement of the fine or penalty with the employer. This may be done on a payment plan to make it more convenient and less onerous for the employer. If a compromise cannot be accomplished, the employer can have its case heard and decided by an Administrative Law Judge.

During this last quarter, the Office of General Counsel staff and attorneys handled 189 enforcement citation cases. A total of $316,323.08 in enforcement fines and penalties was collected.

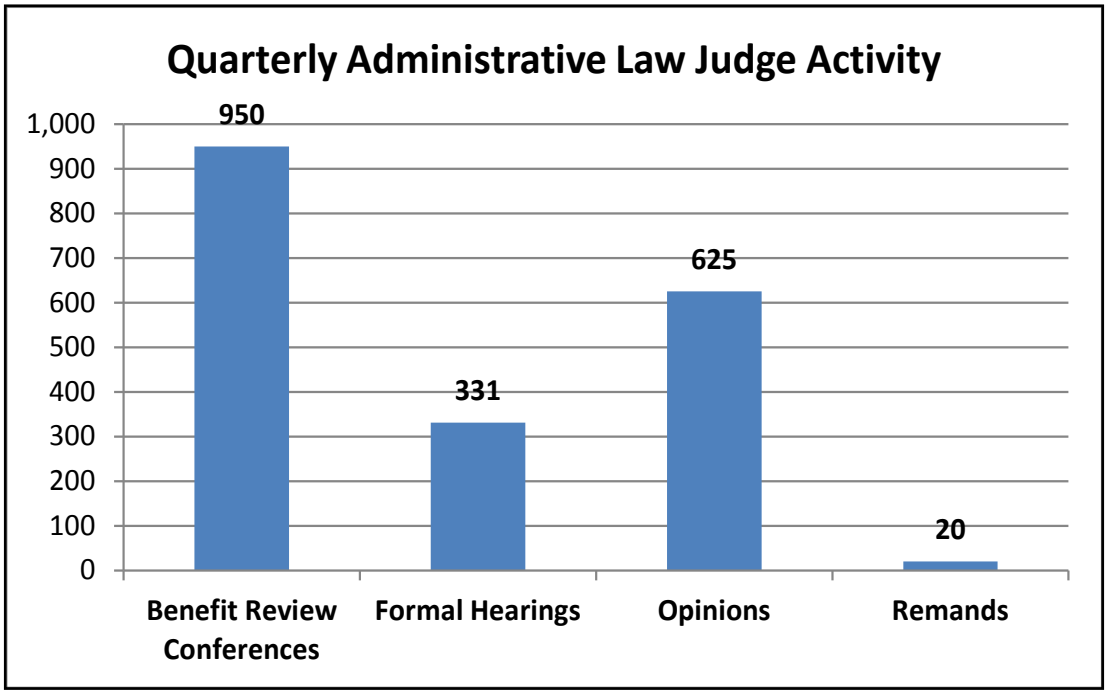
The Office of General Counsel also investigates, resolves and prosecutes unfair claims settlement practice (UCP) allegations. During this quarter, there were 6 UCP claims conducted. A total of $32,500.00 in fines and penalties was collected.

Finally, the Office of General Counsel litigates any claims brought by or against the Department, reviews and drafts potential legislation or regulations and answers questions on workers' compensation issues for claimants, insurance companies, legislators and the general public.

Administrative Law Judges

The Department of Workers' Claims has 19 Administrative Law Judge (ALJ) positions allocated, 14 of which are currently filled. Each ALJ is appointed by the Governor for a four-year term and is subject to confirmation by the Kentucky Senate. One of the ALJ's is designated Chief Administrative Law Judge (CALJ) pursuant to KRS 342.230(8).

The Chief Administrative Law Judge regularly works from the Frankfort office. The CALJ presides over the Frankfort motion docket. In addition, the CALJ rules on settlement agreements in unassigned cases and regularly conducts dockets for coal workers' pneumoconiosis (CWP) cases, as well as hearings in various enforcement actions. The CALJ supervises ALJ activities, prepares a rotation schedule for the ALJs, plans two adjudicator training sessions annually, takes initial assignment of all CWP claims and covers dockets for other ALJs on an emergency basis.



Agreements Section

All agreements (Form 110s) come through the Frankfort office to be processed and put into the record, whether signed by the CALJ or one of the other 13 ALJ's within the Department. Any agreements received prior to assignment to an ALJ (pre-litigation) are reviewed for accuracy and completeness and approved by the CALJ if appropriate. In this quarter, 912 agreements were received by the Agreements Section. Of those, 842 settlement agreements were approved by the CALJ; 525 were forwarded to the assigned ALJ; and 143 were returned to the parties for correction. Section staff also received 19 motions to substitute party during this period.

Division of Claims Processing and Appeals

The Division of Claims Processing and Appeals consists of three sections: Claims Review, Claims Assignment and Appeals. Each section has a distinct role in processing the workers' compensation litigated claims filed with the Department of Workers' Claims.

Claims Review Section

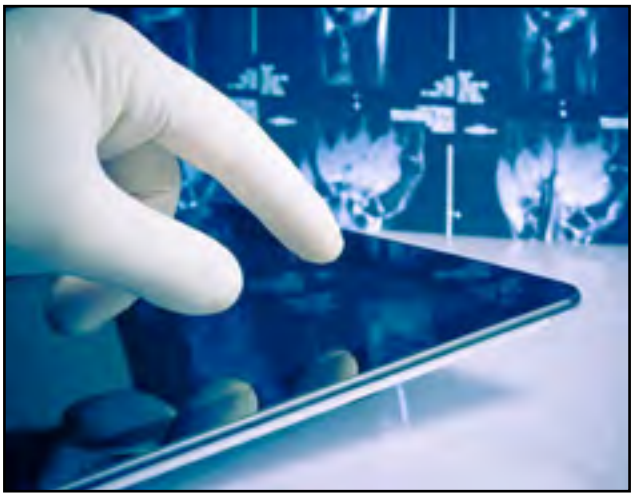
The Claims Review staff processes all of the Applications for Resolution of Claim filed with the Department, verifying that filing requirements as outlined in 803 KAR 25:010 are followed. A total of 1,483 new claims were filed this quarter including 1,026 injury claims, 17 occupational disease claims (other than CWP), 198 hearing loss claims and 242 coal workers' pneumoconiosis claims.* The staff identifies and verifies insurance coverage for all named defendant employers. If no workers' compensation insurance is found, steps are taken to join the Uninsured Employers Fund as a party to the claim. Once the claims have been processed through the Claims Review Section, they are assigned to an Administrative Law Judge.

Claims Assignment Section

For this quarter, a total of 1,362 new and reopened claims were assigned by the Claims Assignment Section to ALJ's and scheduled for Benefit Review Conferences. Claims Assignment processed 1,347 new claims and 334 reopened claims (that were routed to motion docket). In addition, this section contacted and scheduled court reporter services to attend and transcribe 615 hearings. Each transcript is examined and verified for payment within the Claims Assignment Section.

Once the claim is final, it is returned to Frankfort to be audited by confirming all documents are present in the electronic file before the hardcopy is purged. A total of 1,353 claims were audited and purged during this quarter.

*This depicts section activity, not necessarily what is derived from the agency database.



Division of Claims Processing and Appeals continued

Appeals Section

The Appeals Section serves as support for the Chairman and two Board Members that comprise the Workers' Compensation Board and prepares file for transmittal to the Court of Appeals if appeal progresses beyond Workers' Compenstion Board. Appeals staff enters the appeals information into the DWC database, verifies that briefs filed in each appeal are in compliance with 803 KAR 25:010, Section 21 and prepares a weekly roster of requests for additional actions filed on appealed cases. A total of 57 appeals were filed. When the appeal is final, it is returned to be audited (confirming all documents are contained in the electronic file) before the hardcopy is purged.

Opinions rendered by Board Members:

Stivers:	14
Alvey:	17
Rechter:	14
Total opinions rendered:	45

Appeals to Court of Appeals:	7
Court of Appeals Opinions:	17
Appeals to Supreme Court:	11
Supreme Court Opinions:	8

Division of Ombudsman and Workers' Compensation Specialists Services

Services provided by the Division of Ombudsman, Workers' Compensation Specialists and Medical Services personnel are a vital component to the delivery of quality, timely medical service and assistance to workers injured in the workplace and their families.

The **Medical Services Branch** has seven (7) main tasks that relate to the mission of the Department of Workers' Claims (DWC). Those tasks are: **(1) Certification of Managed Care Organization's Plans** which encompasses physician certification (AMA licensed); proper legal documentation for the manage care provider (provider contracts, etc.); compliance with Kentucky Revised Statutes (KRS) regarding grievance rights and procedures for claimants and their employees; **(2) Utilization Review (UR) Certification** which assists in determining necessary and appropriate medical care for claimants; **(3) Medical Bill Audit (MBA)** which is to assure compliance with adopted fee schedules; **(4) Hospital Fee Schedule** pursuant to 803 KAR 25:091 and the latest cost report (HCFA-2552) which is supplied by the Cabinet for Health and Family Services; **(5) Pharmacy Fee Schedule** pursuant to 803 KAR 25:092 which mandates using the average wholesale price; **(6) Physician Fee Schedule** pursuant to 803 KAR 25:089 and medical related data supplied by Fair Health Inc. which is an independent nonprofit organization that supplies medical billing data; **(7) University Evaluations** whereby Medical Services personnel schedule appointments for Pneumoconiosis (Black Lung) Hearing Loss and Occupational Disease claimants at the University of Kentucky and University of Louisville Medical Centers, Commonwealth Respiratory Consultants, University of Louisville Pulmonary Clinic and Coal Miners Respiratory Clinic (Muhlenberg Community Hospital).

Currently, there are thirty-one (31) Managed Care Organizations (MCO) that are certified by DWC and sixty-one (61) UR/MBA plans that are DWC certified.

2nd Quarter Certifications
MCO: 7
(2 year certification cycle)
UR/MBA: 4

2nd Quarter University Evaluations Hearing Loss
University of Kentucky
Hearing Loss Claims Received: 95
Hearing Loss Reports Received: 48

University of Louisville
Hearing Loss Claims Received: 118
Hearing Loss Reports Received: 97

Coal Workers' Pneumoconiosis (CWP) (Black Lung)
Comonwealth Respiratory Consultants
Claims Referred for Evaluation: 39
Reports received from Evaluations: 47

Coal Miners Respiratory Clinic
Claims Referred for Evaluation: 33
Reports Received from Evaluations: 55

University of Louisville Pulmonary Clinic
Claims Referred for Evaluation: 3
Reports Received from Evaluations :5
University of Louisville
Occupational Disease Reports: ll
(e.g. exposure to chemicals, asbestos, smoke, etc.)

Division of Ombudsman and Workers' Compensation Specialists Services Continued

The Workers' Compensation (WC) Specialists Branch is tasked with providing assistance to claimants, attorneys, medical providers, employers, family members of claimants and Administrative Law Judges (ALJ).

WC Specialists provide intervention service (i.e. assist with resolving issues between claimants, insurance adjusters and medical provider) on issue(s) that might otherwise have to be resolved by an Administrative Law Judge. The specialists are supervised by two (2) attorneys, the Chief Specialist and a Staff Attorney.

The other entities within the WC Specialists Branch are: **Drug Free Workplace Certification Program (803 KAR 25:280); Retraining Incentive Benefits (RIB) Program (803 KAR 25:120)**; and **Workplace Fatality Reporting**.

2nd Quarter Requests for Assistance
New Request (inclusive): 1,988

Request from Claimants: 1,147

Request from Attorneys: 383

Request from Employers: 186

Assistance Type
Claim Status: 934

Rights and Procedures :862

Coverage :142

Requests in Mediation
(The Specialist works to resolve, primarily medical issues)
New Situations in Mediation: 446

Successful Mediation: 355

Unsuccessful Mediation (Referred to ALJ): 46

Pending: 45

Intervention
(Entails making a phone call or drafting correspondence on claimant's behalf)
Intervention Requests: 134

Successful Intervention: 115

Drug Free Workplace
New Plans
Applications: 7
Certified: 3
Pending: 26
Denied/Closed: 1*

Renewal
Applications: 72
Certified: 61
Pending: 11
*Incomplete documentation and/or request for additional information that has not been supplied.

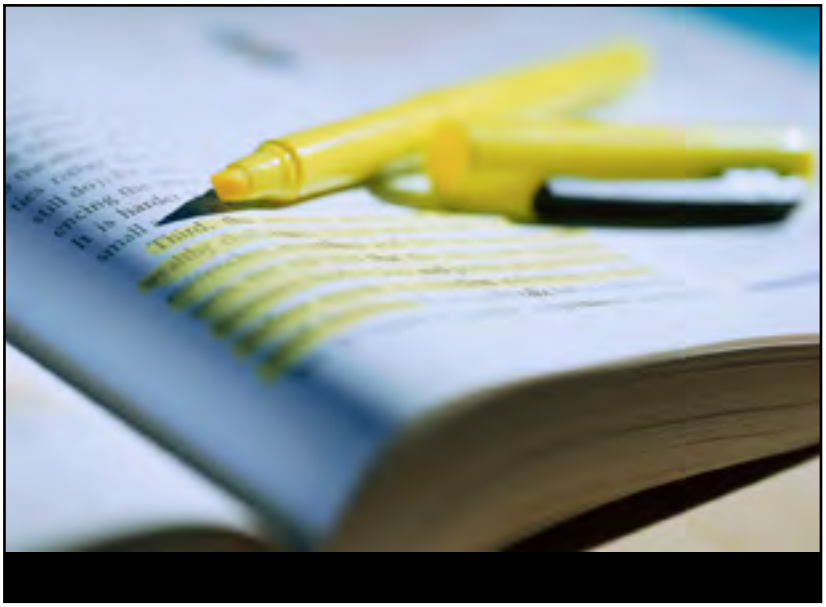
Division of Ombudsman and Workers' Compensation Specialists Services Continued

2nd Quarter Workplace Fatality Report*
Fatalities: 28
YTD: 55
*Includes reports received from OSHA
**Pursuant to KRS 342.750(6), death benefits are paid to the worker's estate.

Retraining Incentive Benefits (RIB)

This program is for individuals who contract Pneumoconiosis (Black Lung) and is designed to provide, if the worker chooses, an alternative work environment. The program provides for attainment of GED and other bona fide training and education programs for those who do not desire to or cannot re-enter the coal mining profession.

Program Participants: 28



Division of Security & Compliance

Security Branch

The Security Branch regulates companies that have been approved by the DWC to self-insure their workers' compensation liabilities as opposed to purchasing primary coverage. In order to be self-insured, a company is required to post a minimum of $500,000 in security. This is in the form of a surety bond, letter of credit or deposit contract. This is required in the event a company becomes insolvent and defaults on its workers' compensation liabilities. The DWC currently has approximately $1.3 billion in security on file from the 109 current and 352 former self-insured employers. These funds, if default occurs, are utilized to ensure the injured workers' benefits are continued.

Only financially sound companies are approved for self-insurance. Annually, the Security Branch reviews audited financial statements in order to determine if the self-insured employer is financially viable enough to maintain self-insured status. This quarter we reviewed 20 financial statements.

One of the main duties of the Branch is establishing the required amount of security. As a result, current self-insured employers submit loss reports on an annual basis. The Branch conducts reviews based on this loss data to determine the amount of security needed to cover workers' compensation liabilities for the self-insured employer in the eventuality they were to default. This quarter, 38 such reviews were completed.

Former self-insured employers may request a reduction in the amount of security the DWC has on file five years after they leave self-insured status. The DWC must hold a minimum of $250,000 for ten years after a company has left self-insurance and $100,000 for at least twenty years. The Branch will request updated loss reports and audited financial statements in order to review the security reductions request. During this quarter, three reviews were conducted of former self-insured companies.

In order for the DWC to maintain adequate security, the loss data submitted must report adequate reserves. A reserve is the estimated amount left to be paid on a given injury. There are two types of reserves, indemnity (reimbursement for lost wages) and medical. The Branch conducts reviews on the loss data to ensure that self-insured employers are reporting adequate reserves based on known information. This quarter, the Branch conducted seven such reviews.

This quarter the self-insurance branch was engaged in the process of completing recertification and processing applications as they come in on our current 109 self-insured employers. Self-Insurance had two companies, (Kimball International and Dana Holding Corp) leave this quarter. The Division of Security & Compliance has also been preparing documents for imaging and indexng those documents into our new LMS system.

Division of Security & Compliance Continued

Compliance Branch

The Compliance Branch consists of two sections. **The Administrative Processing Section** issues certifications of coverage, registers Professional Employer Organizations (PEOs), manually processes mining and mine-related coverage and processes "Split Coverage/Wrap up" proof of coverage (POC) for Owner or Contractor Controlled Insurance Programs (OCIP and CCIP). During this quarter the Section issued 65 certifications of coverage to Administrative Law Judges, private attorneys and in response to open records requests. There were 47 certifications of coverage provided to the Kentucky Office of Mine Safety and Licensing, verifying coal mining and related coverage. This section manually processed and accepted 764 coal POC transactions this quarter and accepted 718 for filing.

The Administrative Processing Section also maintains files on 147 currently registered Professional Employer Organizations (PEOs) who provide employee leasing services to Kentucky businesses. It manually processed 2,583 PEO POC transactions and accepted 2,393 during the quarter. The Section also manually processed 984 and accepted 938 transactions involving multiple coverage locations for Split Coverage, Wrap-ups, OCIPs or CCIPs. Additionally, the Section has the responsibility to file and maintain Employee Written Notice of Rejection of the Workers' Compensation Act (Form 4's).

This quarter staff received and processed 833 Form 4's. The proper filing of this form results in the employee waiving the right to protection under the Kentucky Workers' Compensation Act. Workers' are required to fully understand the effect of rejecting workers' compensation benefits.

The other section in the Compliance Branch is **Enforcement**. Its primary function is to ensure employers subject to the Workers' Compensation Act provide insurance coverage as required by statute. This is achieved primarily through the efforts of its 11 investigators. Investigators cover Kentucky's 120 counties from field offices located throughout the state. The most frequent contacts with employers by the investigators are through random on-site inspections. Investigators also follow up on leads generated by section personnel, referrals submitted to the DWC (by telephone & web site) and Uninsured Employer Fund (UEF) claims. Timely compliance is encouraged through educational presentations to the public as well. Non-compliant employers are subject to citations and civil penalties issued by the Commissioner.

During this quarter, the Branch's investigators conducted 3,093 on-site visits to Kentucky businesses. The Commissioner issued 218 citations to non-complying employers. The Branch processed $120,070.00 in collected penalties, which includes penalties paid in full to the Branch and collections received by our legal division from contested citations. In accordance with the statutes, collected penalties are forwarded to the Kentucky Workers' Compensation Funding Commission. These funds are held for employees of self-insured employers to cover injuries that occurred before guaranty funds were established and when security funds are insufficient.

Design and Development Section

The Department of Workers' Claims Design and Development Section actively develops and maintains in-house programs using C# and .NET. Staff maintains and provides updates to SIMBA. Design and Development also maintains the EDI/POC programs ensuring these in-house programs meet the IAIABC standards concerning submitting FROI/SROI and POC data electronically from approved Trading Partners/Vendors. This section researches, analyzes and tracks user requests for new programs. Staff meets with management and additional staff for discussion of ways of improving current programs. The Section supplies statistical information to management. Staff develops database scripts to enhance productivity for Department of Workers' Claims programs. Staff is responsible for SQL database backups, disaster recovery and optimizing performance of SQL servers and develops in-house user reports, form letters and on-line forms. Staff enters and/or deletes user SIMBA security permissions for SQL server security and creates, compiles and runs queries for the Department's monthly, quarterly and annual reports and any additional reports requested. Staff develops scripts for new program designs and assists with the KRONOS/KHRIS timekeeping systems. The Section imports WC Board opinions to the web application monthly to ensure up-to-date reference material is available and assists management with deadlines and special projects.

During this quarter, Design and Development staff implemented modifications to EDI/POC, SIMBA programs, SIMBA reports and SQL databases. Section activity also included the following:

- Completed 469 SharePoint Issues
- Received 431 SharePoint Issues
- Installed monthly CompLaw Board Opinions into NXT4
- Submitted requests for addition and removal of SIMBA and FileNet accounts
- Answered questions from Trading Partners/Vendors and assisted them in answering questions concerning FROI/SROI & POC electronic filings
- Met with users to discuss issues for upcoming builds, patches and new development
- Attended meetings with DWC sections for Litigation Management System
- Staff received Live Release 1 for Litigation Management System for regression testing
- Completed 1st Interim Review Evaluations
- Monitored log files for LMS/SharePoint submissions
- Ran query on 15th and 30th to create flat file to drop on Child Support's FTP, per our Child Support Data Share Exchange Agreement
- Ran queries for specific data as requested by in-house management

Matthew G. Bevin
Governor

Jenean M. Hampton
Lieutenant Governor

KENTUCKY LABOR CABINET
Department of Workers' Claims
657 Chamberlin Avenue
Frankfort, KY 40601
Telephone: (502) 564-5550
www.labor.ky.gov/workersclaims

Derrick K. Ramsey
Secretary

Dwight T. Lovan
Commissioner

August 30, 2016

TO: Workers' Compensation Insurance Carriers and Self-Insurers Operating in the Commonwealth of Kentucky

FROM: _____
Dwight T. Lovan, Commissioner
Kentucky Department of Workers' Claims

SUBJECT: WORKERS' COMPENSATION BENEFIT SCHEDULE – 2017

The Education and Workforce Development Cabinet, Office of Employment and Training, has certified that the average weekly wage for Kentucky for Calendar year 2015 was $835.04. Based upon that information and in accordance with KRS 342.143, the following determinations are made:

1. The increase in maximum income benefits under all provisions of the Workers' Compensation Act for the year 2015 over the year 2014 did amount to $2.00 or more; therefore, the maximum weekly indemnity benefits for calendar year 2017 shall be $835.04

2. There was an increase of $1.00 or more in minimum income benefits. Therefore, the minimum weekly indemnity benefits under all provisions of the Act shall be $167.00 for calendar year 2017.

A schedule of indemnity benefits is attached hereto.

Attachment

SCHEDULE OF WEEKLY WORKERS' COMPENSATION BENEFITS

TYPE OF DISABILITY SECTION OF STATUTE	FOR INJURIES OCCURING					
	01-01-12 thru 12-31-12	01-01-13 thru 12-31-13	01-01-14 thru 12-31-14	01-01-15 thru 12-31-15	01-01-16 thru 12-31-16	01-01-17 thru 12-31-17
APPLICABLE AVERAGE WEEKLY WAGE OF THE STATE	$736.19 (2010)	$752.69 (2011)	$769.06 (2012)	$773.61 (2013)	$798.63 (2014)	$835.04 (2015)
DEATH (KRS 342.750)						
a. Widow or widower with no children-50% of average weekly wage of deceased-subject to the following:						
MAXIMUM	$368.11	$376.36	$384.55	$386.83	$399.34	$417.55
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
b. Widow or widower with children living in the home-45% of average weekly wage of deceased, plus 15% for each child-subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
c. Widow or widower with children not living in home-40% of average weekly wage of deceased, plus 15% for each child -subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
d. One child, no widow or widower-50% of average weekly wage of deceased-subject to the following:						
MAXIMUM	$368.11	$376.36	$384.55	$386.83	$399.34	$417.55
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
d(1)More than one child, no widow or widower-50% of average weekly wage of deceased for the first child with an additional 15% of average weekly wage of deceased for each additional child-subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
e. Dependent parents-25% of average weekly wage of deceased to each parent-subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
f. Dependent brothers, sisters, grandparents and grandchildren-25% of average weekly wage of deceased to each dependent-subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00

The above is subject to the maximum of 75% of the average weekly wage of the deceased.

TYPE OF DISABILITY SECTION OF STATUTE	FOR INJURIES OCCURING					
	01-01-12 thru 12-31-12	01-01-13 thru 12-31-13	01-01-14 thru 12-31-14	01-01-15 thru 12-31-15	01-01-16 thru 12-31-16	01-01-17 thru 12-31-17
LUMP SUM DEATH BENEFIT INCREASE KRS 342.750(6)	$72,313.24	$73,933.98	$75,541.95	$75,988.88	$78,446.51	$82,022.93
TEMPORARY AND PERMANENT TOTAL KRS 342.730(1)(a) 66 2/3% of average weekly wage of employee-subject to the following:						
MAXIMUM	$736.19	$752.69	$769.06	$773.61	$798.63	$835.04
MINIMUM	147.24	150.54	153.81	154.72	159.72	167.00
RETRAINING INCENTIVE BENEFITS KRS 342.732(1)(a) 66 2/3% of average weekly wage of employee-subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	NONE	NONE	NONE	NONE	NONE	NONE
PERMANENT PARTIAL FOR INJURIES OCCURING AFTER 12-11-96 KRS 342.730(1)(b),(1)(c)2,&(1)(d) 99% of 66 2/3% of average weekly wage of employee subject to the following:						
MAXIMUM	$552.13	$564.52	$576.80	$580.21	$598.98	$626.29
MINIMUM	NONE	NONE	NONE	NONE	NONE	NONE
PERMANENT PARTIAL FOR INJURIES OCCURING AFTER 12-11-96 KRS 342.730(1)(c)1, & (1)(d) When the employee does not retain physical capacity to return to type of work performed at time of injury- 99% of 66 213% of average weekly wage of employee subject to the following:						
MAXIMUM	$736.19	$752.69	$769.06	$773.61	$798.63	$835.04
MINIMUM	NONE	NONE	NONE	NONE	NONE	NONE

Appendix E

Workers' Compensation Research Institute

CompScope™ Benchmarks for Kentucky, 16th Edition

Carol A. Telles
Molly Flanagan

WC-16-06
April 2016

Table of Contents

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Print Options

Click on a button to open a print dialog box set to print the indicated section of the study.

- Entire Document – includes State Report & Technical Appendix
- State Report
  - Summary of Major Findings
  - Slide Presentation
  - Data and Methods
  - Figures
  - Tables
- Technical Appendix

Note to Reader: While we do our best to ensure that the report fully functional for all users, there may be rare cases where user computer settings reduce the functionality. We would appreciate these instances being brought to our attention. Readers may choose to use a paper copy of the report, in which case the option of using the interactive links will not be available.

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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

SUMMARY OF MAJOR FINDINGS FOR KENTUCKY

CompScope™ Benchmarks, 16th Edition provides a comprehensive study that benchmarks the performance of state workers' compensation systems. CompScope™ examines the key cost drivers in workers' compensation claims and provides analysis as to which system features may impact those costs. For the first time, Kentucky is included in this annual study. This 16th edition focuses on income benefits, overall medical payments, costs, use of benefits, duration of disability, litigiousness, benefit delivery expenses, timeliness of payment, and other metrics. It compares these metrics in Kentucky with 17 other states and examines how these system performance metrics have changed over time, using data with experience through the first quarter of 2015.

There are various ways of describing and evaluating a state workers' compensation system's performance. Additionally, different metrics can be used to answer different questions about workers' compensation costs. Using data from a biennial Oregon study[1] that compares insurance premium rates across all states, in 2014, Kentucky premium rates were 18 percent lower than the median of the 50 states plus the District of Columbia, indicating that the cost of workers' compensation to employers in Kentucky was lower than typical. Based on data from the National Council on Compensation Insurance, Inc. (NCCI),[2] the average cost per worker (the broadest metric of claim costs) in Kentucky was 12 percent lower than the median of 46 jurisdictions. The frequency of claims per 100,000 workers was typical, but incurred costs per claim per 100,000 workers in Kentucky were 21 percent lower than the median state. However, for claims with lost time, incurred indemnity costs in Kentucky were 6 percent higher than the median.

Consistent with the NCCI report, data in this CompScope™ study show that the average incurred (i.e., paid and reserved) cost per claim was 21 percent lower than the median of the 17 study states, while claims with more than seven days of lost time were 2 percent higher than the median for average incurred indemnity costs per claim.

MAJOR FINDINGS

The major findings for Kentucky from the 16th edition of CompScope™ Benchmarks are as follows:

- Total costs per claim with more than seven days of lost time were typical of the 18-state median in Kentucky. Both indemnity and benefit delivery expenses per claim were typical, while medical payments per claim were lower than the 18-state median.
- While we found that indemnity benefits per claim were typical, this result masks offsetting factors. On average, Kentucky had three weeks longer duration of temporary disability than the median permanent partial disability (PPD) state. The longer duration was offset by a lower percentage of claims with PPD/lump-sum payments. The average PPD/lump-sum payment per claim, however, was higher than typical.

[1] Oregon Department of Consumer and Business Services. 2014. *Oregon Workers' Compensation Premium Rate Ranking Calendar Year 2014.* Note that the Oregon study uses the Oregon industry mix as the base.

[2] Data on costs per claim and frequency per 100,000 workers come from the NCCI *Annual Statistical Bulletins* from 2013 through 2015.

- Medical costs per claim were lower than typical, reflecting the regulations in Kentucky on both nonhospital and hospital prices.
- Medical-legal expenses in Kentucky were among the highest of the study states, for both frequency and costs, while other benefit delivery expenses per claim were typical, including medical cost containment expenses per claim and defense attorney payments.
- From 2009 to 2014, the five-year trend in costs per claim was very stable, which was similar to other states. We did observe some variation in the components, especially in 2013 to 2014.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

AVERAGE COSTS PER CLAIM TYPICAL IN KENTUCKY, LOWER-THAN-TYPICAL MEDICAL PAYMENTS

On the broadest cost measure, total costs per all paid claims, Kentucky was 23 percent lower than the median state. All paid claims include both medical-only claims and claims with more than seven days of lost time (claims with income benefits). These claims occurred in 2012 with an average of 36 months of experience, through March 2015. We use more mature claims as the basis for interstate comparisons on this measure because the results are a better reflection of the ultimate costs per claim. Lower costs in Kentucky for all paid claims are related, in part, to the lower-than-typical percentage of claims with at least one week of lost time in Kentucky. Claims with more than seven days of lost time in Kentucky were 18 percent of all paid claims, and those 18 percent of claims accounted for roughly 90 percent of the total workers' compensation system costs in Kentucky. Given the significant contribution, we focus on costs associated with claims with more than seven days of lost time throughout the remainder of the report.

Total costs per claim with more than seven days of lost time in Kentucky were typical of the 18-state median. Several factors contribute to this result, including typical indemnity and benefit delivery expenses per claim, along with lower-than-typical medical payments. When compared with nearby states, Kentucky was lower than many of the states, with different components driving the costs in different states.

Indemnity benefits per claim in Kentucky were typical of the 18 study states. At $18,332, the average indemnity cost per claim in Kentucky was 2 percent higher than the 18-state median, for 2012 claims with more than seven days of lost time and experience through March 2015. While overall indemnity costs per claim were typical, some cost factors were higher, lower, or typical of the median state, reflecting Kentucky system features. Underlying components of temporary total disability (TTD) rates in Kentucky were fairly similar to other study states. However, more than one in eight workers in Kentucky had indemnity benefits limited by the statutory maximum as compared with one in nine in the median state.

Duration of temporary disability was about three weeks longer than other PPD benefit based systems. In the CompScope™ studies, for analyzing drivers of indemnity costs, we generally classify study states into two groups—wage-loss benefit systems and PPD benefit systems—based on the different approaches used to compensate income loss due to work-related injuries.[3]

The percentage of claims with PPD/lump-sum payments was the lowest in Kentucky when compared with other PPD benefit systems. However, PPD/lump-sum payments per claim were among the highest of the

[3] The wage-loss states included in this study are Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia. In a wage-loss benefit system, workers typically continue to receive temporary disability benefits so long as they experience wage loss because of the work-related injury. PPD benefits typically are paid for scheduled injuries only. Unscheduled impairments typically are compensated only if injured workers actually experience a wage loss or loss of wage-earning capacity. Eleven of the study states have PPD systems: Arkansas, California, Florida, Iowa, Illinois, Indiana, Kentucky, Minnesota, New Jersey, Texas, and Wisconsin. In a PPD state, TTD benefits typically end when the worker reaches maximum medical improvement (MMI) and the worker may be entitled to PPD benefits.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

PPD states. At $29,260, the average PPD/lump-sum payment per claim in Kentucky for 2012 claims (with more than seven days of lost time and 36 months of experience) was higher than most PPD states. In Kentucky, the permanent impairment rating is calculated by taking the American Medical Association (AMA) impairment rating and multiplying it by a statutory factor, which varies based on the rating percentage. Further, other considerations such as age, education, and return to work can be considered in applying a multiplier to the permanent impairment rating. These system features likely contribute to the higher-than-typical payments for PPD/lump-sum benefits. The percentage of claims with settlements was typical in Kentucky, but Kentucky had a higher percentage of settlements greater than $20,000 than other PPD states.

Medical payments per claim in Kentucky were lower than the median of the study states, for claims evaluated at both 12 and 36 months of experience, due to Kentucky's regulation of both prices and utilization of services. Other Workers Compensation Research Institute (WCRI) studies provide some findings on prices and payments. Prices paid for nonhospital professional services in Kentucky were 14 percent lower than the median of 28 study states in 2014, according to *WCRI Medical Price Index for Workers' Compensation, Seventh Edition* (Yang and Fomenko, 2015). For most nonhospital services, prices paid in Kentucky were lower than typical. This was likely related to the lower fee schedule rates in the state, as reported in another WCRI study, *Designing Workers' Compensation Medical Fee Schedules* (Fomenko and Liu, 2012). Hospital outpatient payments per surgical episode for common knee and shoulder surgeries in Kentucky were in the lower group of 33 study states in 2013, as reported in a recent WCRI study, *Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition* (Fomenko and Yang, 2015). That study also showed that states with a percent-of-charge-based fee schedule or no fee schedule had relatively higher hospital outpatient payments compared with the majority of study states with a fixed-amount fee schedule or cost-to-charge ratio fee schedule.[4] The next CompScope™ Medical Benchmarks study (17th edition) will analyze the other factors underlying medical payments per claim, including utilization of different types of nonhospital and hospital outpatient services and payments for hospital inpatient services.

Benefit delivery expenses in Kentucky were typical of the 18-state median for 2012 claims (with more than seven days of lost time and 36 months of experience). Benefit delivery expenses are costs associated with the delivery of medical and indemnity benefits to injured workers. Included are expenses that are allocated to claims for managing medical costs and for litigation-related expenses, such as defense attorney payments and medical-legal services. Medical-legal expenses in Kentucky were among the higher group of states, for both payments and frequency. Medical-legal expenses include payments for medical-legal evaluations and reports, independent medical examinations (IMEs), depositions, medical expert fees, and medical testimony. System participants indicated that medical-legal exams are often conducted in Kentucky to render an AMA impairment rating. Additionally, given the ability to enhance the AMA impairment rating with factors, many times one or both parties will request a report or exam. Medical cost containment expenses were typical of the study states. For both the percentage of claims with and payments to defense attorneys, Kentucky was typical of the median study state. Defense attorney payments include payments made to both inside and outside counsel. One in four claims with more than seven days of lost time had defense attorney payments, at $5,488 for the average payment.

[4] Reimbursement for hospital outpatient services in Kentucky is based on a cost-to-charge ratio, which is published annually in February and becomes effective in April.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

SYSTEM STABILITY IN KENTUCKY OVER THE STUDY PERIOD OF 2009 TO 2014

This CompScope™ report also found the five-year trend in total costs per claim was stable from 2009 to 2014, for claims with 12 months of experience. Total costs per claim grew 2.3 percent per year, a rate similar to the median study state, which grew 2.8 percent per year. Indemnity costs per claim grew at 1.5 percent per year, which was slower than the other study states.

Medical payments grew slightly slower than the median state, and expenses grew at a rate similar to the median state from 2009 to 2014, with rapid growth in both components in the most recent evaluation of 2013 to 2014. One component of medical payments, prices paid for professional services, was stable from 2009 to 2014 in Kentucky. Other components such as utilization and prices paid among nonhospital and hospital providers will be analyzed in the next edition of CompScope™ Medical Benchmarks, which will include Kentucky.

The trend in indemnity payments was impacted by varying components over the study period. Lump-sum payments in Kentucky were observed in 6 percent of the claims with more than seven days of lost time at 12 months of experience, but increased to over 25 percent at 48 months of experience. Further, settlement payments remained stable at all maturities since 2011.

Moderate growth of 4.4 percent per year was observed in benefit delivery expenses from 2009 to 2014, which was similar to 4.7 percent per year in the median state. Additionally, from 2013 to 2014, expenses grew 8.5 percent. Medical cost containment and medical-legal accounted for the majority of this growth. We observed an increase in frequency of defense attorney payments, but defense attorney payments per claim over $500 remained stable over the study period.

OTHER FINDINGS FOR KENTUCKY FROM COMPSCOPE™ BENCHMARKS, 16TH EDITION

While jobs in the coal industry in Kentucky continue to disappear rapidly, the effects of the industry on workers' compensation continue to be of significance to system stakeholders. For 2012 claims with seven days of lost time and experience through March 2015, we observed that total costs per claim were nearly 60 percent higher for mining claims than for non-mining claims. From 2009 to 2014, the cost of mining claims grew 5.8 percent per year, faster than non-mining claims at 4 percent per year. Benefit delivery expenses for mining claims increased from 14 percent of total costs per claim in 2009 to about 18 percent per claim in 2014 for claims with 12 months of experience. System stakeholders shared that, within recent years, miners have presented claims for three distinct injuries: Coal Workers' Pneumoconiosis (CWP), repetitive trauma, and hearing loss. We observed this phenomenon in our data and categorized all three as mining claims for our analysis.

Kentucky was typical of the study states for injured workers who received the first indemnity payment within 21 days of injury, a measure for timeliness of first indemnity payments in CompScope™ studies. There were two components underlying this result: injury reporting (measured as the percentage of claims reported to the claim payor within three days of injury) in Kentucky was slightly faster than typical; however, the speed of payment once the payor received notice of injury in the state was slower. Forty percent of claims in Kentucky were paid within 14 days of payor notice of injury, compared with 45 percent in the median state. In Kentucky, income benefits are due no later than the 15th day after the employer has knowledge of the disability. Because the claim base that is used to determine timeliness measures may include claims that were denied and/or litigated but paid within the evaluation period or claims where the worker was not

continuously disabled from the date of injury, these measures do not purport to show compliance with state requirements for timely payment.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

INTRODUCTION AND HOW TO USE THIS ANALYSIS

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

This is the 16th edition of an annual series of analyses that benchmarks the performance of state workers' compensation systems. This study focuses on income benefits, costs, use of benefits, duration of disability, litigiousness, benefit delivery expenses, timeliness of payments, and other metrics. The CompScope™ benchmarking series focuses on the performance of the benefit delivery system and does not address insurance markets, pricing, or regulations. A companion study in this annual series—the CompScope™ Medical Benchmarks—focuses on the costs, prices, and utilization of medical care received by injured workers. It examines these medical services in the aggregate, by type of provider, and by type of medical service. Related Workers Compensation Research Institute (WCRI) studies benchmark state fee schedules and worker outcomes.

The unit of analysis in the CompScope™ benchmarking series is the individual workers' compensation claim, so most results are reported on a per claim basis. Therefore, changes in claim frequency do not affect the measures we report.

The annual benchmark studies provide dual perspectives:

- How have the Kentucky system performance metrics changed over time (trends) using claims that arose between October 2008 and September 2014, usually with an average of 12, 24, and/or 36 months of experience?
- How does Kentucky compare with other states—specifically with 17 other large states that were selected because they are geographically diverse; represent a range of system features; and represent the range of states that are higher, near the middle, and lower on costs per claim? Income benefit payments per claim in the median state in this group are similar to the median among all U.S. states (see "Data and Methods").

HOW TO USE THIS BENCHMARKING REPORT

The format of this edition of the CompScope™ study is designed to make the findings easily accessible and still provide a rich and detailed set of benchmarks for those who want to drill down beneath the major findings.

- For those who want to get quickly to the bottom line, there is a short narrative summary of major findings and a slide presentation on major findings. The slides provide explanatory figures and charts, along with interactive links to the more detailed figures and tables that underlie the highlighted major findings.
- For those who want to drill down on a specific issue, the narrative summary and slide presentation both have links from each finding or slide to the underlying detailed tables and graphs.
- For those who are not familiar with the CompScope™ benchmarking studies, there is an "Information for First-Time Users" section to provide detail about the key benchmarks we analyze, detail about the data we use and adjustments we make to those data, and some presentational explanations.
- For those seeking a wide-ranging reference book to address questions of interest, there are many detailed tables and graphs that are available for browsing or that may be accessed through links in the "Quick Reference Guide to Figures and Tables."

- The data and methods are fully described in the *Technical Appendix*. This report contains a short summary of the *Technical Appendix* entitled "Data and Methods."

Note: Each page of this report contains a "Back to Previous View" button which allows the reader to click on a link to another section and then return to the original page, eliminating the need for bookmarking.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

INTRODUCTION TO MAJOR FINDINGS SLIDES

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

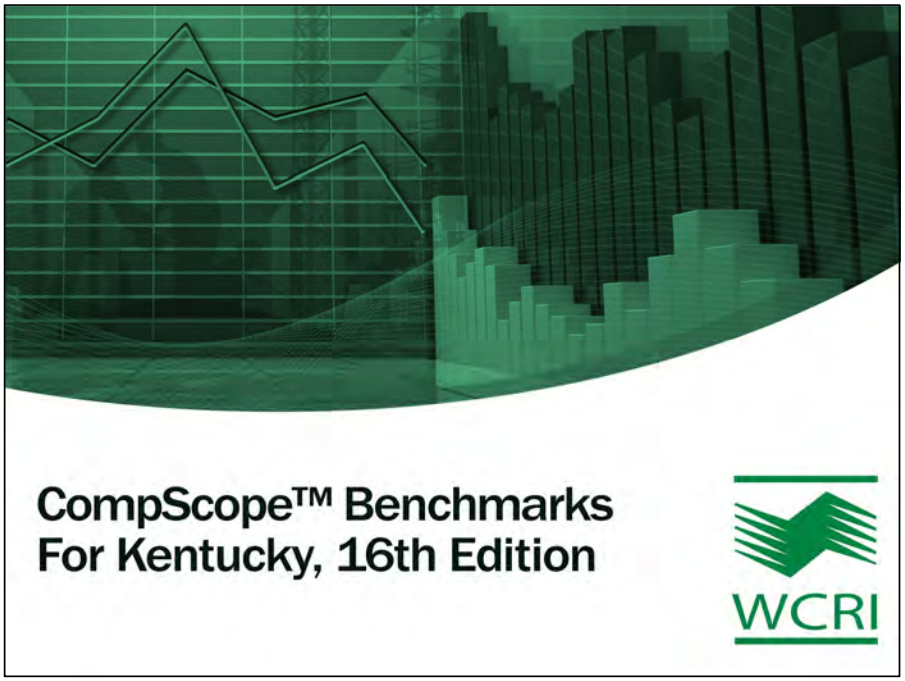
The following pages present a slide discussion of *CompScope™ Benchmarks for Kentucky, 16th Edition*. The slides highlight the major findings discussed in the "Summary of Major Findings" section and provide explanatory figures and charts. Notation on the bottom of the slide specifies the injury year and/or maturity of the data shown, as applicable. The notes to the right of some slides provide additional technical or substantive information pertinent to that slide. For example, the notes might contain links to external summaries of legislation or workers' compensation agency reports, a reference to a related figure or table, or an explanation of a relevant workers' compensation system feature. References to source information and definitions of key terms or abbreviations are located below the slide to which they apply. To view the notes, references, and/or definitions, the document magnification on your computer may need to be set at 100 percent or lower. Please note that the slides are also interactive, linking to other areas of this report where useful. For example, bar charts generally link to the box plot figures that contain the numbers underlying the chart. Links in the slides are indicated by underlining.

When describing the performance of a state in this report, we generally use the following criteria and terms. Other words used to describe an increase include *growth* and *rise*. Other words to describe a decrease include *fall*, *drop*, and *decline*.

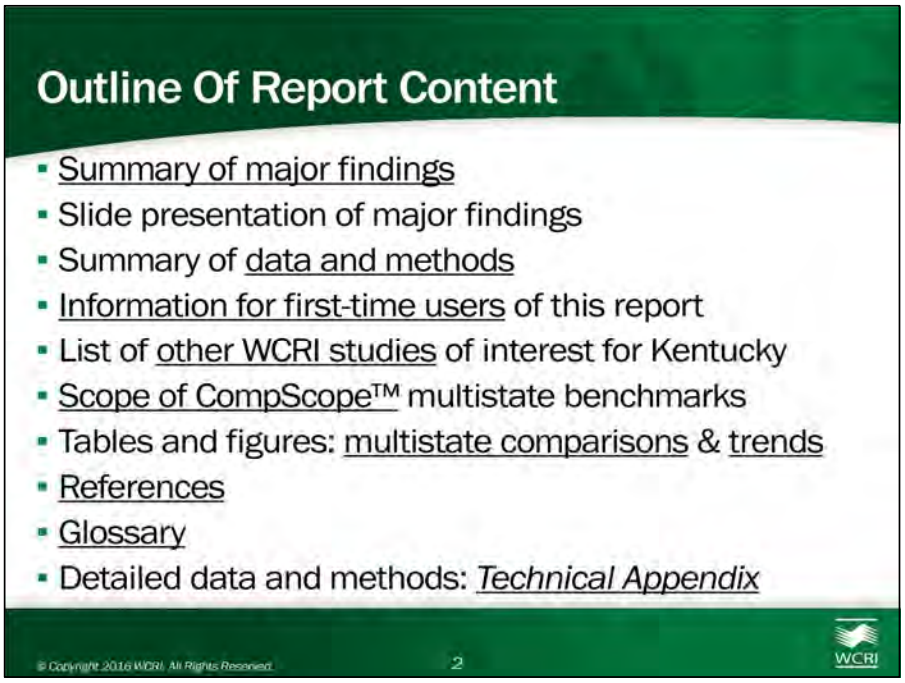
Multistate Values	**Comparison with Median State**	
Higher	More than 10 percent above median	
Lower	More than 10 percent below median	
Typical or close to	Within 10 percent above or below median	
Trends	**Change in Cost Measures (annual average percentage)**	**Change in Frequency Measures (annual average percentage points)**
Very rapid increase	+9% and higher	+4 points and higher
Rapid increase	+6% to 8.9%	+2 to 3.9 points
Moderate increase	+3% to 5.9%	+1 to 1.9 points
Flat, little change	+2.9% to -2.9%	+0.9 to -0.9 points
Moderate decrease	-3% to -5.9%	-1 to -1.9 points
Rapid decrease	-6% to -8.9%	-2 to -3.9 points
Very rapid decrease	-9% and lower	-4 points and lower

The thresholds in the multistate comparison above were chosen because a data point 10 percent above or below the median *usually, but not always*, indicates that the data point is notably different from the median. There are two exceptions. Sometimes the median state is part of a cluster of states with similar values that are all higher or lower than the remaining states. In that case, we describe a report state as being in the *higher*, *lower*, or *middle* group based on its cluster, not its relation to the median. In other cases, the range of states includes very different values, and even a state near the median differs from it by 10 percent or more. In that case, we would call that state *fairly typical* despite the criteria in the table. Review of the boxplots may help resolve any confusion.

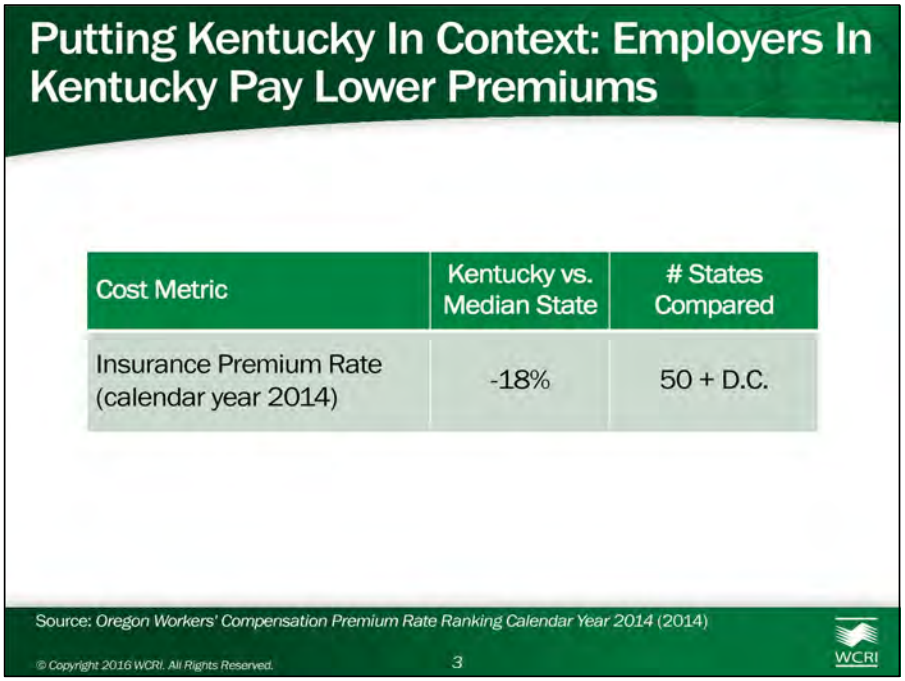
Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



The following pages are a slide discussion of *CompScope™ Benchmarks for Kentucky, 16th Edition*. The slides highlight the major findings and provide explanatory figures and charts. Please note that the slides are also interactive, linking to other areas of this study where useful. Links are indicated by underlining.



Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

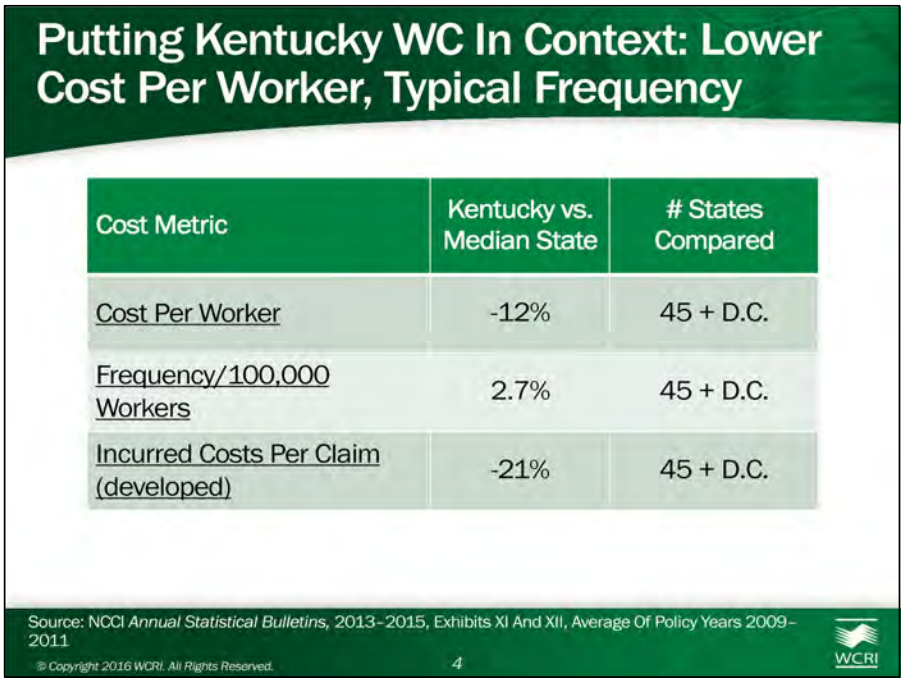


Different metrics can be used to answer different questions concerning workers' compensation costs.

On this chart, we show how Kentucky compares nationally on workers' compensation insurance premium rates (the cost of workers' compensation to employers).

Every two years, the Oregon Department of Consumer and Business Services produces a study that compares premium rates across all states, using the Oregon industry mix as the base. In 2014, Kentucky premium rates were 18 percent lower than the median of the 50 states plus the District of Columbia. Kentucky was ranked 40th highest in 2014.

Source: Oregon Department of Consumer and Business Services. 2014. *Oregon Workers' Compensation Premium Rate Ranking Calendar Year 2014*. Available at http://www.cbs.state.or.us/external/dir/wc_cost/files/report_summary.pdf.



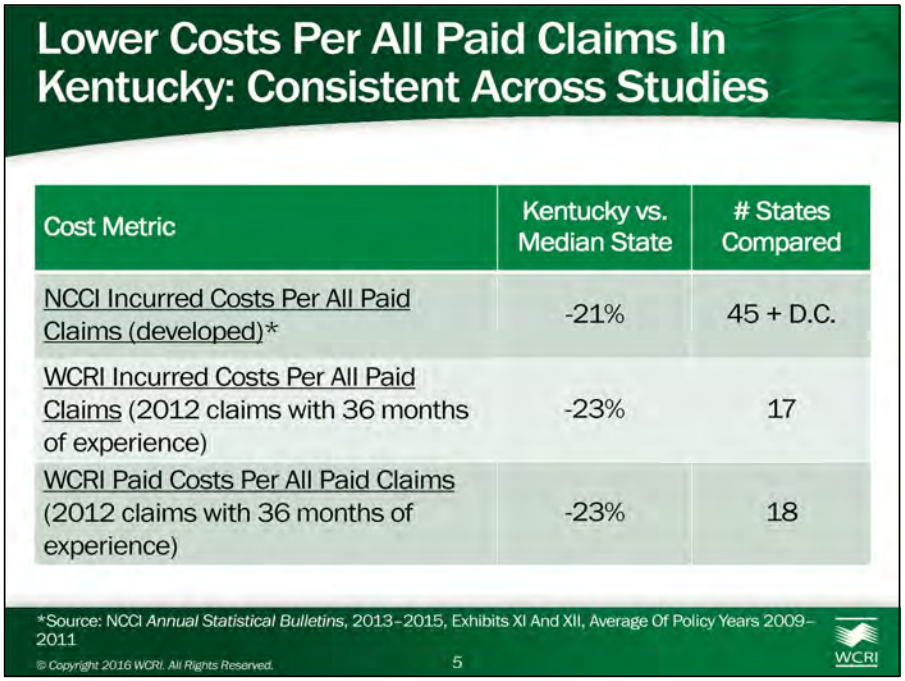
This chart shows the broadest metric of claim costs—the average cost per worker. This metric combines the average cost per claim and the frequency of claims per 100,000 workers using information from NCCI.

Cost per worker in Kentucky was 12 percent lower than the median of 45 states plus the District of Columbia. Costs per claim in Kentucky were 21 percent lower when compared with the median jurisdiction, while frequency was fairly typical.

Key: **WC:** Workers' compensation. **NCCI:** National Council on Compensation Insurance, Inc.

Source: NCCI. 2013–2015. *Annual Statistical Bulletins*, exhibits XI and XII. Available at http://www.ncci.com.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



Key: **NCCI:** National Council on Compensation Insurance, Inc.

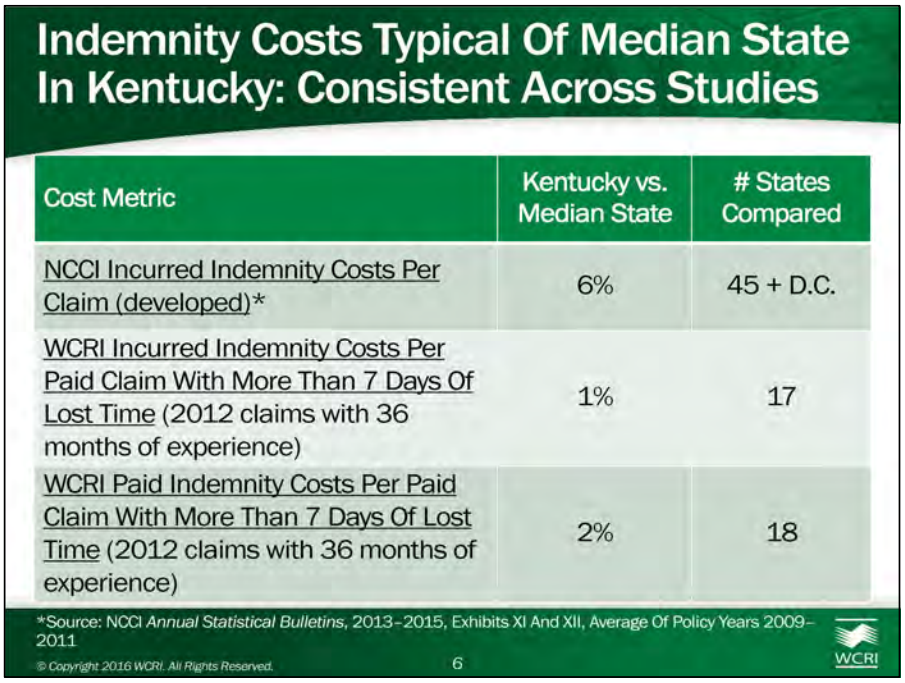
Source: NCCI. 2013–2015. *Annual Statistical Bulletins*, exhibits XI and XII. Available at http://www.ncci.com.

This table compares the cost per claim metrics for the NCCI measure and the results in this CompScope™ study.

NCCI reported that the average incurred cost per claim (developed) in Kentucky was 21 percent lower than the median of 45 states plus the District of Columbia.

This CompScope™ study shows consistent results. The average incurred (i.e., paid and reserved) cost per claim for 2012 claims with an average 36 months of experience in Kentucky was 23 percent lower than the median of 17 study states. The average paid cost per claim for 2012 claims with an average 36 months of experience in Kentucky was also 23 percent lower than the 18-state median.

Note that the NCCI cost per claim results were based on insured data, while the WCRI metrics include both insured and self-insured markets. Additionally, NCCI reports projections of ultimate claim costs using historical development patterns, while the CompScope™ paid costs per claim reflect a snapshot in time—the payments per claim made within 36 months of maturity.



Key: **NCCI:** National Council on Compensation Insurance, Inc.

Source: NCCI. 2013–2015. *Annual Statistical Bulletins*, exhibits XI and XII. Available at http://www.ncci.com.

This table compares the costs per indemnity claim for the NCCI measure and the results in this CompScope™ study.

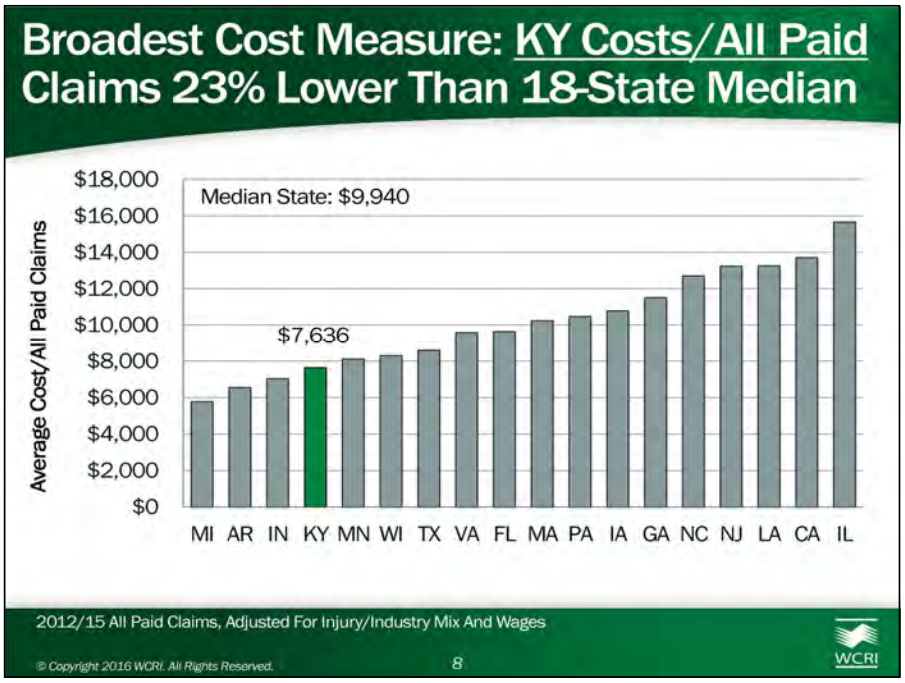
NCCI reported that the average incurred indemnity cost per claim (developed) in Kentucky was fairly close to the median of 45 states plus the District of Columbia.

This CompScope™ study shows that indemnity costs per claim with more than seven days of lost time, both incurred and paid, were also typical of the study states.

Note that the NCCI cost per claim results were based on insured data, while the WCRI metrics include both insured and self-insured markets. Additionally, NCCI reports projections of ultimate claim costs using historical development patterns, while the CompScope™ paid indemnity costs per claim reflect a snapshot in time—the payments per claim made within 36 months of maturity.

Key: **PPD:** Permanent partial disability.

Naming convention (example 2014/15): The first year (2014) is the injury year, which we define as claims arising from October 1, 2013, through September 30, 2014; the second year (15) is the maturity of the claim (experience through March 31, 2015). This indicates 2014 claims at an average maturity of 12 months. We denote other injury year/evaluation combinations similarly.



This chart shows the interstate comparisons for costs per all paid claims for 2012 claims with experience through March 2015.

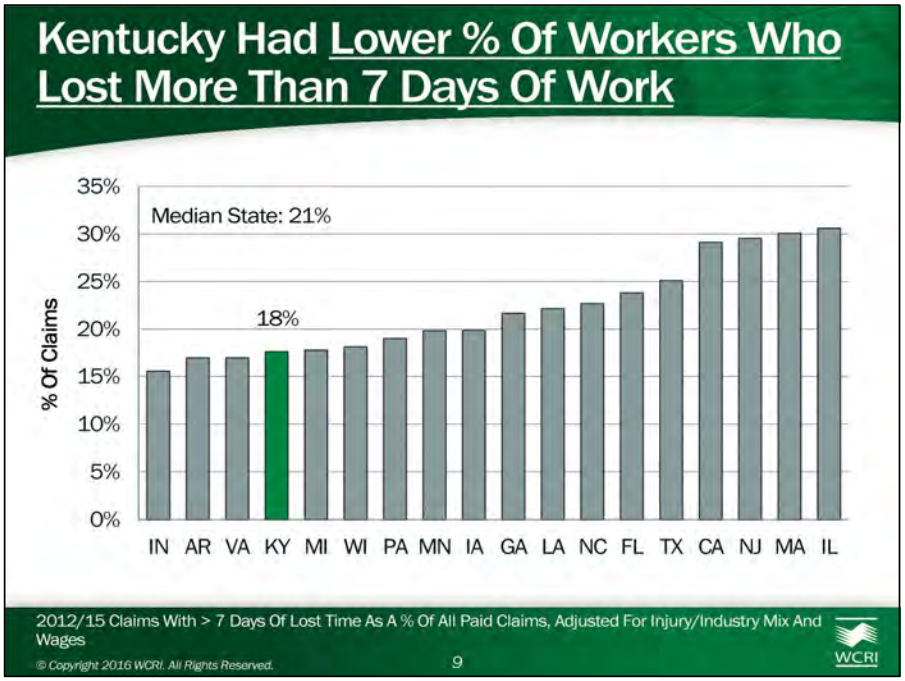
This is the broadest metric of paid claim costs, including both medical-only claims and claims with more than seven days of lost time. Costs per all paid claims includes payments for medical, indemnity, and benefit delivery expenses. We have adjusted the data for interstate differences in injury and industry mix and for wages of injured workers to make the interstate comparisons more meaningful.

Using more mature claims provides a more appropriate basis for interstate comparisons because the results are a better reflection of the ultimate costs per claim than for less mature claims.

Kentucky was lower than the median of the study states on this measure. The average cost per all paid claims in Kentucky was $7,636 or 23 percent lower than the median state at $9,940.

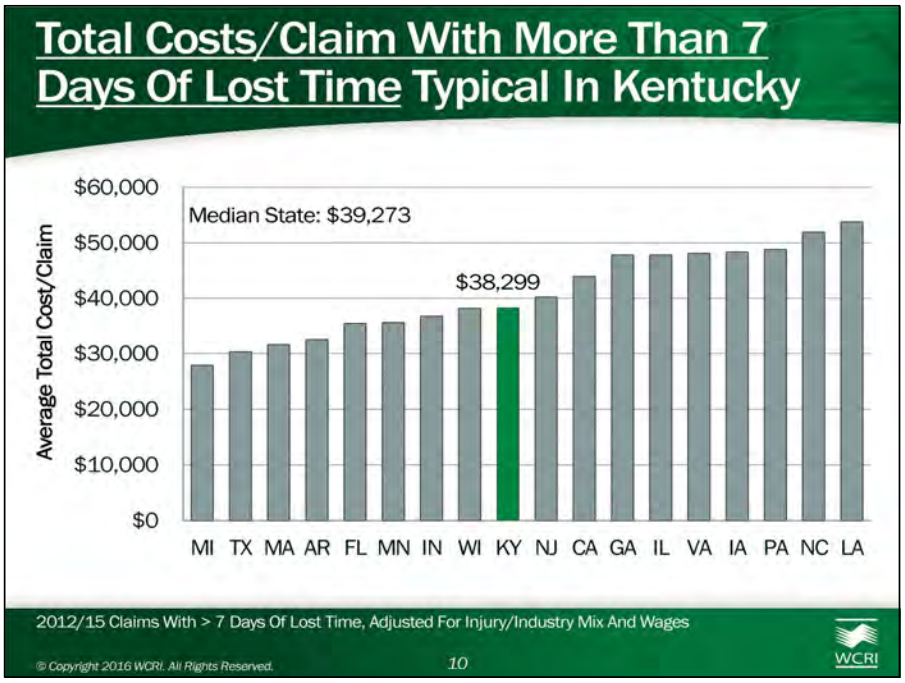
The remainder of the report focuses on claims with more than seven days of lost time because those claims make up the vast majority of workers' compensation system costs.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



On the previous slide, we show that Kentucky had lower-than-typical costs per all paid claims. One factor for the lower costs is that Kentucky had fewer claims with more than seven days of lost time. In Kentucky, 18 percent of all paid claims were claims with more than seven days of lost time. However, those 18 percent of lost-time claims accounted for 90 percent of the costs associated with all claims. With Kentucky having more medical-only claims than other states, more of the lower-cost claims make up the experience of claims in Kentucky.

In Kentucky, no income benefits are payable for the first seven days of disability unless disability continues for a period of more than a week, which is a waiting period similar to other study states. KRS 342.040 (1).



We focus on costs per claim with more than seven days of lost time because these claims account for the majority of workers' compensation dollars.

At an average of $38,299, costs per claim with more than seven days of lost time in Kentucky were 2 percent lower than the median of the study states for 2012 claims at an average 36 months of experience. For this metric, Kentucky was typical as compared with the median of the 18 study states.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

KY Indemnity Costs And Expenses/Claim Were Typical, Lower Medical Costs/Claim

Average Cost Per Claim	Kentucky	18-State Median	% Difference
Total	$38,299	$39,273	-2%
Indemnity	$18,332	$18,020	2%
Medical	$14,050	$16,267	-14%
Benefit Delivery Expenses	$5,896	$5,780	2%

2012/15 Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix And Wages

 11 WCRI

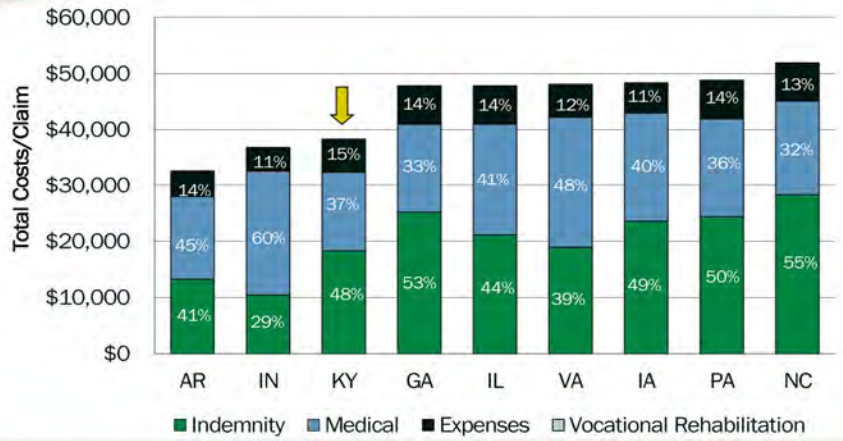
We observed on the previous slide that Kentucky was typical for total costs paid for claims with more than seven days of lost time. Here we begin to look at the individual components underlying the total costs paid. These metrics are also for claims with 36 months of experience.

Both indemnity and benefit delivery expenses per claim were typical in Kentucky as compared with the median study state. However, the average medical cost per claim was 14 percent lower than the 18-state median.

By *expenses*, we mean benefit delivery expenses—that is, the costs of delivering medical and indemnity benefits to injured workers. Included are expenses that are allocated to claims for managing medical costs and for litigation-related expenses, such as defense attorney payments and medical-legal services.

In the next series of slides, we provide more information on each of these components.

How Costs Per Claim In Kentucky Compare With Nearby States



2012/15 Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix And Wages

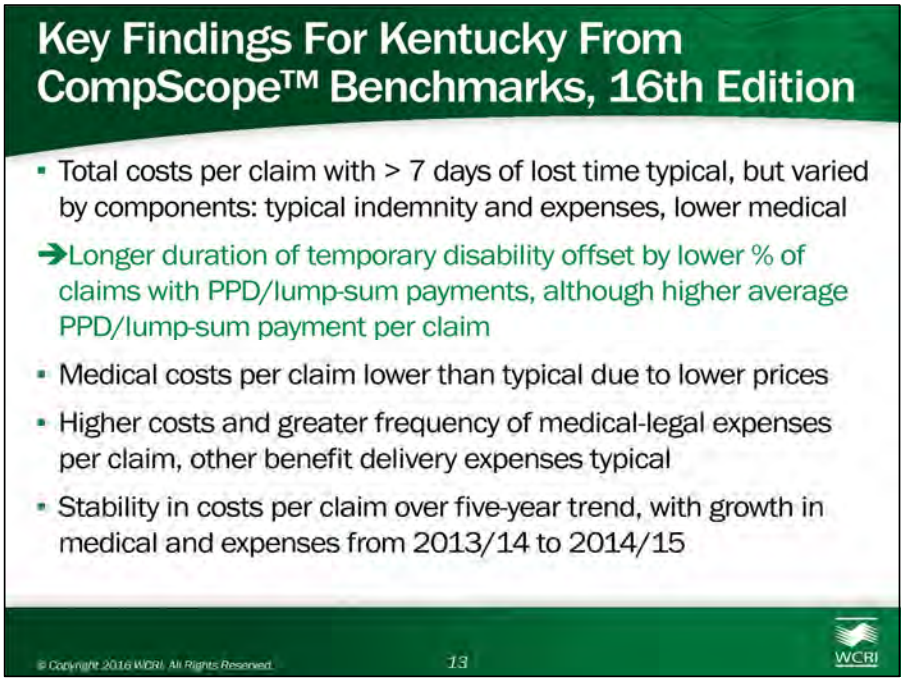
 12 WCRI

This bar chart offers a comparison of total costs per claim in nearby states, broken down by the key components of indemnity, medical, benefit delivery expenses, and vocational rehabilitation.

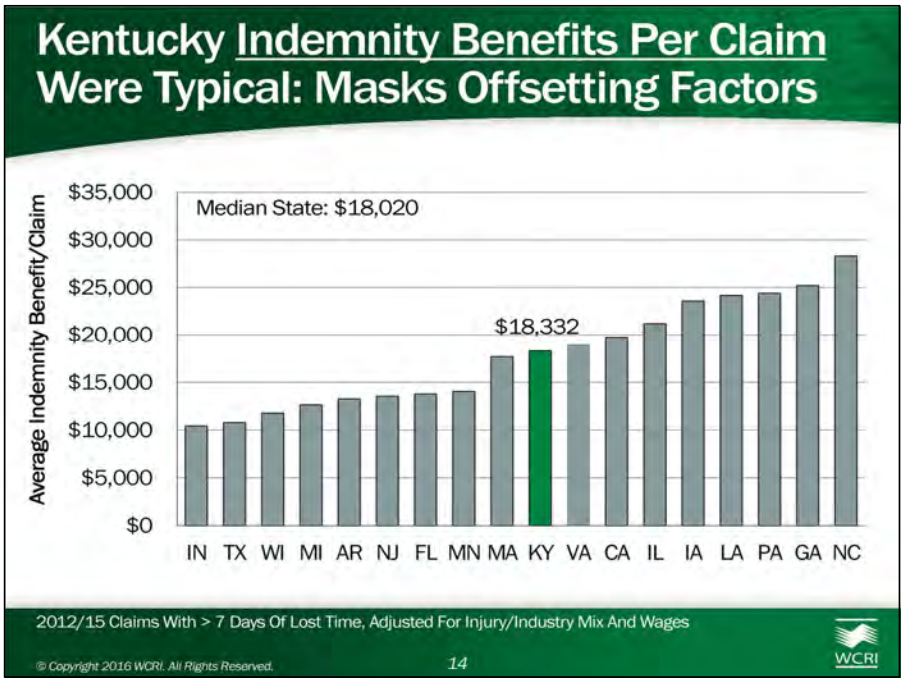
For total costs per claim, Kentucky was lower than many of the nearby states. When compared with nearby states for each component of claim costs, there was significant variability within the states. This variability reflects the state-specific system features within each jurisdiction. For instance, Indiana and Virginia have not adopted a nonhospital provider fee schedule to regulate medical payments, and the total contribution of medical is higher in those two states, partly a reflection of this system feature.

Note that Indiana adopted a hospital fee schedule effective for services provided on or after July 1, 2014. That system change is only partly reflected in the Indiana results shown here for claims with experience through March 2015.

Table 5 shows the component share of total costs per claim in each state.



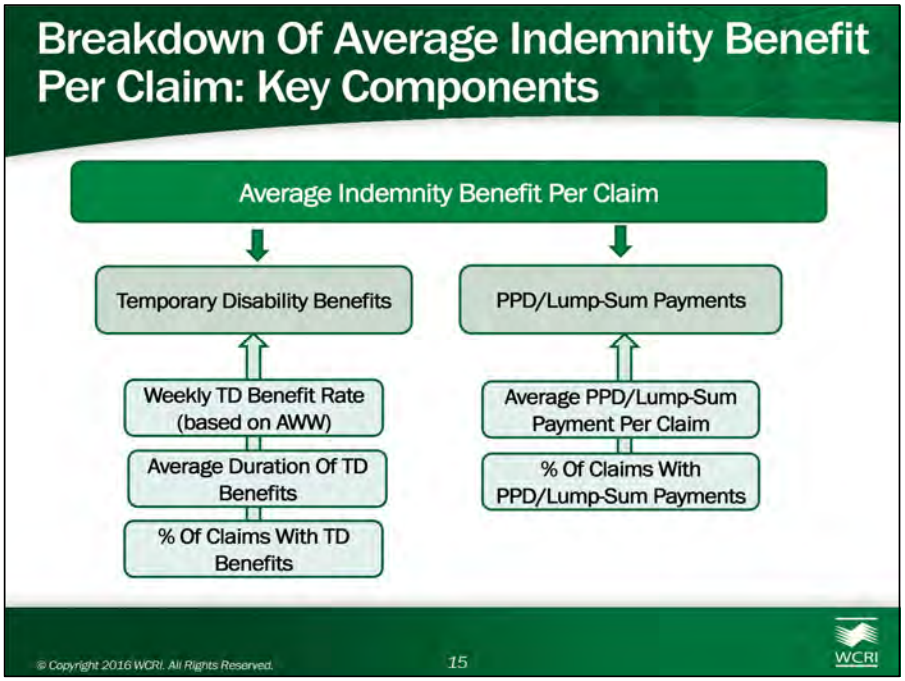
Key: **PPD:** Permanent partial disability.



This chart shows the interstate comparison of indemnity costs per claim for 2012 claims with experience through March 2015. Included in indemnity benefits are payments for temporary disability, permanent partial disability, and/or lump-sum settlements.

At $18,332, the average indemnity cost per claim in Kentucky was only 2 percent higher than the 18-state median, which is considered typical of the study states. This result was mainly driven by longer duration of temporary disability benefits but was offset by fewer claims with PPD/lump-sum payments, as compared with other non-wage-loss states.

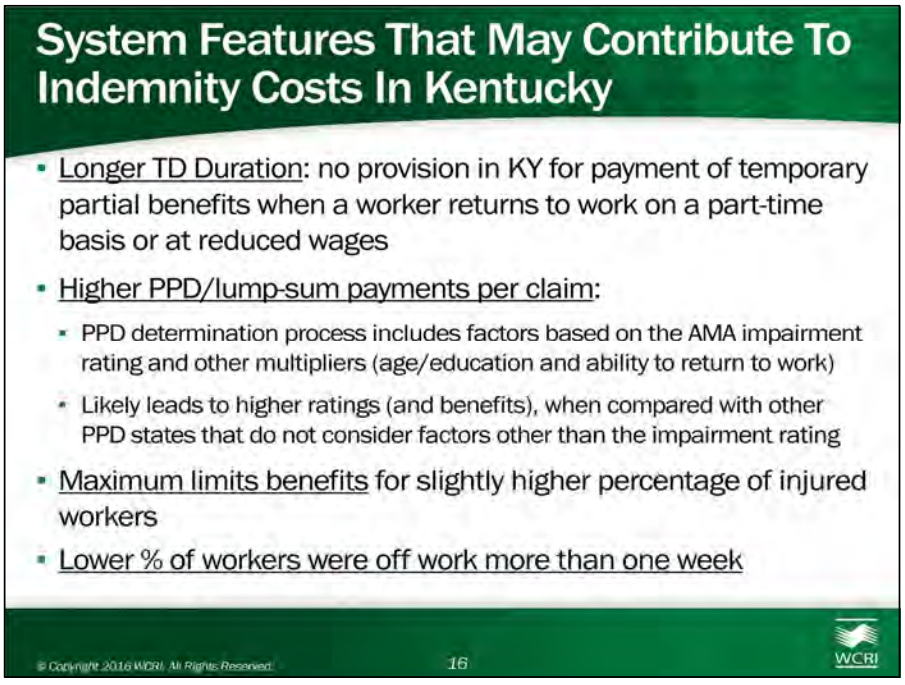
Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



The average indemnity benefit per claim reflects a combination of factors, such as the average weekly wage of injured workers, the duration limits on benefits, the benefit rate, and the calculation of PPD/lump-sum benefits, including the ability to settle future medical benefits.

Most states tie indemnity benefits directly to wages, so the level of wages of injured workers and changes in the level of wages contribute directly to indemnity costs. Temporary total disability payments usually are expressed as a percentage of the injured worker's average weekly wage.

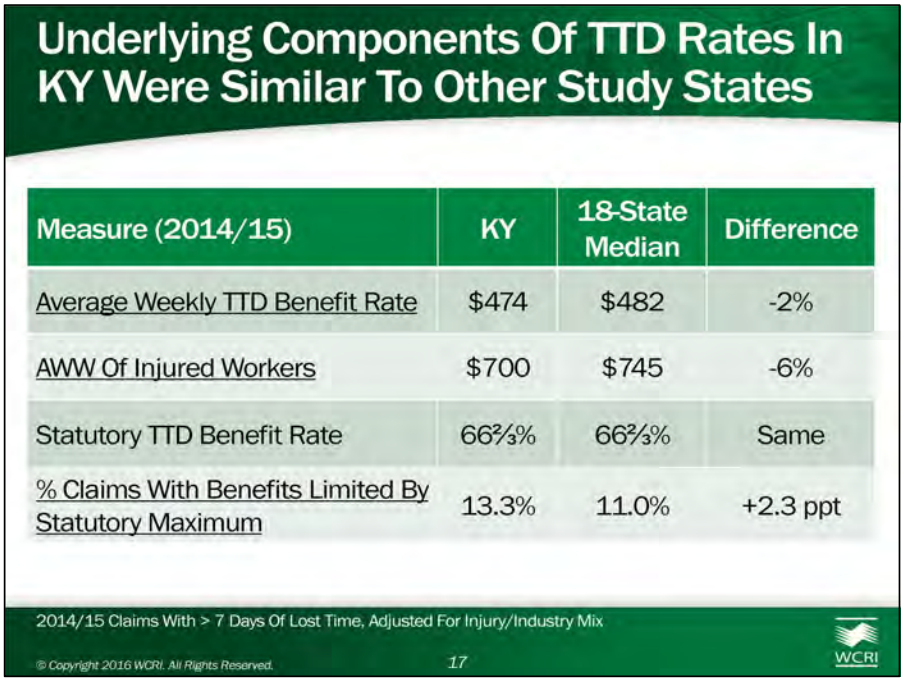
Key: **TD:** Temporary disability, includes temporary total and temporary partial disability. **AWW:** Average weekly wage. **PPD:** Permanent partial disability.



Key: **TD:** Temporary disability, includes temporary total disability and temporary partial disability. **PPD:** Permanent partial disability. **AMA:** American Medical Association.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

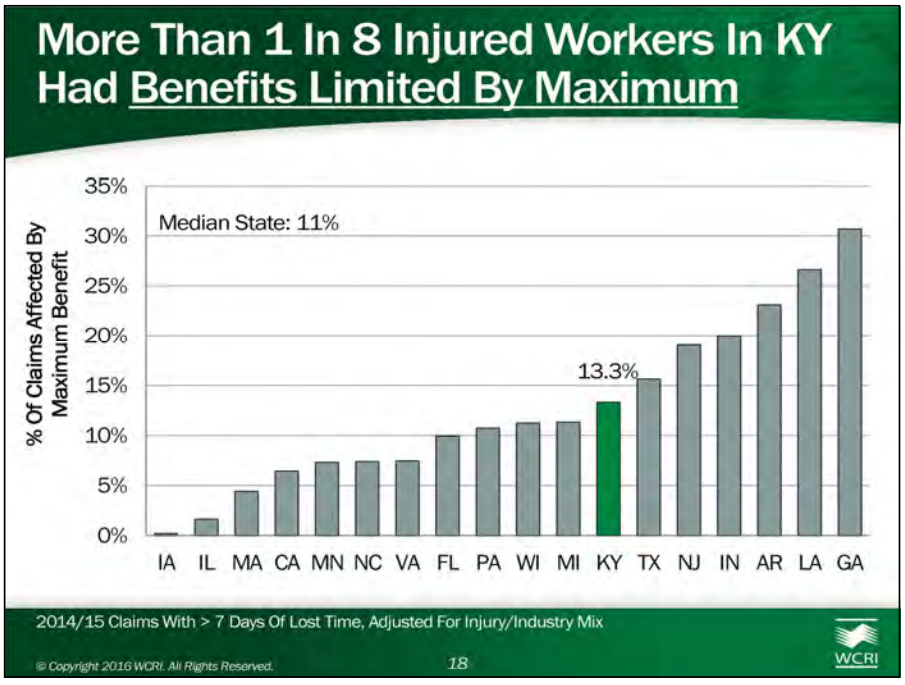


In many states, indemnity benefits are tied directly to workers' preinjury wages (average weekly wage), and temporary disability benefits are usually expressed as a percentage of the injured worker's average weekly wage.

This slide shows the main factors that determine average weekly TTD benefits in Kentucky and in the median of the 18 study states. In Kentucky, all components of the weekly TTD benefit rate were typical of the study states—the average weekly wage of injured workers was similar to the median of the study states, and the percentage of claims with benefits limited by the statutory maximum was only slightly higher.

Table 6 compares the statutory maximum weekly TTD benefit and wages across states.

Key: **TTD:** Temporary total disability. **AWW:** Average weekly wage. **ppt:** Percentage points.

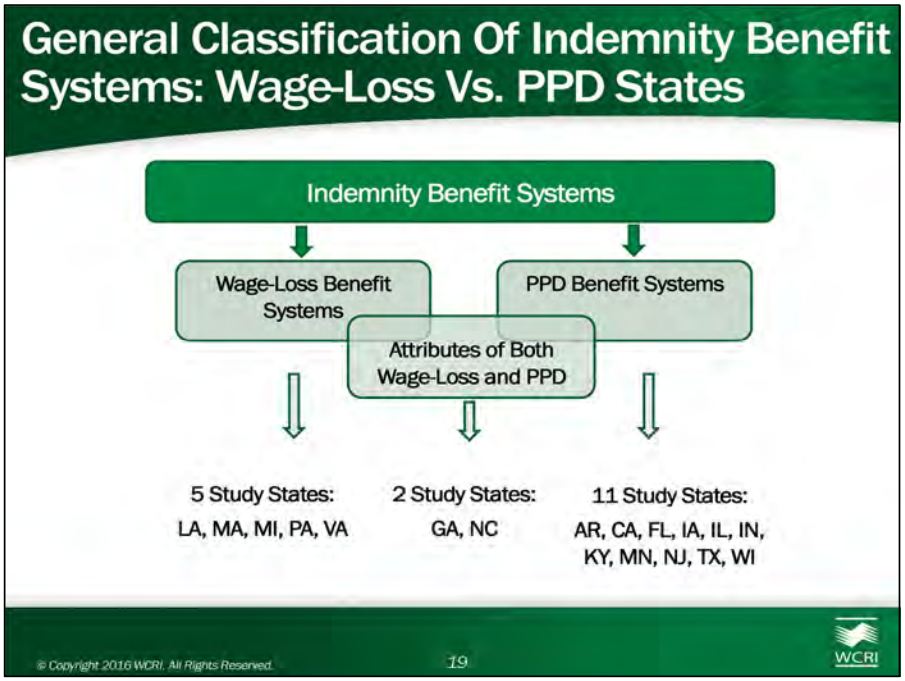


The TTD rate is important to analyze overall indemnity costs as well as to understand the extent of the benefit amount.

This chart shows the percentage of workers whose weekly TTD benefits were constrained by the statutory maximum weekly benefit. In Kentucky, in about 13 percent of claims, the benefits were limited by the statutory weekly maximum TTD benefit, compared with 11 percent in the median state. This translates to more than 1 of every 8 injured workers being constrained by the statutory maximum cap. Kentucky calculates the TTD cap at 100 percent of the statewide average weekly wage based on the previous two years of data on statewide employment. KRS 342.730 (1)(a)

Key: **TTD:** Temporary total disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



Key: **PPD:** Permanent partial disability. **TD:** Temporary disability, includes temporary total disability (TTD) and temporary partial disability (TPD).

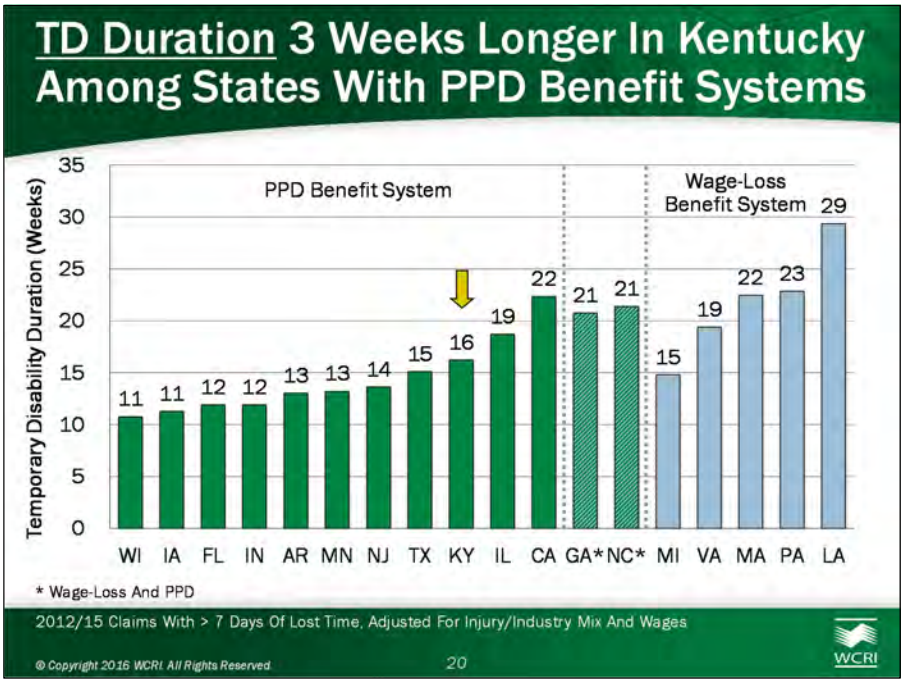
Note: See the "Glossary" for definitions of scheduled and unscheduled injuries.

In the CompScope™ studies, we generally classify states into two groups—wage-loss benefit systems and PPD benefit systems—based on different approaches used to compensate income loss due to work-related injuries.

In a wage-loss benefit system, workers typically continue to receive TD benefits so long as they experience wage loss because of the work-related injury. PPD benefits typically are paid for scheduled injuries only. Unscheduled impairments typically are compensated only if injured workers actually experience a wage loss or a loss of wage-earning capacity.

In a PPD state, by contrast, TTD benefits typically end when the worker reaches maximum medical improvement (MMI) and the worker may be entitled to PPD benefits. Typically, PPD benefits in these states cover most or all impairments, including unscheduled impairments.

Two states, GA and NC, have aspects of both a wage-loss system and a PPD system. In GA, a worker continues to receive TD benefits as long as there is no return to work or there is a return to work with lower wages, up to the statutory limit of 400 weeks for TTD or 350 weeks for TPD. PPD benefits can be paid based on impairment only and cover loss or loss of use of body members. In NC, an injured worker who has not returned to work at the end of the healing period either continues to receive TTD benefits (as in a wage-loss benefit system) or elects to receive PPD benefits based on an impairment rating. A worker who has returned to work at full wages can receive PPD benefits (as in a PPD system).



Key: **TD:** Temporary disability, includes temporary total disability and temporary partial disability. **PPD:** Permanent partial disability. **TTD:** Temporary total disability. **MMI:** Maximum medical improvement.

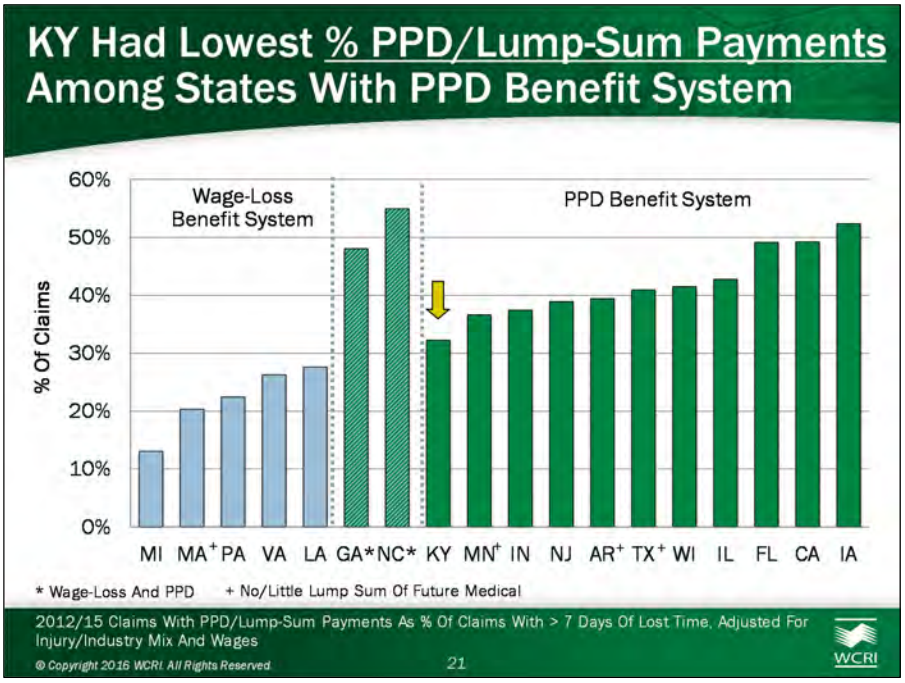
While indemnity benefits were typical in Kentucky, the number of weeks of temporary disability was among the higher group of states with a PPD benefit system. Kentucky, at 16 weeks, was 3 weeks longer than the median of the PPD benefit states (at 13 weeks). One unique aspect of the Kentucky system is that it does not mandate temporary partial benefits. In many states, temporary partial benefits are benefits paid for those periods during which a worker has returned to work on a part-time basis or at reduced wages. Without temporary partial benefits, workers may be more likely to remain in a TTD status before being placed at MMI and transitioned to PPD, if applicable.

System participants also offered that some employers are hesitant to offer modified duty due to limitations in availability of work due to employer size and lack of understanding by employers on the benefits of early return to work.

Another potential factor that may decrease the weeks of duration of disability, and therefore act as an offsetting factor to the higher-than-typical duration, would be the cap on TTD benefits. In Kentucky, TTD benefits are terminated at the time the employee qualifies for normal old-age Social Security disability or two years after the employee's injury or last exposure, whichever last occurs. KRS 342.730(4).

This cap on TTD eligibility would have a greater impact on older injured workers in Kentucky than in other states that do not tie a reduction in benefits to old-age Social Security or a presumption of retirement at a given age.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



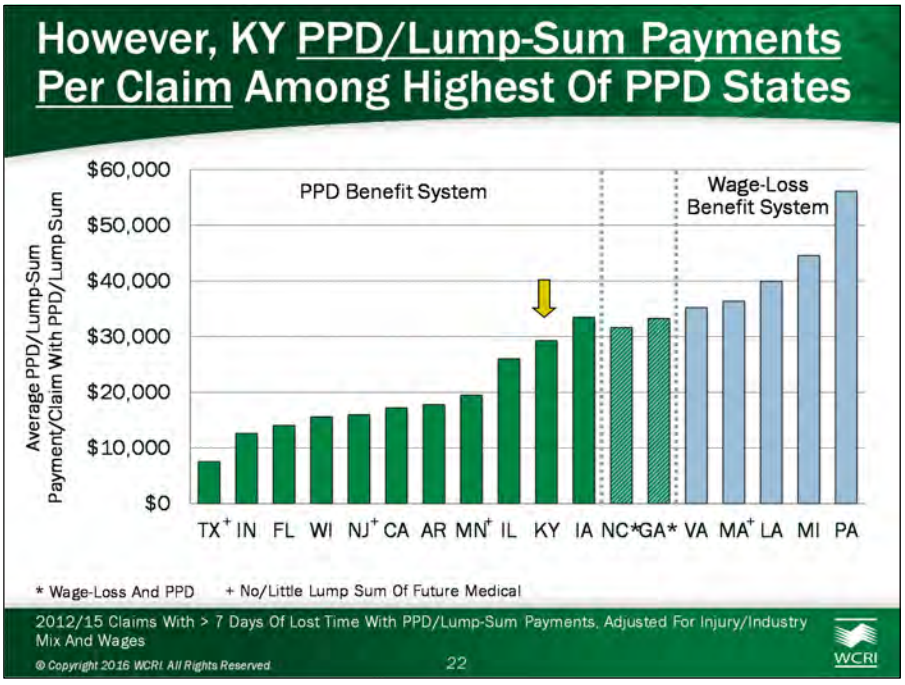
Key: **PPD:** Permanent partial disability. **TTD:** Temporary total disability. **AMA:** American Medical Association.

Note: PPD/lump-sum payments per claim is a broad measure consisting of payments for three components: (1) claims with lump-sum settlements but no periodic PPD payments, (2) claims with periodic PPD payments but no lump-sum settlements, and (3) claims with both lump-sum settlements and periodic PPD payments.

As shown in this chart, the percentage of claims with PPD/lump-sum payments in Kentucky was the lowest of the PPD benefit system states. Roughly one-third of claims with more than seven days of lost time received PPD/lump-sum benefits, as compared with the median state at 41 percent for claims, at 36 months of experience. Out of the 32 percent of claims that received PPD/lump-sum payments, 27 percent of those claims received a lump-sum settlement, while about 7 percent received periodic PPD benefits (but no lump-sum settlement).

One factor that may influence this outcome is that Kentucky uses the AMA *Guides to the Evaluation of Permanent Impairment, Fifth Edition*, whereas some other study states have transitioned to the Sixth Edition. Significant analysis of the potential impact of transitioning from the Fifth to the Sixth Edition was prepared, and the rationale for maintaining the Fifth Edition can be found in *Commissioner's Second Report on Guidelines to the Evaluation of Permanent Impairment*.

While no empirical analysis was conducted on the claims included in this study for the state of Kentucky, the AMA reported in *Comparative Analysis of the AMA Guides Ratings by Fourth, Fifth, and Sixth Editions* that some diagnoses were rated lower in the Sixth Edition, while other diagnoses, including soft tissue injuries, would have some ratable impairment under the Sixth Edition; under the previous version, they would have been rated zero. See *AMA Guides Newsletter, January/February 2010*.



Key: **PPD:** Permanent partial disability.

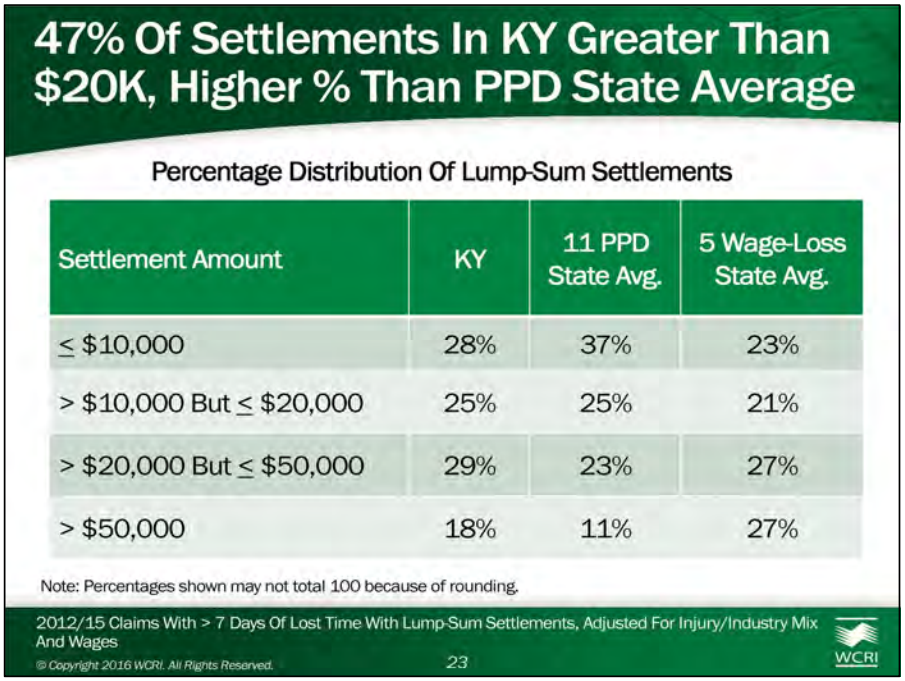
Note: PPD/lump-sum payments per claim is a broad measure consisting of payments for three components: (1) claims with lump-sum settlements but no periodic PPD payments, (2) claims with periodic PPD payments but no lump-sum settlements, and (3) claims with both lump-sum settlements and periodic PPD payments.

While fewer claims received PPD/lump-sum payments, the average PPD/lump-sum payment in these cases in Kentucky was among the highest of the PPD benefit system states. The average PPD/lump-sum amount was $29,260 in Kentucky, compared with a median value of $17,198 in the PPD states, or 70 percent higher.

These values may be higher than typical in Kentucky because the PPD benefits are based on more than the impairment rating alone. In Kentucky, the impairment rating is determined based on the American Medical Association (AMA) *Guides*, Fifth Edition, and then multiplied by a statutory factor, depending on the rating percentage. Additional adjustments may be made for age, education, and the ability to return to work. KRS 342.730(1)(b)-(e).

The use of the Fifth Edition of the AMA *Guides* may also impact the finding that Kentucky was among the highest of the PPD states for PPD/lump-sum payments in that less costly, soft injury claims may not be rated and therefore not contribute to the average costs associated with these claims.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

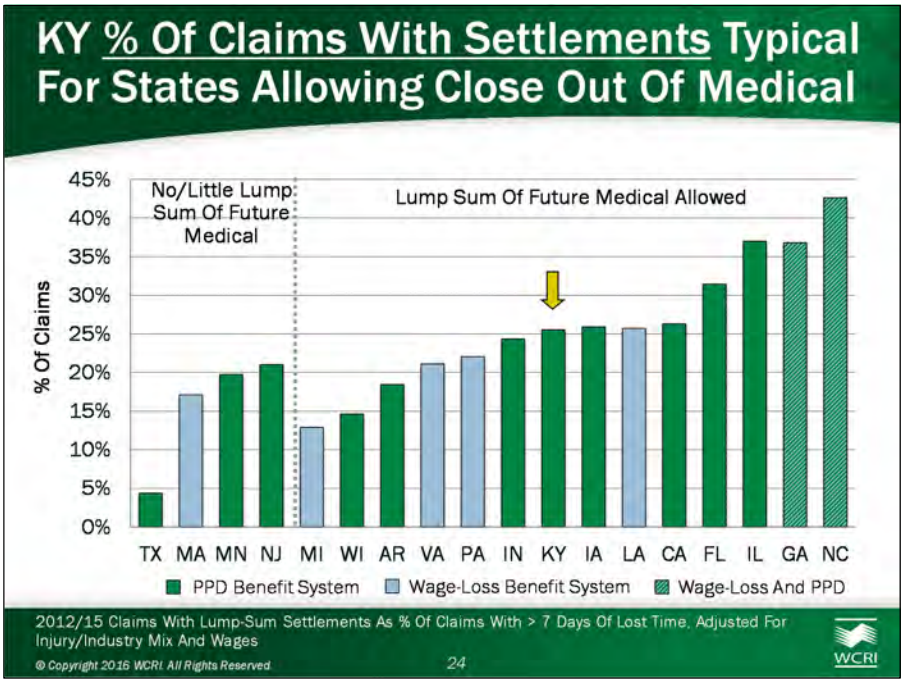


Key: **PPD:** Permanent partial disability.

This table shows the distribution of paid lump-sum settlements by total payments. When comparing Kentucky with the other PPD benefit system states, we see that Kentucky had a much larger share of lump-sum settlements that were more than $20,000. In Kentucky, 47 percent of lump-sum settlements were greater than $20,000, compared with the PPD 11-state average of 34 percent. See Table 7. The table below shows additional detail in the $20,000 to $50,000 category.

As noted, the statutory factors and the availability of double and triple multipliers applied to PPD impairment ratings in Kentucky likely increased the overall lump-sum payments in Kentucky. See KRS 342.730(1)(c)(2) for when an injured worker is eligible for enhancement to impairment rating by the double multiplier and 342.730(1)(c)(1) for the triple multiplier.

	KY	11 PPD State Avg.	5 Wage-Loss State Avg.
> $20k But ≤ $30k	15%	12%	10%
> $30k But ≤ $40k	9%	6%	9%
> $40k But ≤ $50k	5%	5%	8%



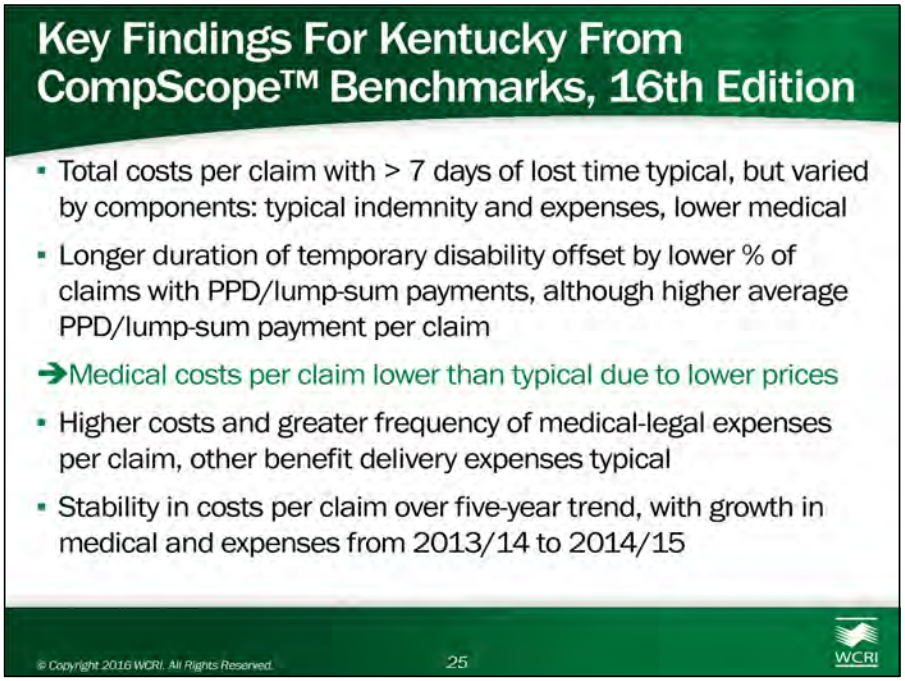
Key: **PPD:** Permanent partial disability.

This chart shows the percentage of claims with more than seven days of lost time that involved a lump-sum settlement. Included in these claims are those that may have also received PPD payments but ultimately were resolved by lump-sum payment.

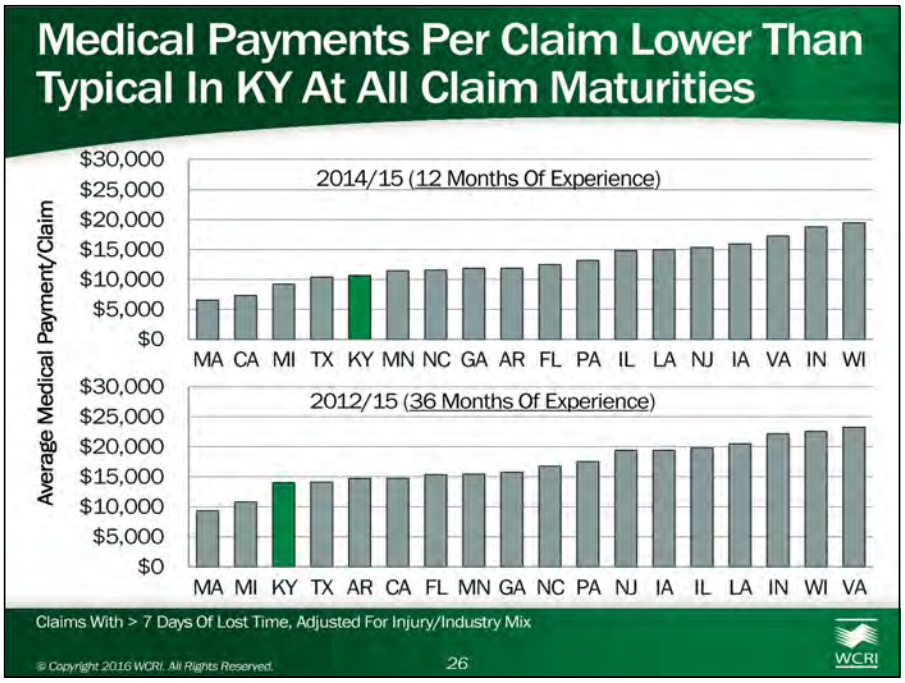
While there is no prohibition on settling out future medical payments in a lump-sum settlement in Kentucky, system participants reported that future medical is often left open in settlements. Our data do not allow for analysis on what portion of 26 percent of claims settled by lump-sum settlements included a waiver of future medical. KRS 342.265 outlines the approval process for compensation agreement and lump-sum payments.

It is important to note that in Kentucky, settlements may be reopened upon a motion showing a change in disability, either worsening or improvement, substantiated by medical evidence. Upon reopening, the administrative law judge may end, diminish, or increase compensation previously awarded. 342.125.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



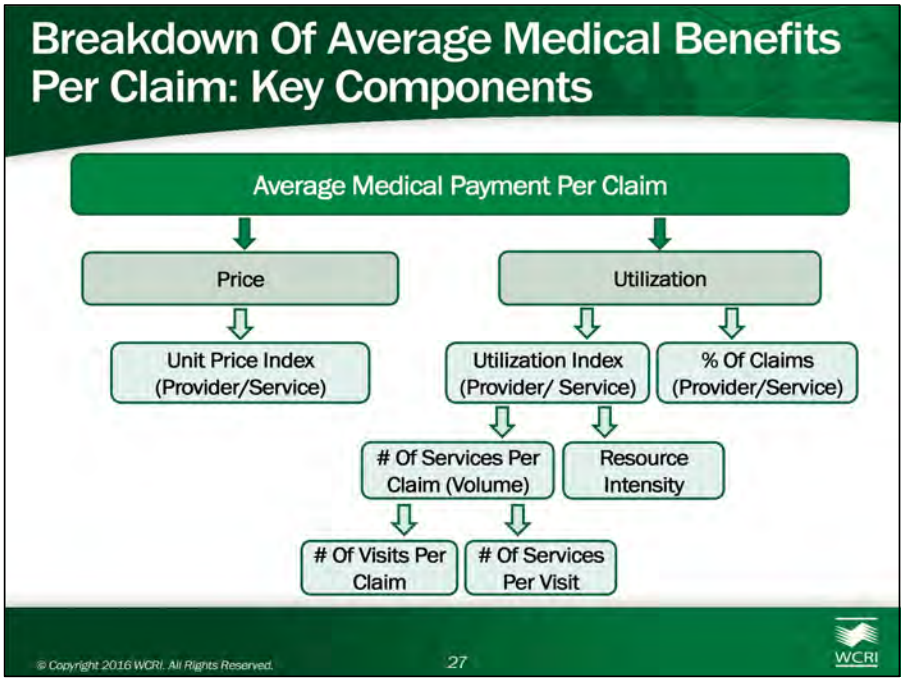
Key: **PPD:** Permanent partial disability.



Here we show the average medical payment per claim in Kentucky at different claim maturities.

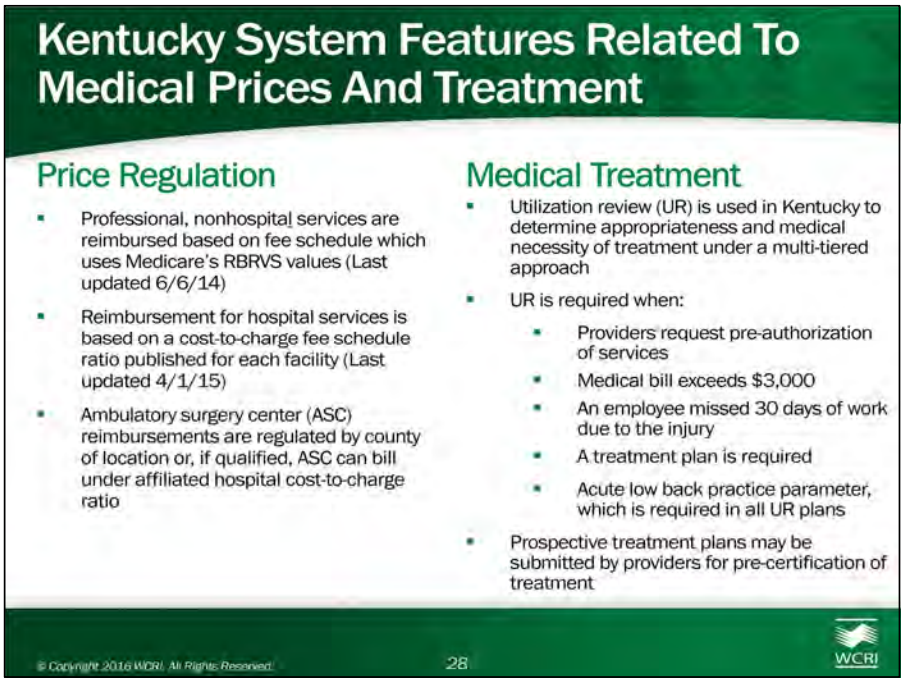
The top chart shows, for claims at an average 12 months of experience, the average medical payment per claim in Kentucky was 13 percent lower than the 18-state median, with Kentucky at $10,655 and the median at $12,208. See Figure 3.

The bottom chart shows, for claims at 36 months of experience, the average medical payment per claim in Kentucky was also lower than typical—14 percent lower than the median state. See Figure 4.



The diagram shows the analytic framework for cost and utilization comparisons. The average medical payment per claim is the sum of medical payments made for each claim that involves at least one medical service divided by the number of claims with at least one medical service. The medical payment per claim is a function of the prices paid for services multiplied by the number of services per claim. Prices are measured using a price index that holds utilization constant, rather than a simple measure of the total payments divided by the number of services. Utilization is also measured as an index and is a function of the number of services per claim as well as the resource intensity of the services provided.

See the "Data and Methods" section entitled "Analytic Framework" and the *Technical Appendix*, Section 1, "Conceptual Framework" for further details.

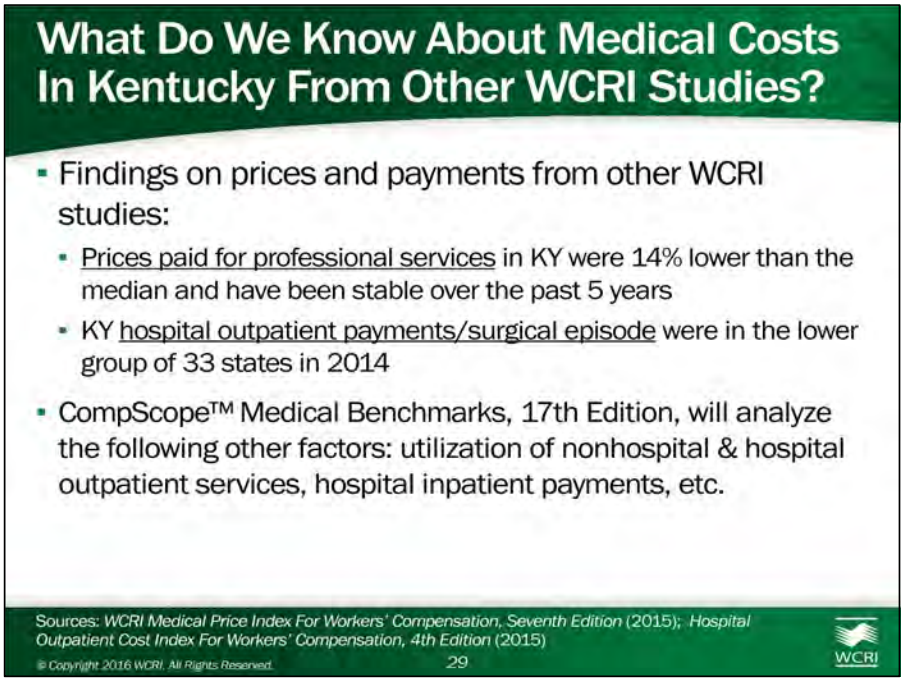


Kentucky system features drive the lower costs per claim for medical benefits by regulating both prices and utilization. Specifically, Kentucky regulates prices for both nonhospital (professional) services and hospital services. Nonhospital services are reimbursed based on Medicare's RBRVS values. Hospital prices are regulated by the cost-to-charge fee schedule that is updated annually for each facility. Utilization is regulated through utilization review (UR). UR is mandatory in certain circumstances and permissive in others, and is used for prospective treatment. For additional information on processes and procedures in Kentucky, please see the following resource published by the Kentucky Labor Cabinet, Department of Workers' Claims: http://labor.ky.gov/workersclaims/mscc/Pages/Medical-Services-and-Cost-Containment.aspx.

Key: **RBRVS:** Resource-based relative value scale.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

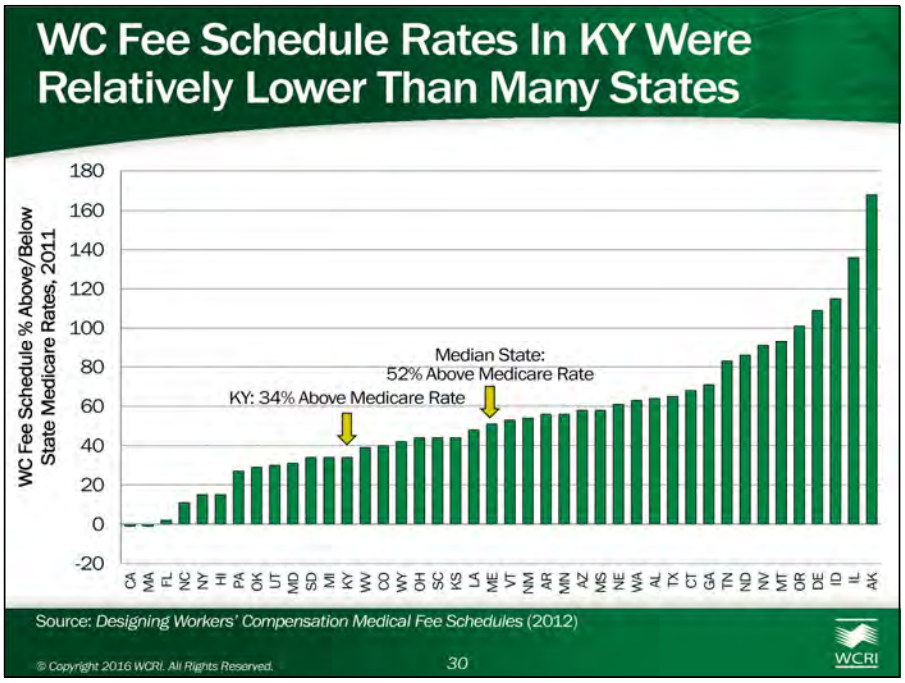


What were the factors underlying the lower medical payments per claim in Kentucky?

Other WCRI studies provide some findings on prices and payments. Looking first at nonhospital professional prices, Kentucky was 14 percent lower than the median state for those services in 2014, according to *WCRI Medical Price Index for Workers' Compensation, Seventh Edition*. Additionally, hospital outpatient payments per surgical episode in Kentucky were also in the lower group of 33 states studied in *Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition*.

The 17th edition of CompScope™ Medical Benchmarks will analyze the other factors underlying medical payments per claim, such as utilization of different types of nonhospital and hospital outpatient services, payments to hospital inpatient services, etc.

Sources:
Yang and Fomenko. 2015. *WCRI Medical Price Index for Workers' Compensation, Seventh Edition (MPI-WC)*.
Fomenko and Yang. 2014. *Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition*.

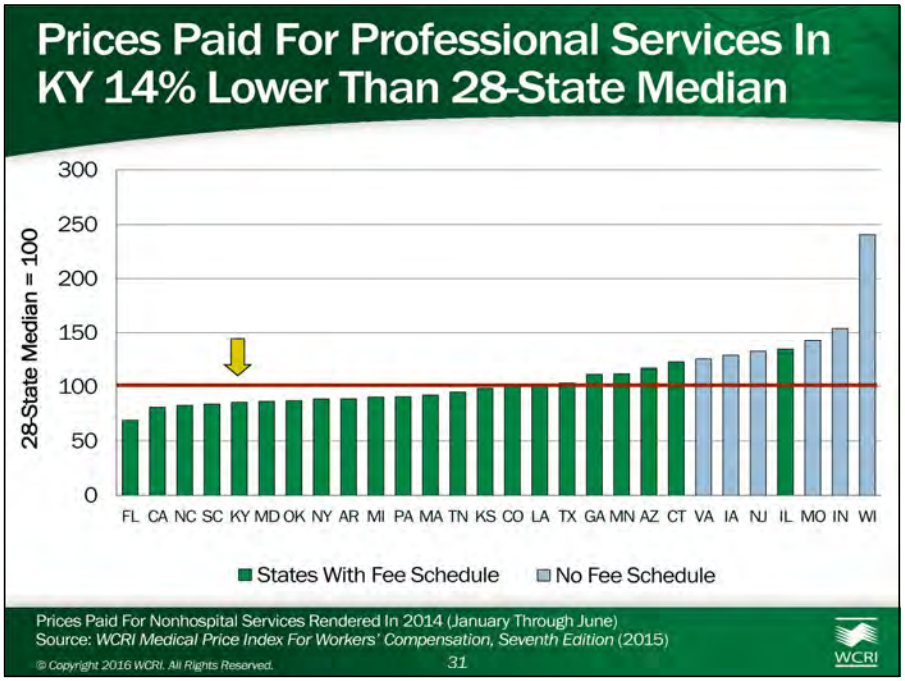


This chart shows the overall workers' compensation fee schedule rates for professional services in a state as a percentage above or below the Medicare rate in the state as of July 2011, based on results from the WCRI study *Designing Workers' Compensation Medical Fee Schedules*. Here we show the 42 states with workers' compensation fee schedules.

The workers' compensation fee schedule in Kentucky was 34 percent above the Medicare rate in the state. In the median state, the workers' compensation fee schedule rates were about 52 percent above the Medicare rates in the state.

Key: **WC:** Workers' compensation.

Source: Fomenko and Liu. 2012. *Designing Workers' Compensation Medical Fee Schedules*.



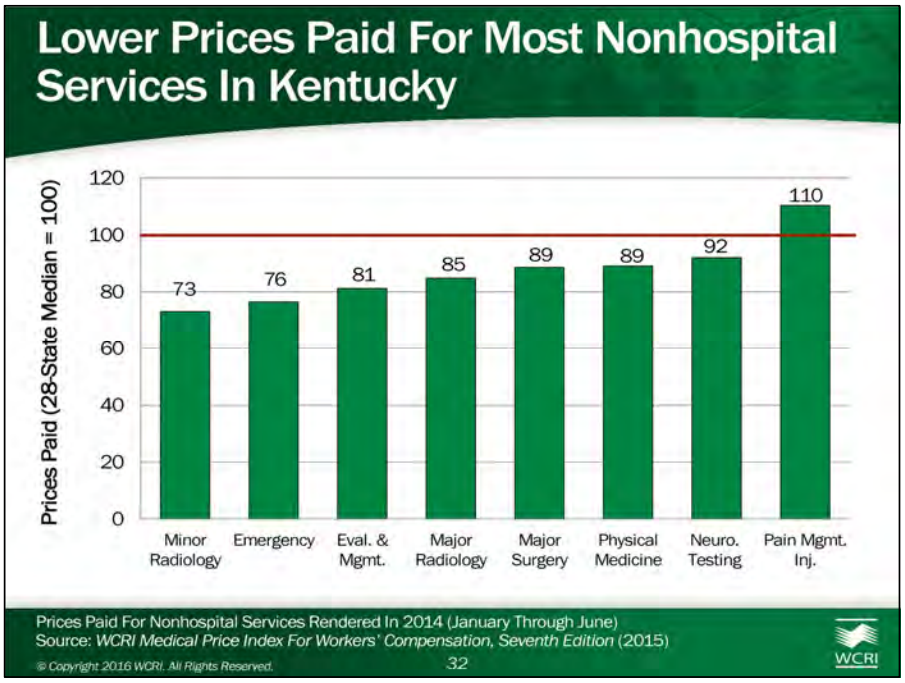
Another WCRI study, *WCRI Medical Price Index for Workers' Compensation, Seventh Edition*, compared prices paid for nonhospital services in 28 states, including Kentucky. Note that the prices paid reflect any provider discounts.

This chart illustrates how prices paid in Kentucky compared with the median of 28 states, as shown by the solid line set at 100. A bar above the line means higher prices paid than the median state and below the line means lower prices. Kentucky was 14 percent below the median state.

Among the 28 states, Indiana, Iowa, Missouri, New Jersey, Virginia, and Wisconsin do not regulate reimbursement for medical services through a fee schedule. Kentucky uses the Medicare resource-based relative value scale (RBRVS) with multiple conversion factors.

Definition: **Nonhospital providers:** Include physicians, chiropractors, physical/occupational therapists, nurses, clinical social workers, and other ancillary practitioners. Ambulatory surgery centers are included in the physician category (unless the billing is done through a hospital).

Source: Yang and Fomenko. 2015. *WCRI Medical Price Index for Workers' Compensation, Seventh Edition (MPI-WC)*.



Also from *WCRI Medical Price Index for Workers' Compensation, Seventh Edition,* this chart shows how prices paid for key nonhospital services in Kentucky compared with those in the median state, set at 100.

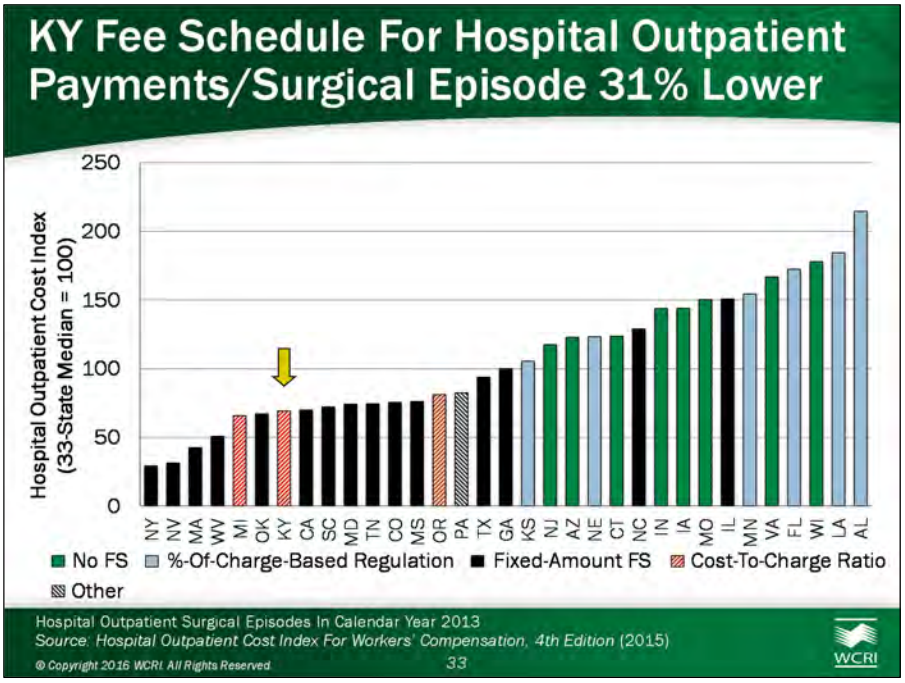
For most nonhospital services, prices paid in Kentucky were lower than those in the median of the 28 states included in this analysis for 2014. Pain management injections were the only nonhospital service that was above the median state.

Mississippi, Nebraska, and Oregon were excluded from the price comparisons by nonhospital service group for 2014 but are included in the comparisons for 2013.

Key: **Eval. & Mgmt.:** Evaluation and management (office visits). **Neuro. Testing:** Neurological/neuromuscular testing. **Pain Mgmt. Inj.:** Pain management injections.

Source: Yang and Fomenko. 2015. *WCRI Medical Price Index for Workers' Compensation, Seventh Edition (MPI-WC)*.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



Key: **FS:** Fee schedule.

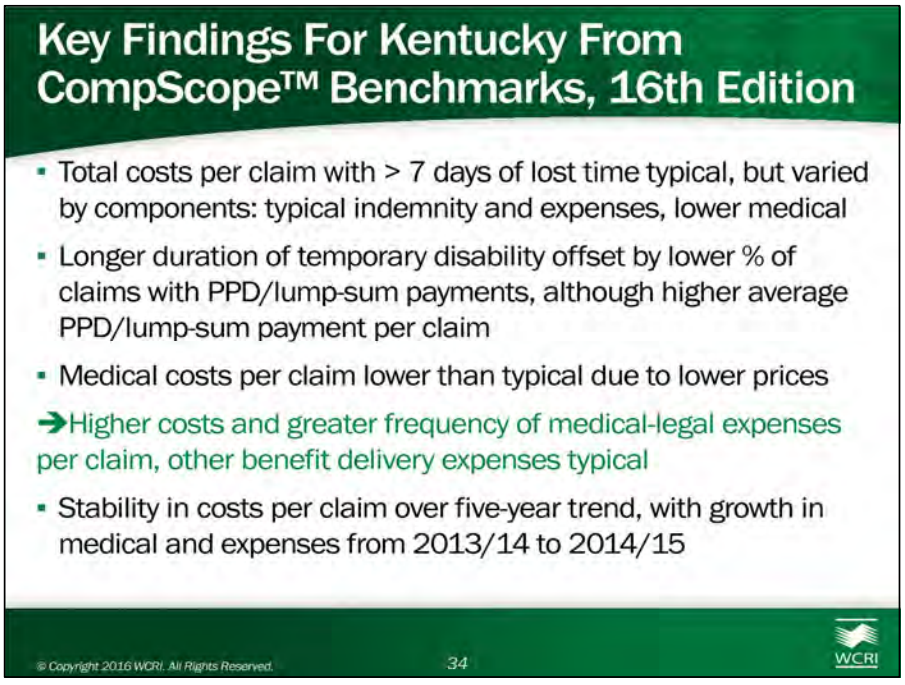
Notes: For classifications of regulations for reimbursement for hospital outpatient services across the study states, see the section "Classification of Hospital Outpatient Fee Regulations for Study States" in the source report listed below. CT, FL, GA, IN, NC: These states had substantial changes in hospital outpatient fee regulations in 2014 and 2015 that are not reflected in the results.

Source: Fomenko and Yang. 2015. *Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition*.

A recent WCRI study, *Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition*, compared hospital outpatient costs for similar types of knee and shoulder surgical episodes in 33 states. The study found that states with no fee schedule or a percent-of-charge-based fee schedule had higher costs compared with most states with a fixed-amount (per-procedure-based) or cost-to-charge fee schedule. Costs were for facility fees and other surgery-related costs, not including surgeon fees.

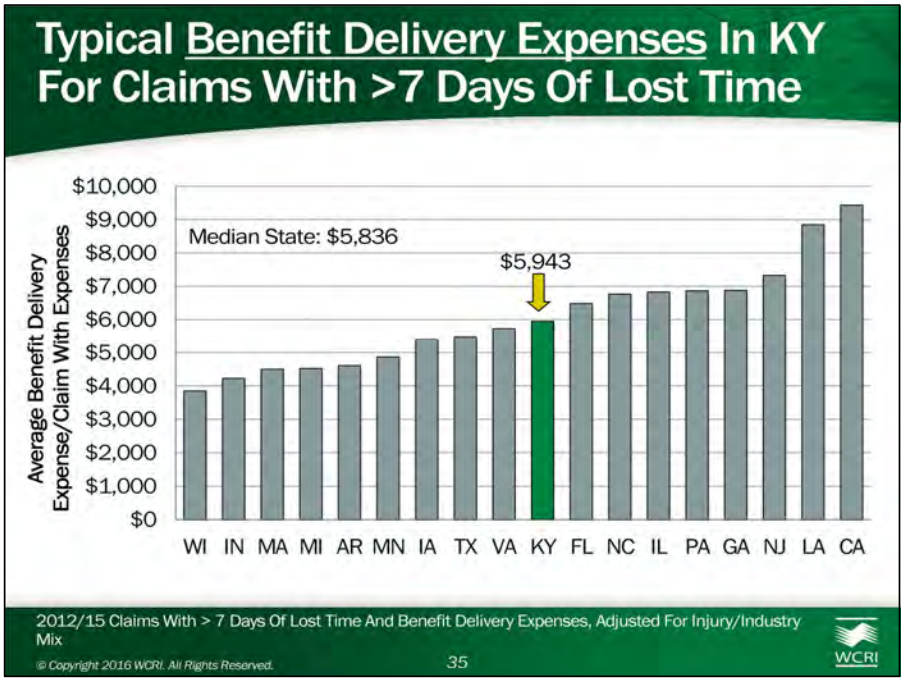
AZ, CO, KY, MO, NY, OK, OR, WV: The data in each of these states are missing data from a larger data source that is significant in the state. The results in CO, NY, OK, and WV are unlikely to be significantly under- or overestimated, given that these states used fixed-amount fee schedules for hospital outpatient reimbursement, and it is unlikely that the payments for the missing data source in each state were materially different from other data sources included in this study from the same state. For AZ, KY, MO, and OR, to the extent that payments may differ for the missing data source compared with other data sources in the state, this may lead to possible under- or overestimations in the results.

Kentucky, with a cost-to-charge ratio for hospital prices, was 31 percent lower than the 33-state median on prices paid per surgical episode.



Key: **PPD:** Permanent partial disability.

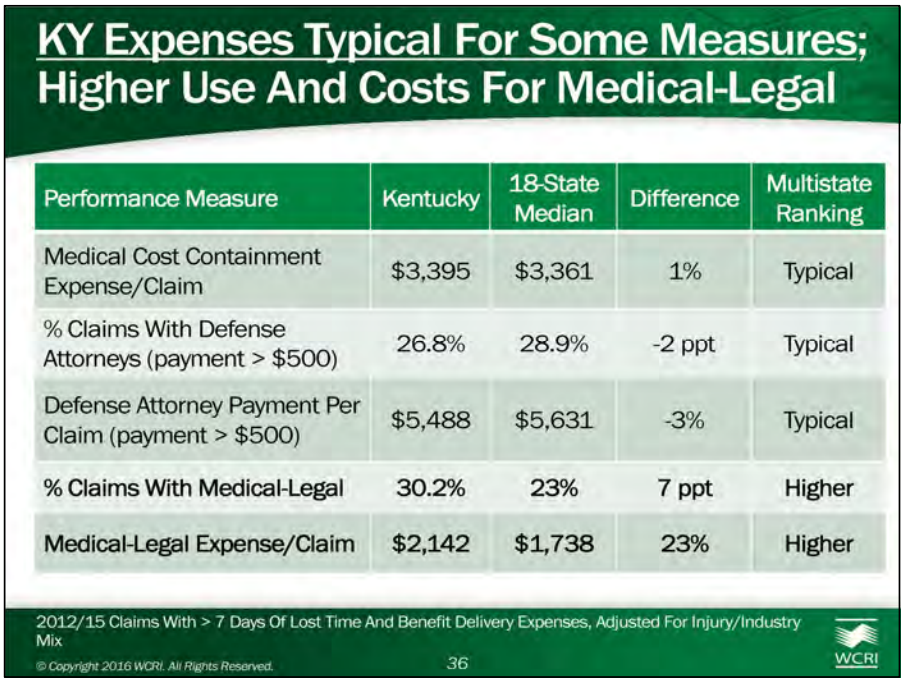
Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



This chart compares benefit delivery expenses per claim across the states for 2012 claims with more than seven days of lost time at 36 months of experience. Kentucky was 2 percent higher than the 18-state median.

Benefit delivery expenses are the costs of delivering medical and indemnity benefits to injured workers. Included are expenses that are allocated to claims for managing medical costs and for litigation-related expenses, such as defense attorney payments and medical-legal services.

While Kentucky was typical of the 18-state median for all benefit delivery expenses, on the next slide we see some variability within individual components.



Key: **ppt:** Percentage points.

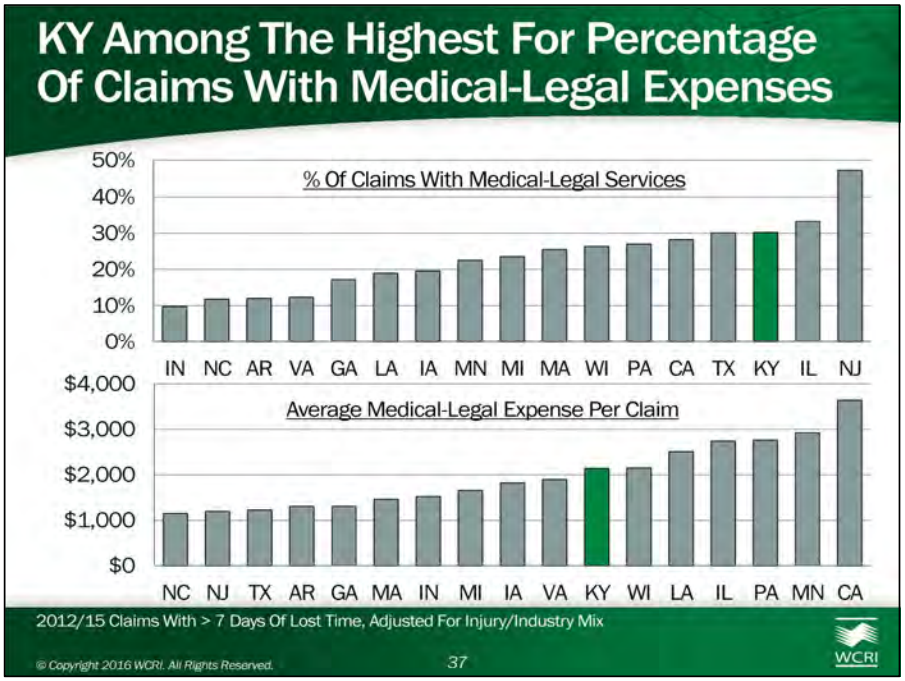
This chart shows how Kentucky compares with the median study state for the main components of benefit delivery expenses per claim.

Included in medical cost containment expenses are fees for bill review, case management, preferred provider (PPO) networks, and utilization review. For this measure, Kentucky was typical of the other study states.

Kentucky was also typical for defense attorney metrics. Defense attorney payments include payments for either or both in-house and outside defense counsel. A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See Table 8 for a comparison of nominal and significant defense attorney involvement.

Medical-legal expenses per claim were 23 percent higher than typical in Kentucky, and medical-legal services were used more frequently. Medical-legal expenses include payments for medical-legal evaluations and reports, independent medical examinations (IMEs), depositions, medical expert fees, and medical testimony.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



Key: **PPD:** Permanent partial disability.

Note: Florida was excluded from these measures because we were unable to validate that underlying data in our sample were necessarily representative of the state's experience. As a result, the comparisons are made with the 17-state median.

This slide shows both the frequency of medical-legal expenses as well as the medical-legal expenses per claim.

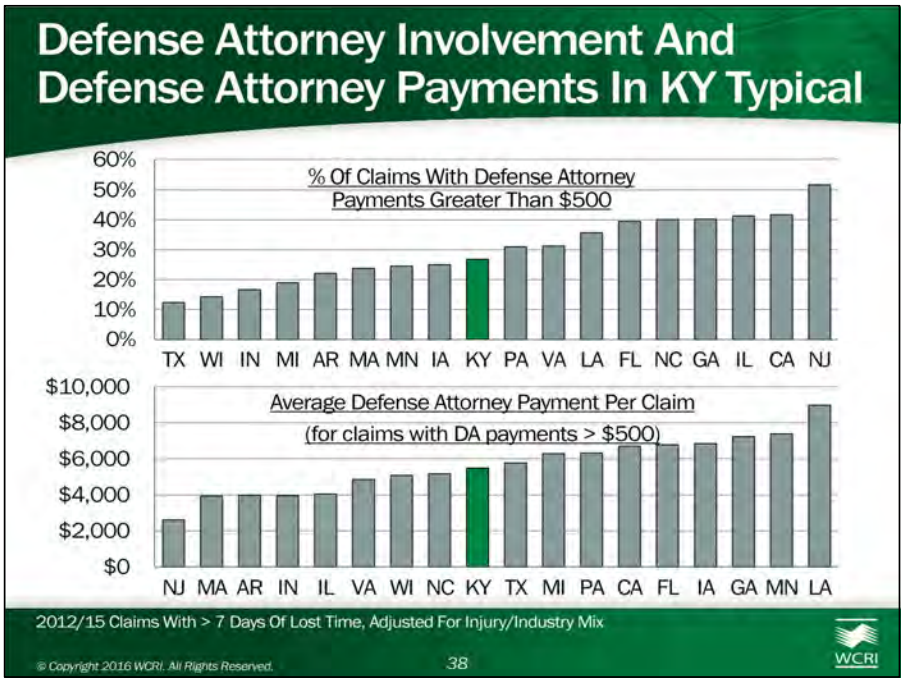
The top chart shows that Kentucky was one of the highest of the study states for usage of medical-legal expenses.

The bottom chart shows the costs associated with the claims with medical-legal expenses in Kentucky. Costs in Kentucky were also higher than the median of the 17 study states.

Medical-legal expenses include payments for medical-legal evaluations and reports, independent medical examinations (IMEs), depositions, medical expert fees, and medical testimony.

System participants note that often medical-legal exams are conducted in Kentucky to render an impairment rating. Additionally, given the ability to enhance the impairment rating with factors, many times one or both parties will request an exam or report, which would be considered a medical-legal expense.

Additionally, it is not uncommon in Kentucky to have an injured worker seek additional treatment, post PPD award. If the treatment sought is contested by the payor, a medical fee dispute will be filed. The medical fee dispute process is governed by 803 KAR 25.012, which requires expert testimony by a medical examiner, which leads to further increases in incurred medical-legal expenses.



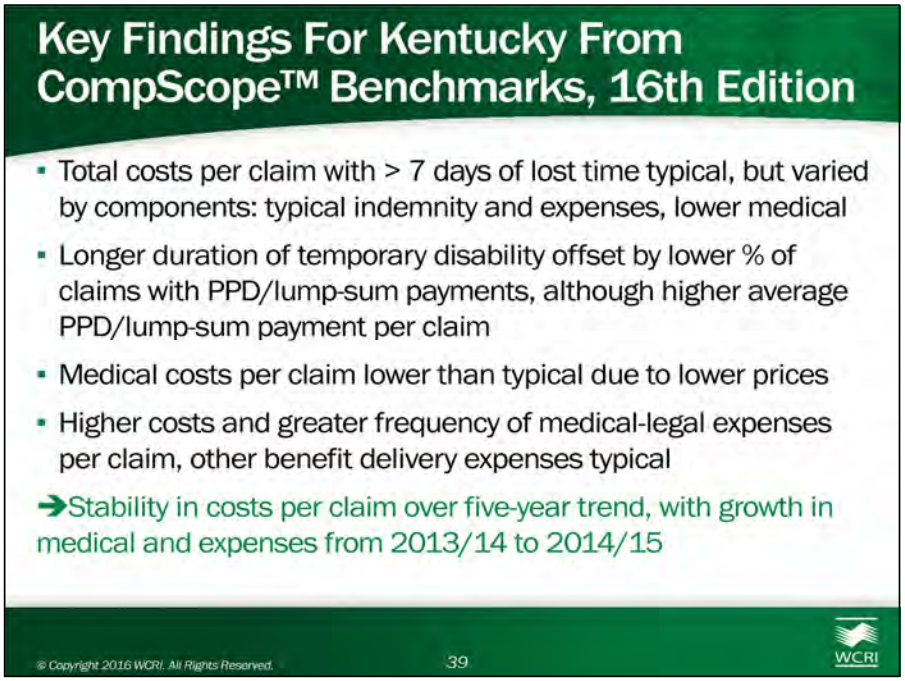
Key: **DA:** Defense attorney.

The double bar chart here shows both the frequency of claims with defense attorney costs greater than $500 as well as the payments associated with those claims.

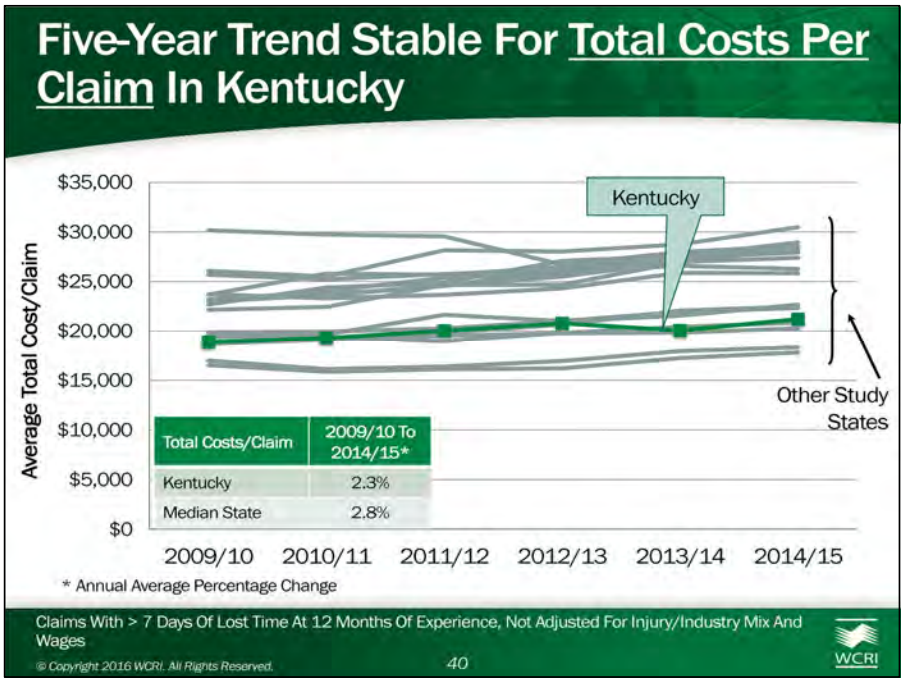
In Kentucky, over a quarter (26.8 percent) of 2012 claims with more than seven days of lost time at 36 months of experience had defense attorney payments greater than $500. Payments for defense attorneys in Kentucky averaged $5,488, which is about 3 percent lower than the median. For both measures, Kentucky was typical of the study states.

Kentucky limits attorney fee payments to a percentage of the award received by the injured worker. In no case, however, can the attorney fee exceed $12,000. KRS 342.320 (2).

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



Key: **PPD:** Permanent partial disability.



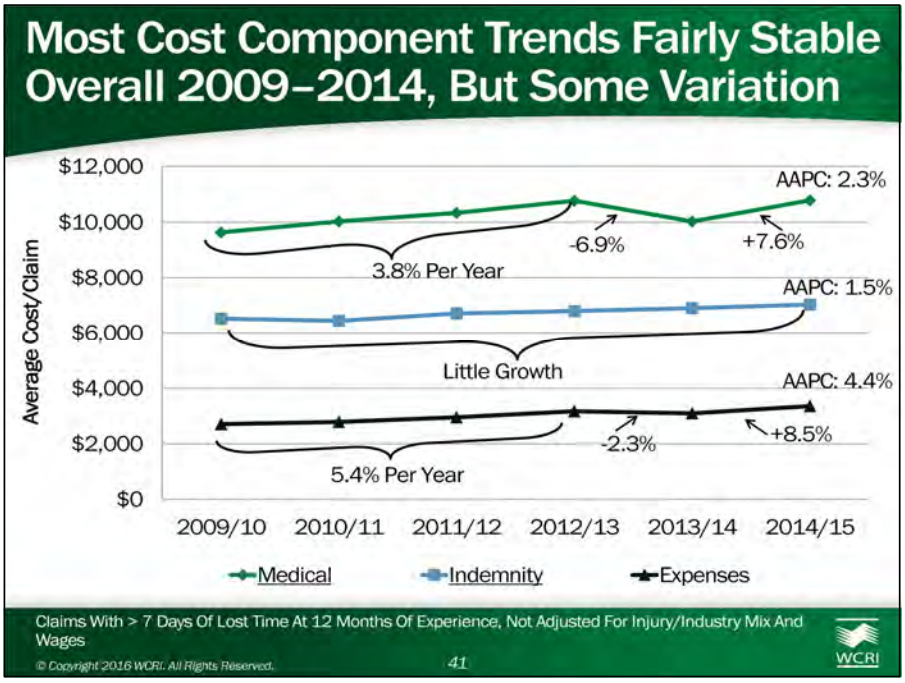
This chart shows the longer-term view of the trend in total costs per claim with more than seven days of lost time at an average 12 months of experience in the study states. Total costs per claim include indemnity, medical, and benefits delivery expense payments. Kentucky is highlighted.

Costs per claim were stable in Kentucky from 2009/10 to 2014/15, increasing, on average, just 2.3 percent per year. This growth was slightly slower than the median state, which grew 2.8 percent over the same period.

Note that the trend data shown here are not adjusted for injury and industry mix and wages. This is showing actual state trends for Kentucky based on outcomes within the claims observed.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



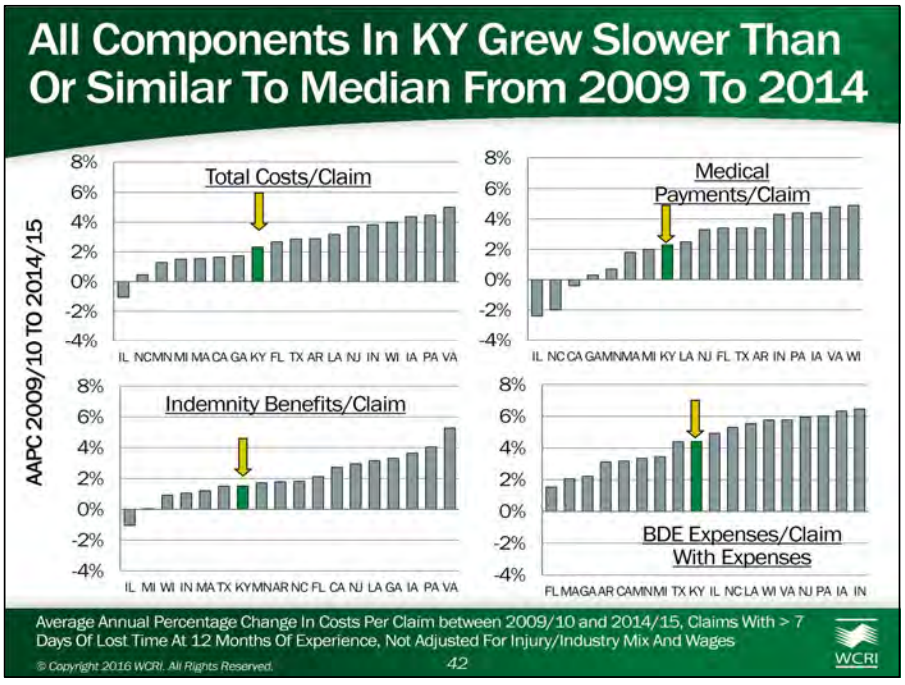
Key: **AAPC:** Annual average percentage change.

This figure provides additional details on trends in the main components of costs from year to year between 2009/10 and 2014/15. Each line represents one of the components (medical, indemnity, and expenses); each line marker shows the average cost per claim for the specified year; and each of the numbers shows the percentage change in cost from year to year.

Medical and indemnity costs per claim remained relatively stable, with annual growth of 2.3 percent and 1.5 percent, respectively, from 2009/10 to 2014/15.

From 2013/14 to 2014/15, indemnity costs per claim remained stable, while medical costs per claim grew 7.6 percent. Earlier fluctuations (both increases and decreases) of this magnitude were observed within medical payments. The CompScope™ Medical Benchmarks for Kentucky report will analyze the trends in prices paid and utilization of services among nonhospital and hospital providers.

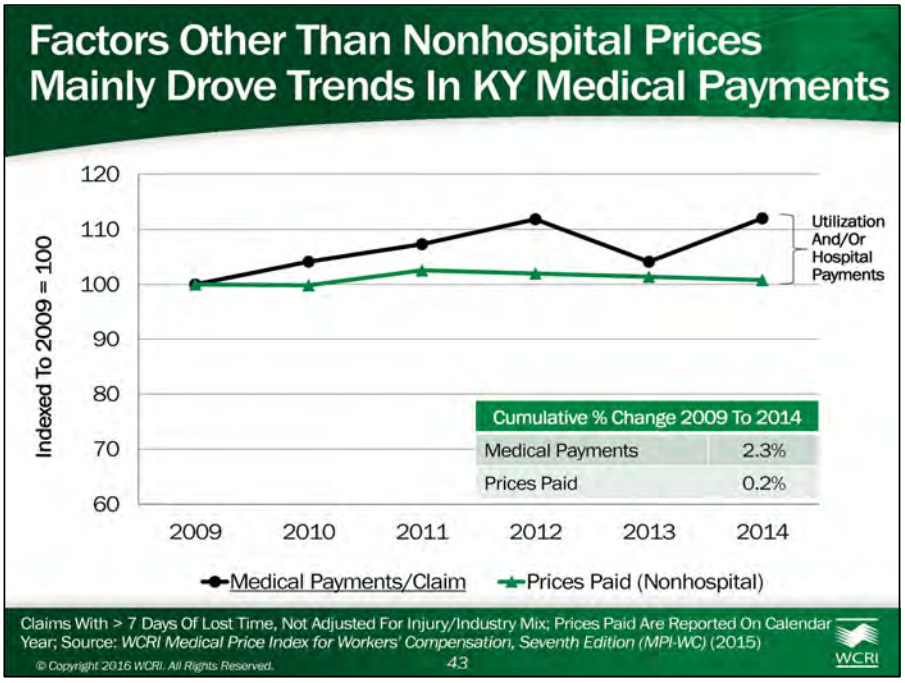
Benefit delivery expenses have shown mostly consistent growth over the study period, increasing 4.4 percent per year from 2009/10 to 2014/15. Additionally, from 2013/14 to 2014/15, we observed more rapid growth of 8.5 percent.



Key: **AAPC:** Annual average percentage change. **BDE:** Benefit delivery expenses, include expenses for managing medical costs and litigation-related expenses that are allocated to individual claims.

This chart shows the annual average percentage change from 2009/10 to 2014/15 in total costs per claim and its main cost components for the 18 study states.

We found that growth in Kentucky payments per claim for indemnity benefits was slower than in the median state; however, both benefit delivery expenses and medical benefits grew similarly to other study states.



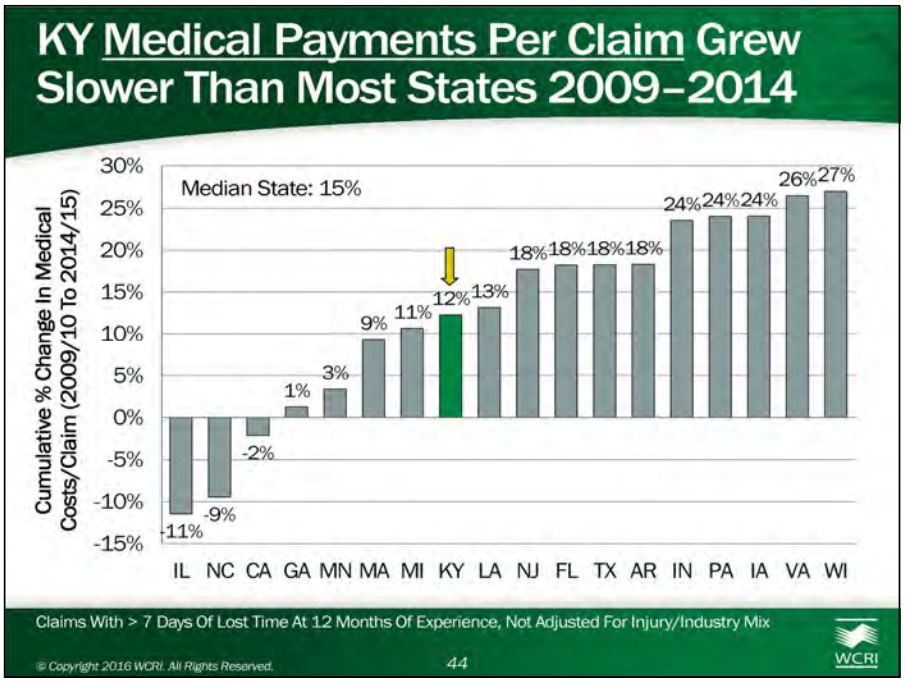
This chart shows the prices paid for nonhospital medical prices and total medical payments per claim from 2009 to 2014, indexed to 2009.

One component of medical payments, prices paid for professional services, was stable from 2009 to 2014 in Kentucky.

The next edition of CompScope™ Medical Benchmarks for Kentucky will analyze the trends in prices paid and utilization of services among nonhospital and hospital providers (inpatient and outpatient).

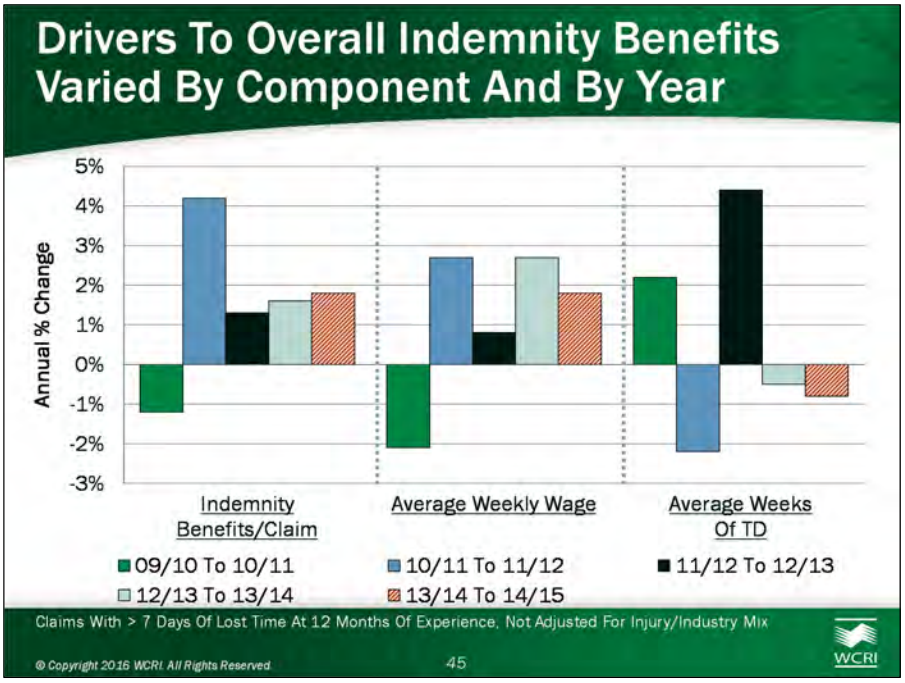
Definitions: **Nonhospital providers:** Providers of nonhospital services include physicians, chiropractors, physical/occupational therapists, nurses, clinical social workers, and other ancillary practitioners. **Prices:** Measures the unit prices paid holding utilization constant. It is based on a marketbasket of common medical procedures used in workers' compensation cases, using detailed Current Procedural Terminology (CPT) billing codes. Prices paid may reflect network discounts and/or other price negotiations between the payors and medical providers. Price information is reported on a calendar-year basis, as opposed to an injury/evaluation year basis as used for the medical payments per claim in this study. 2014 reflects data from January to June.

Source: Yang and Fomenko. 2015. *WCRI Medical Price Index for Workers' Compensation, Seventh Edition (MPI-WC).*



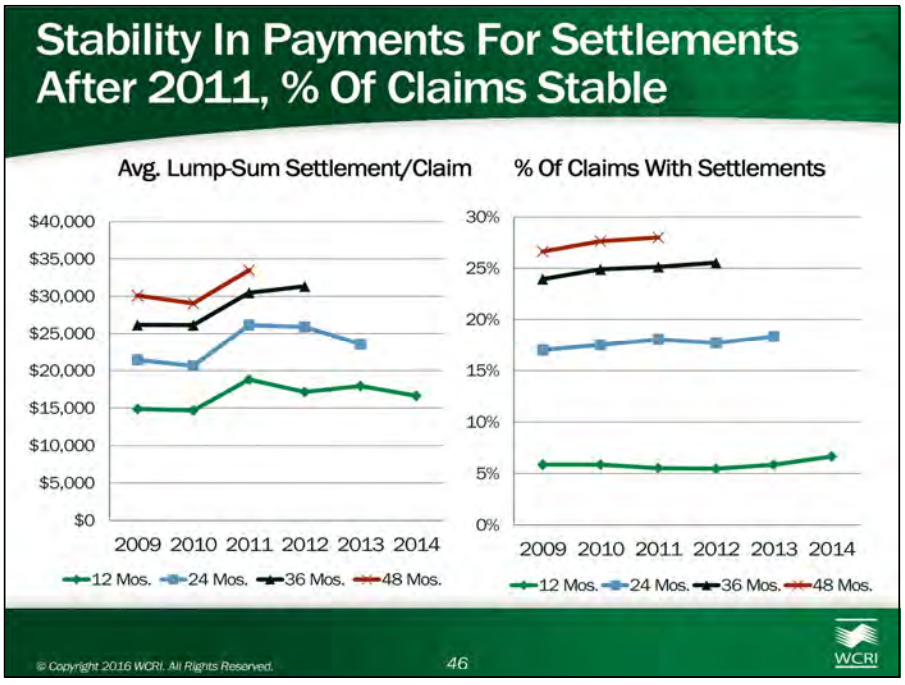
This chart shows the cumulative percentage change in medical payments per claim in each study state from 2009/10 to 2014/15. The 12 percent growth in Kentucky was slower than in most study states, with the median state at 15 percent over the period.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



This chart shows the annual change in indemnity costs per claim and the key components—the average weekly wage of injured workers and weeks of temporary disability. From 2009/10 to 2014/15, indemnity was stable, with overall growth of 1.5 percent per year. However, within individual years we observed variation as to the drivers and contribution of each component. Like other components, permanent partial disability/lump-sum payments varied by year, with a large increase observed from 2010/11 to 2011/12 of 32.4 percent, but this had little impact on the overall contribution to indemnity benefits per claim.

Key: **TD:** Temporary disability.



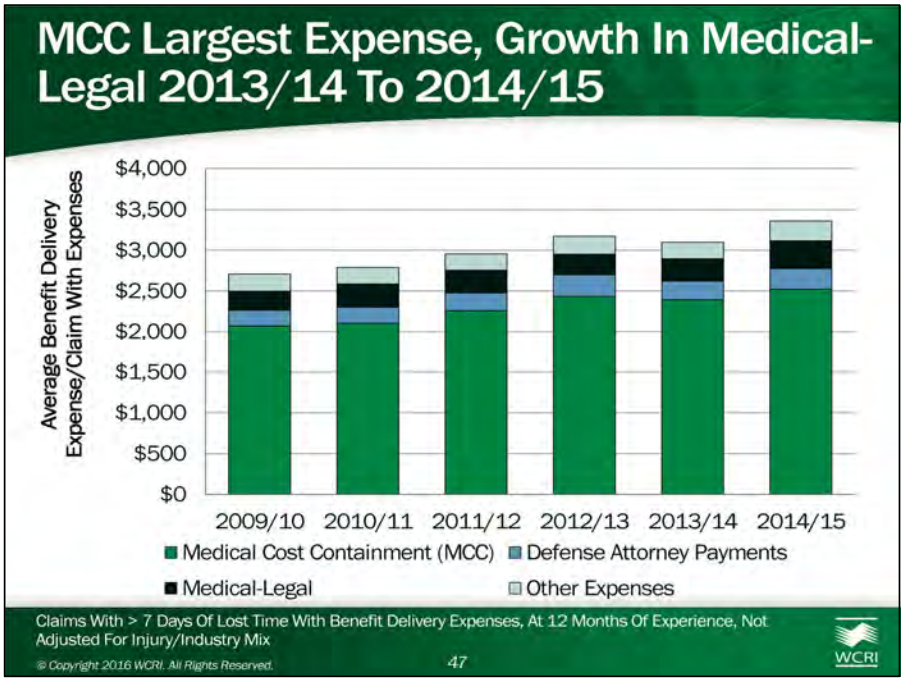
Here we show both the percentage of claims with lump-sum settlements at four different claim maturities as well as the average payments for those settlements.

In Kentucky, 6 percent of workers received a settlement at 12 months compared with over 25 percent at 48 months. The average settlement amount was about $31,000 at 48 months, compared with $17,000 at 12 months.

Within the individual claim maturities, the number of claims with settlements were stable from year to year.

Key: **Mos.:** Months.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



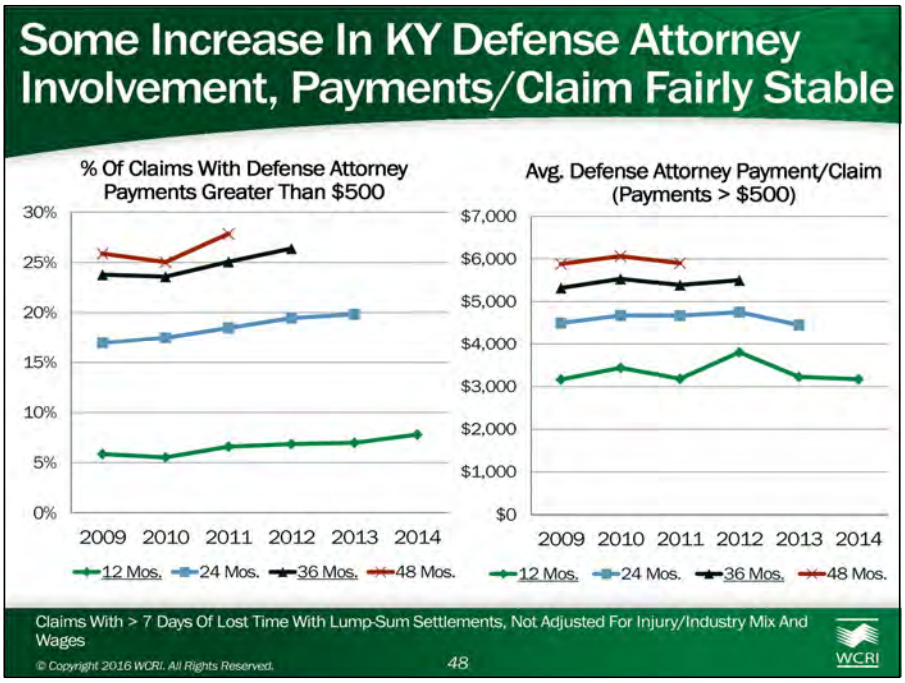
Key: **MCC:** Medical cost containment.

This chart shows the growth in Kentucky benefit delivery expenses per claim and the components for claims at 12 months of experience. Medical cost containment expenses were the largest component and remained fairly stable between 2009/10 and 2014/15. Medical-legal grew one point in the most recent year, from 9 percent to 10 percent of overall benefit delivery expenses.

Payments to defense attorneys also contribute to benefit delivery expenses. These costs remained fairly stable over the study period. Kentucky regulates the payment of attorney fees by capping payments at $12,000 per claim. KRS 342.320(2).

The regulation of attorney fees may explain this stabilization in costs per claim over the study period.

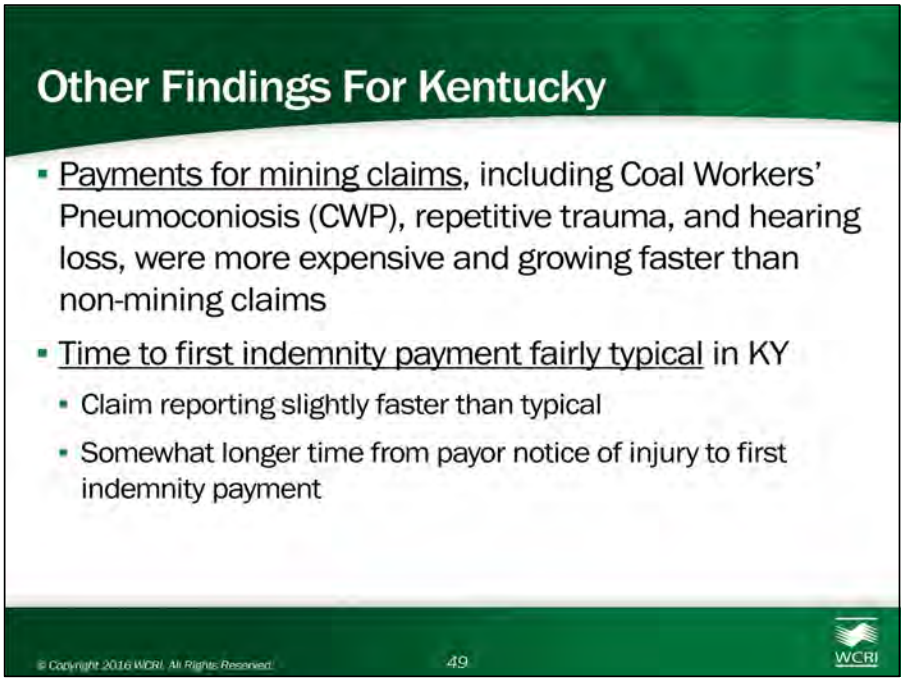
Other expenses include items such as the costs of copying reports, transcription fees, filing fees, payments to interpreters, and surveillance costs.

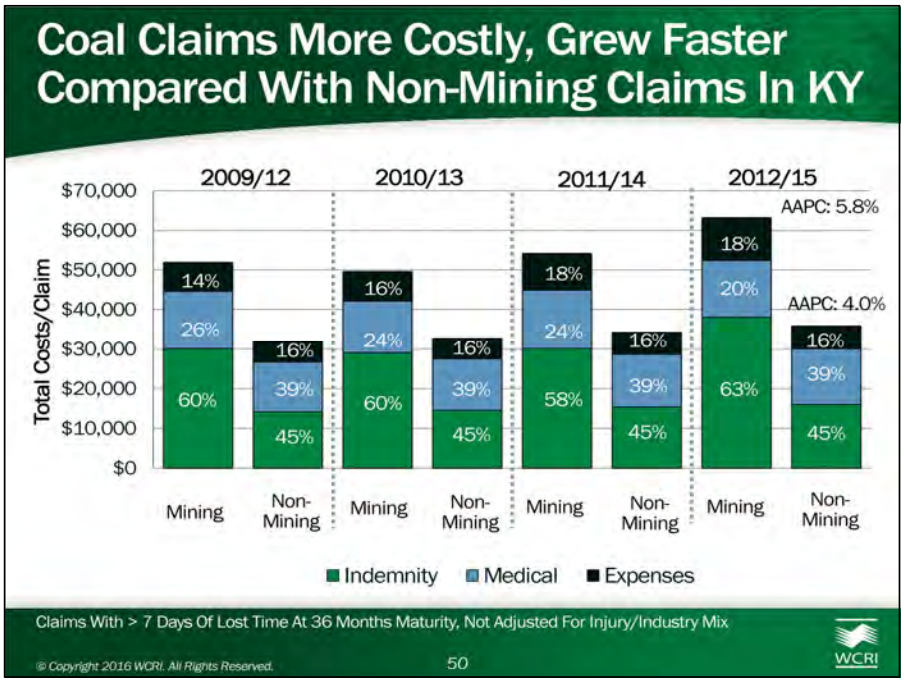


Throughout the study period, the percentage of claims with defense attorney payments greater than $500 increased slightly at all claim maturities. Defense attorney payments per claim greater than $500 remained fairly stable from 2009 to 2014. This stability was observed within all maturities.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



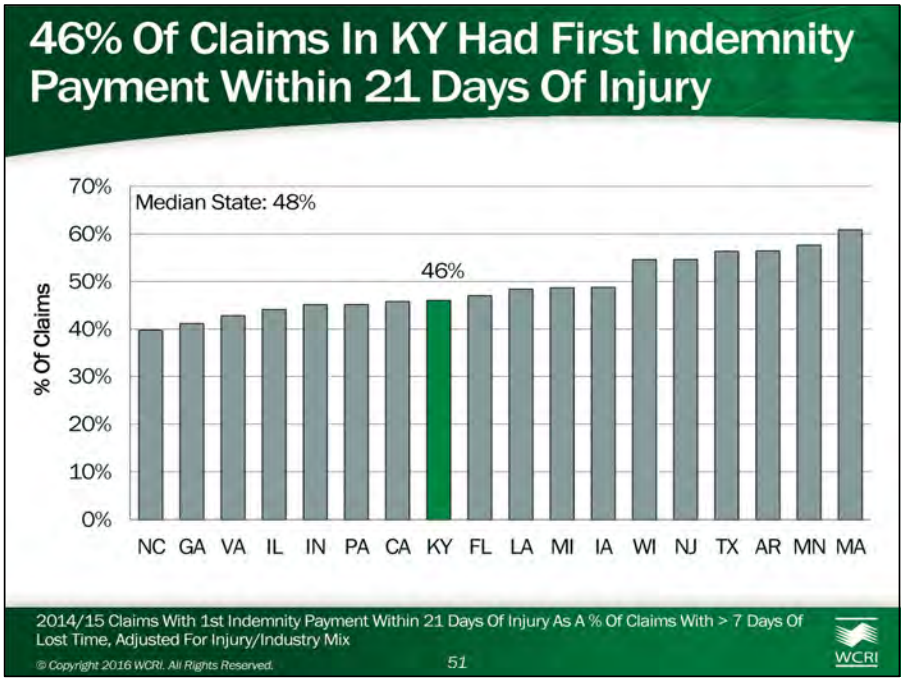


Key: **AAPC:** Annual average percentage change.

Here we show the trend in total costs per claim for mining claims and non-mining claims at 36 months of maturity. We also show the relative contribution of each of the cost components of indemnity, medical, and benefit delivery expenses. We observed that some miners brought claims for three distinct injuries: Coal Workers' Pneumoconiosis (CWP), repetitive trauma, and hearing loss. We categorized all three as mining claims for our analysis. The procedures for adjusting coal workers' pneumoconiosis claims can be found at 803 KAR 25.009.

From 2009/12 to 2012/15, the annual average percentage growth in costs for coal mining claims was 5.8 percent, faster than the 4.0 percent yearly growth for non-mining claims. Benefit delivery expenses for mining claims increased over the four years observed. Specifically, in 2009/12, expenses accounted for 14 percent of total costs per claim. Within the most recent evaluation of 2012/15, expenses contributed about 18 percent of total costs per claim.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View



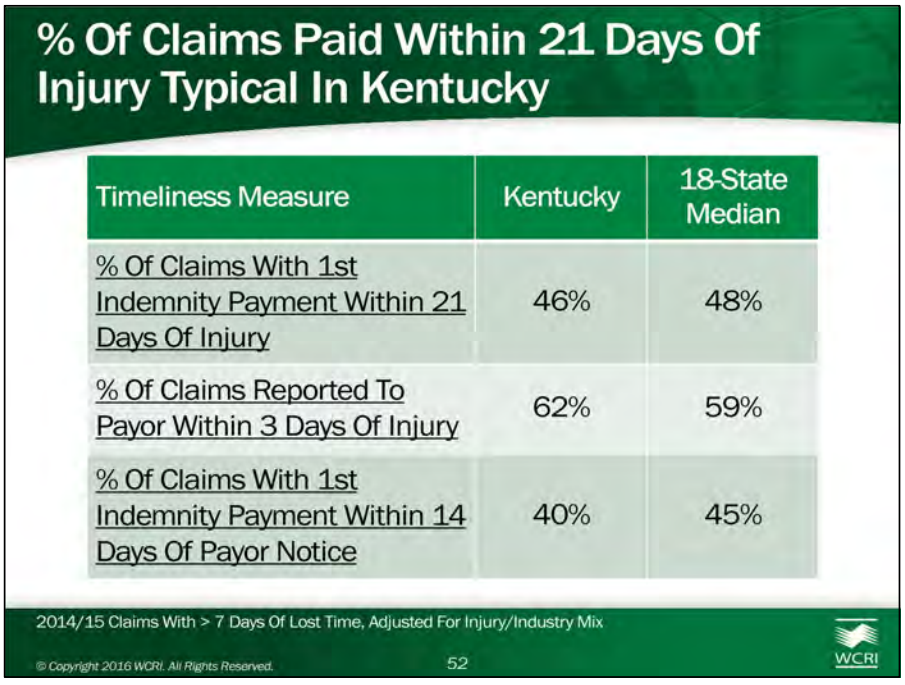
Note: The data here include claims that were denied and/or litigated but paid within the evaluation cutoff. Also included are claims in which the workers were not continuously disabled from the date of injury, so the obligation to pay did not arise until later in the claim. WCRI results will likely differ from numbers reported by the workers' compensation agency because of different definitions.

This slide shows the percentage of workers who received the first indemnity payment within 21 days of injury. At 46 percent, the rate of first indemnity payment within 21 days of injury was similar to the typical study state.

This measure of time to first indemnity payment (percentage of claims paid within 21 days of injury) does not purport to show compliance with individual state requirements for timely payment.

The data underlying the measure of time to first indemnity payment include claims that were denied and/or litigated but paid within the evaluation period. Also included are claims in which the workers were not continuously disabled from the date of injury, so the obligation to pay did not arise until later in the claim.

Therefore, the WCRI results differ from numbers reported by state workers' compensation agencies, in large part because of different definitions.



Note: The data here include claims that were denied and/or litigated but paid within the evaluation cutoff. Also included are claims in which the workers were not continuously disabled from the date of injury, so the obligation to pay did not arise until later in the claim. WCRI results will likely differ from numbers reported by the workers' compensation agency because of different definitions.

Two underlying processes contribute to the time to first indemnity payment—the injury reporting time and the time to first payment once the payor was notified of the injury.

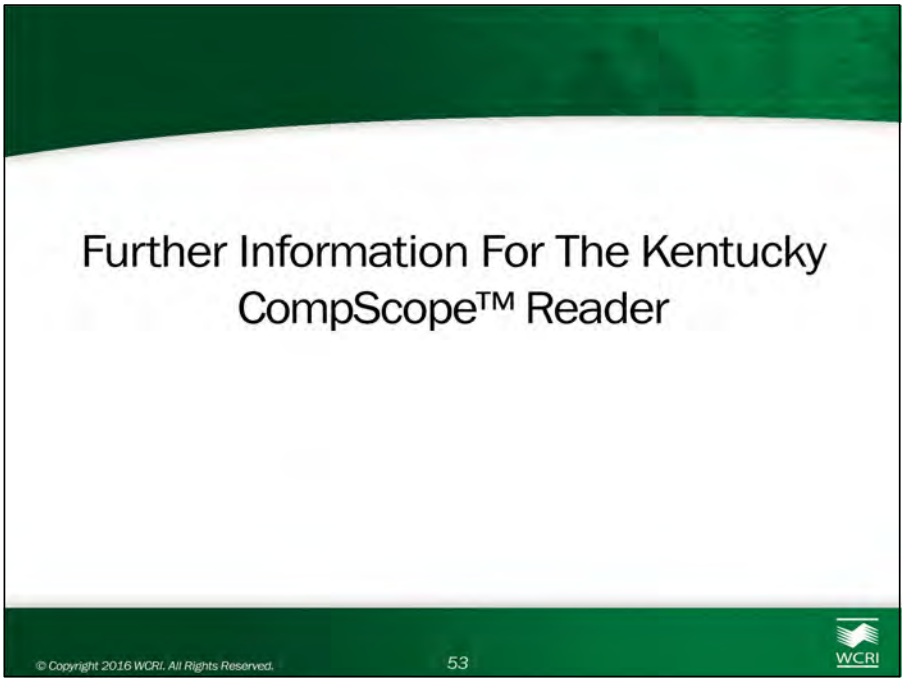
Injury reporting in Kentucky was slightly faster than the median state. The percentage of claims reported to the claim payor within three days of injury was 62 percent in Kentucky, 3 points above the median.

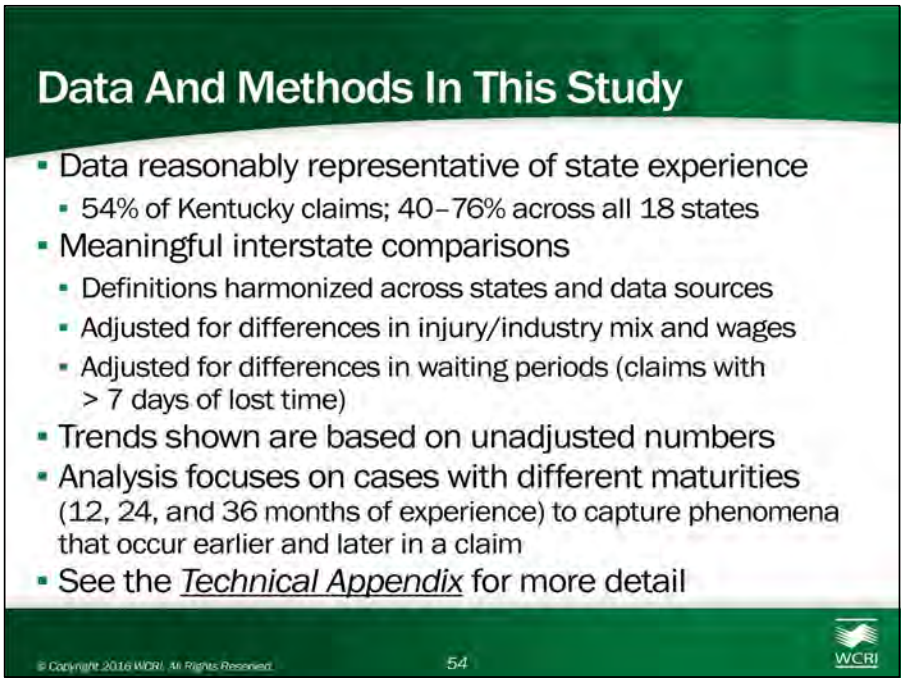
The time to first indemnity payment once the payor was notified of the injury was longer in Kentucky—40 percent of claims were paid within 14 days of payor notice of injury, compared with 45 percent in the median state.

Compensation becomes due in Kentucky no later than the 15th day after the employer has knowledge of the disability. See KRS 342.040.

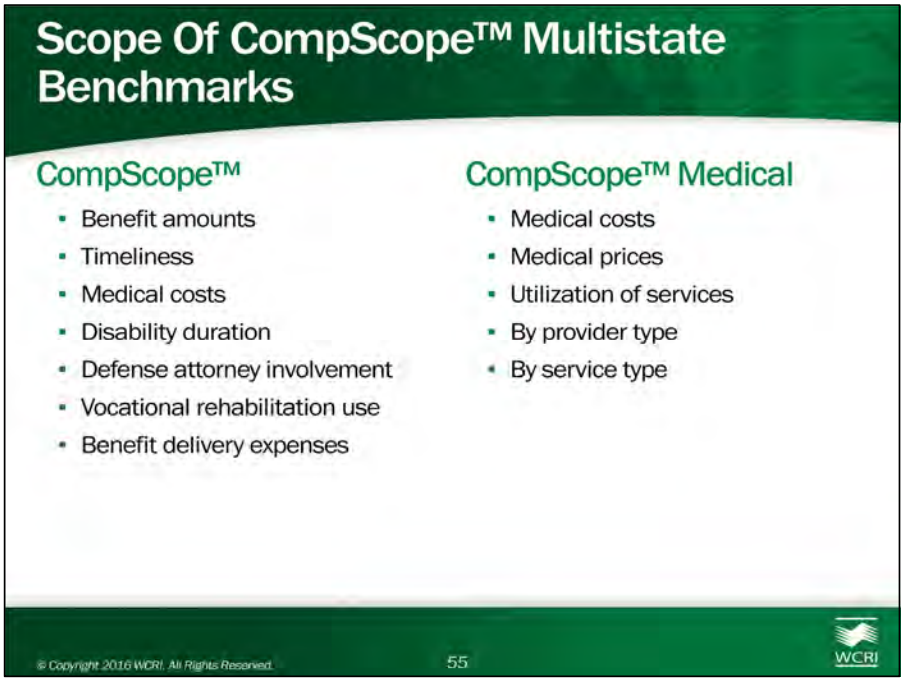
System stakeholders advised that when investigation is required, a 30-day time frame is typically used by payors to make a compensability determination. In Kentucky, 57 percent of injured workers received the first indemnity payment within 30 days of injury, close to the 18-state median at 58 percent.

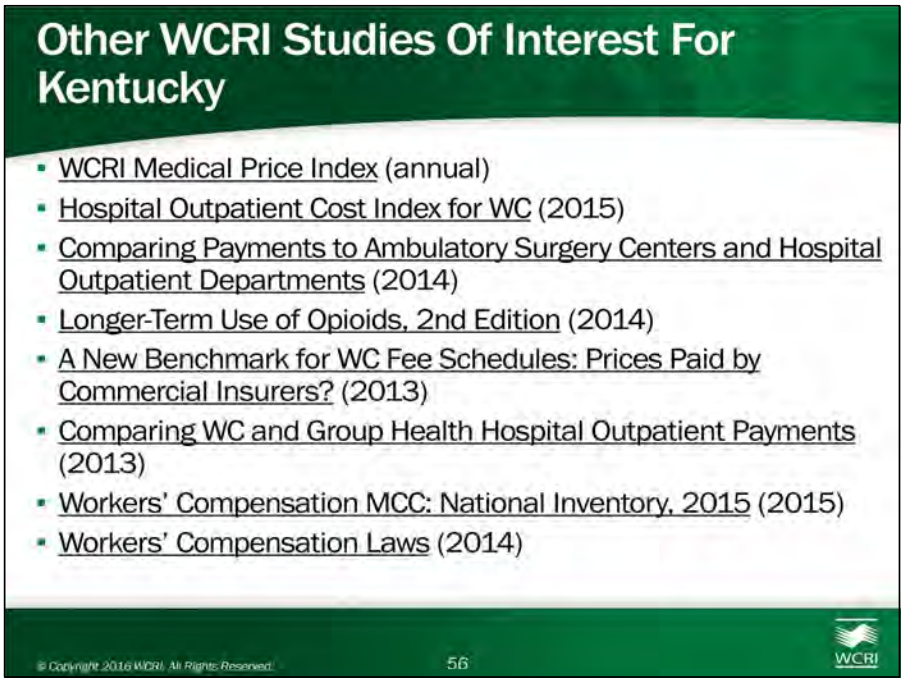
Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View





Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View





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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

DATA AND METHODS

This section contains a short summary of data and methods used in this report. More detail can be found in the *Technical Appendix*. This analysis uses data from 25 data sources, including national and regional insurers, claims administration organizations, state funds, and self-insured employers. The data are collected in the Detailed Benchmark/Evaluation (DBE) database, which includes about 7.6 million claims that are reasonably representative of the entire system in each of the 18 states, including all market segments: self-insurance, residual market, voluntary insurance, and state funds.[1] These data include 54 percent of Kentucky claims in 2014/2015 (40 to 76 percent of the claims from each state).

We used a variety of techniques to increase the comparability of the measures from state to state, including (1) standardizing definitions of variables that state regulators might have defined differently from state to state, (2) standardizing the reporting on cases with more than seven days of lost time to control for differences in state waiting periods for income benefits, and (3) adjusting for interstate differences in injury and industry mix and in wage levels of injured workers. Interstate differences in the performance measures, therefore, should largely reflect variations in system features and/or in the practices and behavior of system participants.

DATA VALIDATION

To assess if our sample of claims was substantially representative of the state as a whole, we compared a number of measures from our sample data with published data from external sources, including state workers' compensation agencies, rating bureaus, and other sources. More specifically, we performed two types of validations: (1) we compared the incurred cost measures for the indemnity claims with the cost measures reported by the rating bureaus in each state, and (2) we examined data on injury and industry composition and worker age, gender, and marital status within each state. Those comparisons led us to conclude that the data we use for the CompScope™ analysis were substantially representative of each state as a whole. Thus, the results of the comparisons we report can be generalized to the claim population of each state.

PUTTING KENTUCKY WORKERS' COMPENSATION IN A BROADER CONTEXT

In this study, we report most results on a per claim basis (for example, the average total cost per all paid claims). Different metrics can be used to answer different questions concerning workers' compensation costs. Using data from research organizations outside of WCRI, we show how Kentucky compares nationally on two relevant metrics—workers' compensation insurance premium rates (the cost of workers' compensation to employers) and the average cost per worker (discussed in the section titled "Is My State a High- or Low-Cost State?").

Every two years, the Oregon Department of Consumer and Business Services publishes a study that compares workers' compensation insurance premium rates across all states, using the Oregon industry mix as

[1] The full DBE includes over 41 million claims, from 27 data sources, across 34 states.

the base. The comparison of workers' compensation rates by state can be used as a factor in company relocation or expansion, as an indicator of possible differences in benefit levels, and to track changes in workers' compensation premium rates among states over time. The most recent study is for calendar year 2014. Premium rate indices were calculated based on data from 51 jurisdictions (all U.S. states and the District of Columbia) for rates in effect as of January 1 of the study year. Of approximately 450 active rate classes in Oregon, 50 were selected based on relative importance as measured by the share of losses in Oregon. To control for differences in industry distribution, each state's rates were weighted by the 2008–2010 Oregon payroll to obtain an average manual rate for that state. In 2014, Kentucky premium rates were about 18 percent lower than the median of the 50 states plus the District of Columbia (ranking 40th out of 51).[2] In the 2012 study, Kentucky rates were 104 percent of the study median (ranking 22nd of 51). States' relation to the median can change for a number of reasons, such as legislative changes that lead to significant increases or decreases in claim costs; ordinal rankings are often more volatile, depending on changes in other states. Table A shows the workers' compensation premium rate ranking for the 51 jurisdictions from the 2014 Oregon study.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

[2] *Oregon Workers' Compensation Premium Rate Ranking Calendar Year 2014*. October 2014.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table A Workers' Compensation Premium Rate Ranking

State	2014 Index Rate	2014 Percentage of Study Median	2014 Ranking	Effective Date	2012 Index Rate	2012 Percentage of Study Median	2012 Ranking
California	3.48	188%	1	January 1, 2014	2.92	155%	3
Connecticut	2.87	155%	2	January 1, 2014	2.99	159%	2
New Jersey	2.82	152%	3	January 1, 2014	2.74	146%	7
New York	2.75	148%	4	January 1, 2014	2.82	150%	5
Alaska	2.68	145%	5	January 1, 2014	3.01	160%	1
Oklahoma	2.55	137%	6	1/1/13 State Fund, 1/1/14 Private	2.77	147%	6
Illinois	2.35	127%	7	January 1, 2014	2.83	151%	4
Vermont	2.33	125%	8	April 1, 2013	2.07	110%	14
Delaware	2.31	125%	9	December 1, 2013	1.77	94%	30
Louisiana	2.23	120%	10	January 1, 2014	2.06	110%	15
Montana	2.21	119%	11	July 1, 2013	2.50	133%	8
New Hampshire	2.18	118%	12	January 1, 2014	2.40	128%	9
Maine	2.15	116%	13	April 1, 2013	2.24	119%	10
Idaho	2.01	109%	14	January 1, 2014	2.02	107%	19
Washington	2.00	108%	17	January 1, 2014	2.11	112%	13
South Carolina	2.00	108%	17	September 1, 2013	2.04	109%	16
Pennsylvania	2.00	108%	17	April 1, 2013	2.15	114%	12
New Mexico	1.99	108%	20	January 1, 2014	1.88	100%	27
Rhode Island	1.99	107%	20	July 1, 2013	1.99	106%	20
Minnesota	1.99	107%	20	January 1, 2014	2.03	108%	17
Missouri	1.98	107%	21	January 1, 2014	1.62	86%	36
Tennessee	1.95	105%	22	March 1, 2013	2.02	107%	19
Wisconsin	1.92	104%	23	October 1, 2013	2.15	114%	12
Iowa	1.88	101%	24	January 1, 2014	1.90	101%	25
South Dakota	1.86	100%	25	July 1, 2013	1.91	102%	23
Hawaii	1.85	100%	27	January 1, 2014	1.66	88%	35
North Carolina	1.85	100%	27	April 1, 2013	1.90	101%	25
Florida	1.82	98%	28	January 1, 2014	1.82	97%	29
Alabama	1.81	97%	29	March 1, 2013	1.97	105%	21
Nebraska	1.78	96%	30	February 1, 2013	1.71	91%	33
Wyoming	1.76	95%	31	January 1, 2014	1.74	92%	31
Georgia	1.75	95%	32	July 1, 2013	1.88	100%	27
Ohio	1.74	94%	33	July 1, 2013	1.84	98%	28
Michigan	1.68	91%	34	January 1, 2013	1.73	92%	32
Maryland	1.64	88%	35	January 1, 2014	1.68	89%	34
Texas	1.61	87%	36	June 1, 2013	1.60	85%	38
Arizona	1.60	86%	37	January 1, 2014	1.61	86%	37
Mississippi	1.59	85%	38	March 1, 2013	1.49	79%	42
Kansas	1.55	83%	39	January 1, 2014	1.54	82%	41
Kentucky	1.51	82%	40	October 1, 2013	1.96	104%	22
Colorado	1.50	81%	41	January 1, 2014	1.42	76%	43
West Virginia	1.37	74%	43	November 1, 2013	1.55	82%	40
Oregon	1.37	74%	43	January 1, 2014	1.58	84%	39
Utah	1.31	71%	45	December 1, 2013	1.35	72%	45
District of Columbia	1.31	70%	45	November 1, 2013	1.28	68%	47
Nevada	1.26	68%	46	March 1, 2013	1.33	71%	46
Massachusetts	1.17	63%	48	September 1, 2010	1.37	73%	44
Virginia	1.17	63%	48	April 1, 2013	1.20	64%	48
Arkansas	1.08	58%	49	July 1, 2013	1.19	63%	49
Indiana	1.06	57%	50	January 1, 2014	1.16	62%	50
North Dakota	0.88	47%	51	July 1, 2013	1.01	53%	51

Notes: Every two years since 1986, the Oregon Department of Consumer and Business Services has published a study that compares workers' compensation insurance premium rates across all states, using the Oregon industry mix as the base. Starting with the 2008 study, when two or more states' index rate values are the same, they are assigned the same ranking. The index rates reflect adjustments for the characteristics of each individual state's residual market. Rates vary by classification and insurer in each state. Actual cost to an employer can be adjusted by the employer's experience rating, premium discount, retrospective rating, and dividends.

Source: Table 2 from *Oregon Workers' Compensation Premium Rate Ranking Calendar Year 2014*. October 2014. Oregon Department of Consumer and Business Services, Information Technology and Research Section. Report is available at http://www.cbs.state.or.us/external/dir/wc_cost/files/report_summary.pdf.

IS THE MEDIAN COMPSCOPE™ STATE TYPICAL OF ALL STATES IN THE NATION?

This CompScope™ report frequently compares the value for the state being analyzed with the median or *typical* state in the study. For the report to be most useful, it must meet two conditions. First, the states included should span the full range of states that have higher, lower, and medium costs per claim. Second, the cost measures in the median CompScope™ state should be similar to those in the median state nationwide.

We chose the 18 states included in the study in part because they are geographically diverse. Together they represent a significant share of the U.S. population, a wide range of industries, and a variety of benefit structures and other system features. Further, the 18 states represent the full range of states nationally according to costs per claim. WCRI found that the average developed incurred cost per claim in the median of the CompScope™ states was virtually identical to the median of all states (0.04 percent higher) as reported by the National Council on Compensation Insurance, Inc. (NCCI) in its *Annual Statistical Bulletin* (2013–2015, Exhibit XI). As a result, when this benchmarking report presents comparisons between the average total cost per claim and the median of the CompScope™ states, they are substantially similar to comparisons with the national median. Table B shows the average developed incurred cost per claim, state by state, for the 46 jurisdictions in the NCCI *Annual Statistical Bulletins*, average of policy years 2009–2011. The average cost per claim in Kentucky was 21 percent lower when compared with the median state.

Using the NCCI data, the average medical cost per claim for the median CompScope™ state was 1.8 percent lower than the national median. The average indemnity benefit per claim, adjusted for wage differences, in the median of the CompScope™ states was 4.2 percent higher than the national median.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table B Ranking by Cost per Claim Using Rating Bureau Information, Average of Policy Years 2009–2011

State	Average Incurred Cost per Claim, 3-Year Average (developed)
Delaware	$31,498
New York	$29,430
California	**$26,413**
Louisiana	**$23,265**
Illinois	**$21,494**
New Jersey	**$20,098**
Oklahoma	$20,034
Connecticut	$17,748
Alaska	$17,728
Maryland	$17,081
District of Columbia	$16,411
South Carolina	$16,101
North Carolina	**$15,887**
Vermont	$13,738
New Mexico	$13,462
Alabama	$13,225
Georgia	**$13,210**
Missouri	$12,897
Hawaii	$12,832
Montana	$12,808
Virginia	**$12,750**
Mississippi	$12,617
Iowa	**$12,580**
Pennsylvania	**$12,575**
New Hampshire	$12,286
Massachusetts	**$12,130**
Rhode Island	$11,637
Tennessee	$11,552
Minnesota	**$11,006**
Kansas	$10,530
Colorado	$10,496
Florida	**$10,480**
Texas	**$10,409**
Wisconsin	**$10,350**
Nebraska	$10,296
Oregon	$10,261
Nevada	$10,154
Kentucky	**$9,960**
Idaho	$9,616
Utah	$8,295
Arkansas	**$8,271**
South Dakota	$7,978
Maine	$7,950
Arizona	$7,824
Michigan	**$7,811**
Indiana	**$7,580**

Notes: These data are incurred values developed to ultimate maturity and cases developed to a 5th reporting basis, with the following exceptions. In Massachusetts, lost-time experience and medical-only losses were developed to a 5th report; the data exclude large deductibles. In New Jersey, losses were developed to a 5th reporting basis. In New York, losses and cases were developed to a 5th reporting basis. All state statistics exclude the F-classifications (except for Massachusetts and New York) as well as black lung experience. CompScope™ states are shown in bold.

Source: National Council on Compensation Insurance, Inc., *Annual Statistical Bulletins* 2013–2015, exhibit XI (available electronically at http://www.ncci.com). Note that although NCCI publishes national comparisons of states, including those served by independent rating bureaus, it does so with the assistance of and clear attribution to those independent organizations.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

IS MY STATE A HIGH- OR LOW-COST STATE?

This is one of the questions most frequently posed by policymakers and others. The answer could be fundamental to public policy debates or could be an important factor in an organization's decision to locate a new facility, expand operations, or maintain an established business in a given state. Cost per claim is only one element in the issue of whether a state is high cost or low cost. The other contributing factor to claim cost is claim frequency. The CompScope™ annual benchmarking series does not yet directly address this important issue. To do so would require analysis of how states differ in terms of costs per worker or other appropriate exposure base(s), a measure that captures both the frequency of claims and the average total cost per claim.

We used estimates of costs per worker that we developed using insurance rating bureau data on benefit costs per claim and frequency of claims per 100,000 workers (NCCI, 2013–2015, Exhibits XI and XII). Table C shows the average cost per worker, state by state, for the 46 jurisdictions in the NCCI bulletins, average of policy years 2009–2011. The NCCI data do not include self-insured claims, and the data on the number of workers were imputed from payroll data reported by insurers and from average wages by industry reported by the federal Bureau of Labor Statistics (BLS) in most states.[3] Cost per worker in Kentucky was 12 percent lower than the median state. That result was driven by two factors: cost per claim was 21 percent lower in Kentucky than typical and claim frequency was 3 percent higher in Kentucky when compared with the median of 45 states plus the District of Columbia. Table D shows claim frequency per 100,000 workers, state by state, for the 46 jurisdictions in the NCCI bulletins, average of policy years 2009–2011.

[3] Wage amounts in data provided by independent rating bureaus and included in the NCCI bulletins, which are used to estimate the effective number of full-time workers for calculating claim frequencies, differ, sometimes significantly, from wage amounts in the BLS data that NCCI relied on. These differences may distort comparisons of claims frequencies between states.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table C Ranking by Cost per Worker Using Rating Bureau Information, Average of Policy Years 2009–2011

State	Average Cost per Worker for All Claims, 3-Year Average
California	**$1,062**
Delaware	$972
Alaska	$820
Oklahoma	$798
Connecticut	$750
New York	$726
Montana	$718
Illinois	**$686**
New Jersey	**$662**
Pennsylvania	**$596**
Louisiana	**$592**
Vermont	$591
Iowa	**$565**
New Mexico	$544
Nevada	$537
New Hampshire	$507
Idaho	$498
South Carolina	$496
Rhode Island	$489
North Carolina	**$483**
Oregon	$481
Wisconsin	**$471**
Tennessee	$465
Alabama	$462
Maryland	$461
Colorado	$459
Maine	$452
Hawaii	$435
Minnesota	**$433**
Missouri	$424
Kansas	$420
Mississippi	$410
Kentucky	$408
Georgia	$407
Nebraska	$407
South Dakota	$394
Florida	**$379**
Massachusetts	**$352**
Utah	$335
Virginia	**$321**
Michigan	**$318**
Indiana	**$316**
Arizona	$299
Arkansas	**$266**
Texas	**$266**
District of Columbia	$200

Notes: These data are incurred values developed to ultimate maturity and cases developed to a 5th reporting basis, with the following exceptions. In Massachusetts, lost-time experience and medical-only losses were developed to a 5th report; the data exclude large deductibles. In New Jersey, losses were developed to a 5th reporting basis. In New York, losses and cases were developed to a 5th reporting basis. All state statistics exclude the F-classifications (except for Massachusetts and New York) as well as black lung experience. CompScope™ states are shown in bold.

Source: National Council on Compensation Insurance, Inc., *Annual Statistical Bulletins* 2013–2015, exhibits XI and XII (available electronically at http://www.ncci.com). Note that although NCCI publishes national comparisons of states, including those served by independent rating bureaus, it does so with the assistance of and clear attribution to those independent organizations.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table D Ranking by Claim Frequency per 100,000 Workers Using Rating Bureau Information, Average of Policy Years 2009–2011

State	Average Claim Frequency, 3-Year Average
Maine	5,694
Montana	5,579
Nevada	5,285
Idaho	5,181
South Dakota	4,934
Pennsylvania	**4,740**
Oregon	4,688
Alaska	4,629
Wisconsin	**4,554**
Iowa	**4,487**
Colorado	4,372
Vermont	4,302
Connecticut	4,230
Rhode Island	4,190
Indiana	**4,173**
New Hampshire	4,122
Kentucky	**4,093**
Michigan	**4,065**
New Mexico	4,054
Utah	4,040
California	**4,023**
Tennessee	4,022
Kansas	3,987
Oklahoma	3,981
Nebraska	3,946
Minnesota	**3,937**
Arizona	3,824
Florida	**3,615**
Alabama	3,492
Hawaii	3,396
New Jersey	**3,295**
Missouri	3,290
Mississippi	3,248
Arkansas	**3,221**
Illinois	**3,190**
Delaware	3,095
Georgia	**3,085**
South Carolina	3,079
North Carolina	**3,041**
Massachusetts	**2,899**
Maryland	2,700
Texas	**2,554**
Louisiana	**2,548**
Virginia	**2,520**
New York	2,466
District of Columbia	1,221

Notes: These data are for first report and exclude claims payable under the U.S. Longshore & Harbor Workers Act. CompScope™ states are shown in bold.

Source: National Council on Compensation Insurance, Inc., *Annual Statistical Bulletins* 2013–2015, exhibit XII (available electronically at http://www.ncci.com). Note that although NCCI publishes national comparisons of states, including those served by independent rating bureaus, it does so with the assistance of and clear attribution to those independent organizations.

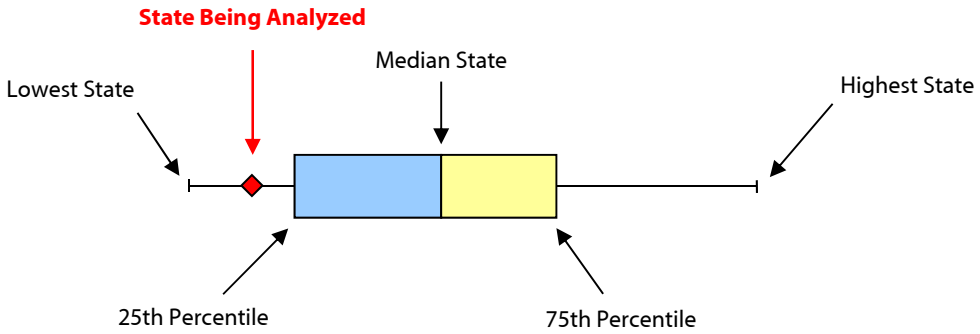
Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

READING BOX PLOTS

This document uses a powerful presentation tool called a box plot. Although it might initially look complicated, the box plot is relatively easy to read and very informative. This section explains how to read a box plot. A video explanation appears on the WCRI website at http://www.wcrinet.org/videos/video_box_plots6.html.

A box plot presents a large amount of comparative information and allows the reader to see relationships among measures when several box plots appear on a page. The diagram below shows the six pieces of information contained in a box plot. The *whisker*—the horizontal line extending from the left and right sides of the box—shows the full range of values (e.g., average total cost per claim) in the 18 study states, from the lowest state on the left to the highest state on the right. The vertical line inside the box represents the 18-state median (between the 9th and 10th state); in other words, an equal number of study states (9) appear above and below that value. The left edge of the box represents the 25th percentile (the 5th state). The right edge of the box represents the 75th percentile (the 14th state). The 4 states whose values are the lowest among the 18 states are on the left end of the whisker (the line extending from the left edge of the box). The 4 states whose values are in the second-lowest group are between the median and the left edge of the box. Similarly, the 4 states whose values are the highest among the 18 states are on the right end of the whisker (the line extending from the right edge of the box). The 4 states that are in the second-highest group are between the median and the right edge of the box. The diamond, representing the value for the state being analyzed, shows where that state lies relative to other states in the study.

Understanding a Box Plot

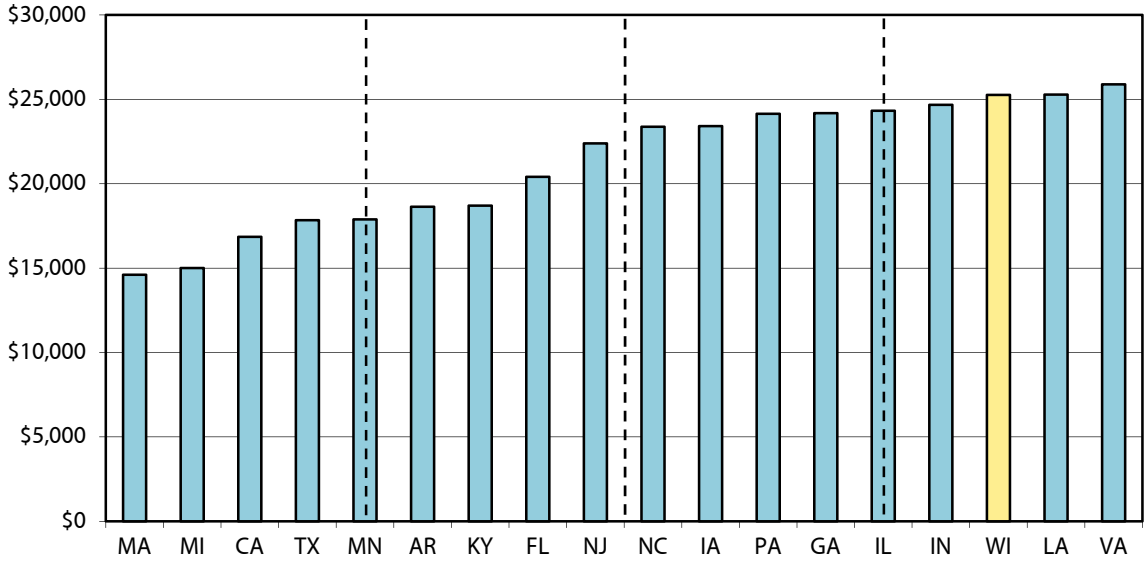


Some readers may find it useful to see how information in a typical bar chart is translated into a box plot. The bar chart on the next page shows the average benefit payment per claim with more than seven days of lost time. The dotted vertical lines appearing from left to right represent the 25th percentile, the median, and the 75th percentile, respectively. The box plot underneath the bar chart illustrates the same information as the bar chart does, presented as it would appear for a report focusing on Wisconsin. Notice the following:

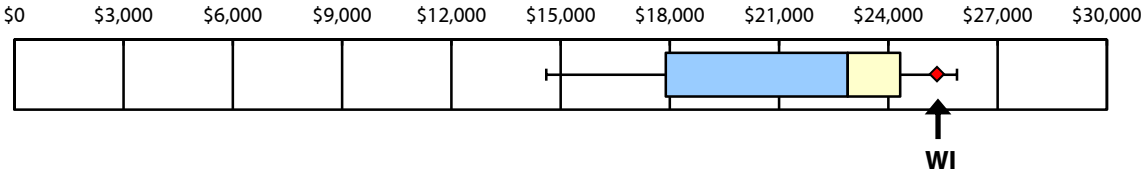
- The lowest state, Massachusetts, is at the left end of the whisker.
- The highest state, Virginia, is at the right end of the whisker.
- The median falls between New Jersey and North Carolina.
- The state at the 25th percentile is Minnesota.
- The state at the 75th percentile is Illinois.
- The diamond is Wisconsin, between the 75th percentile and the highest of the 18 states.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Average Benefit Payment per Claim with More Than 7 Days of Lost Time, 2014/2015

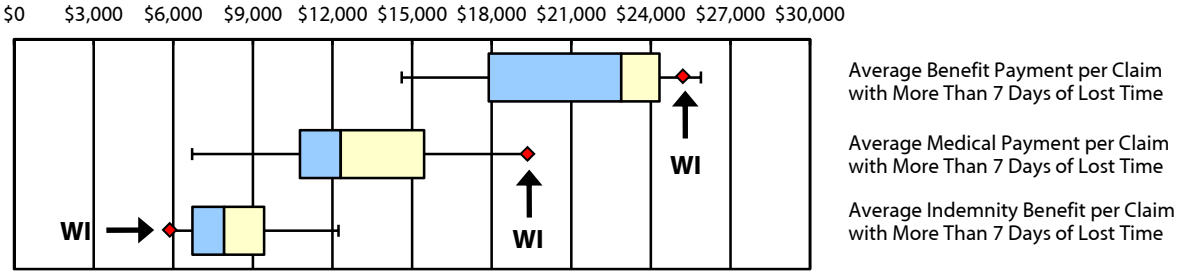


Average Benefit Payment per Claim with More Than 7 Days of Lost Time, 2014/2015



Box plots are particularly useful in showing relationships among various performance measures. The set of box plots below, for example, shows that Wisconsin is between the 75th percentile and the highest of the 18 states for the average paid benefit per claim with more than seven days of lost time (the top box plot). We also see that this result occurs because underlying measures counterbalance each other. Wisconsin had an average paid medical benefit per claim with more than seven days of lost time that was the highest of the 18 study states (the middle box plot). However, the average indemnity benefit per claim with more than seven days of lost time in Wisconsin was the lowest of the 18 states (the bottom box plot).

Multiple Box Plots Help to Show Relationships among Measures

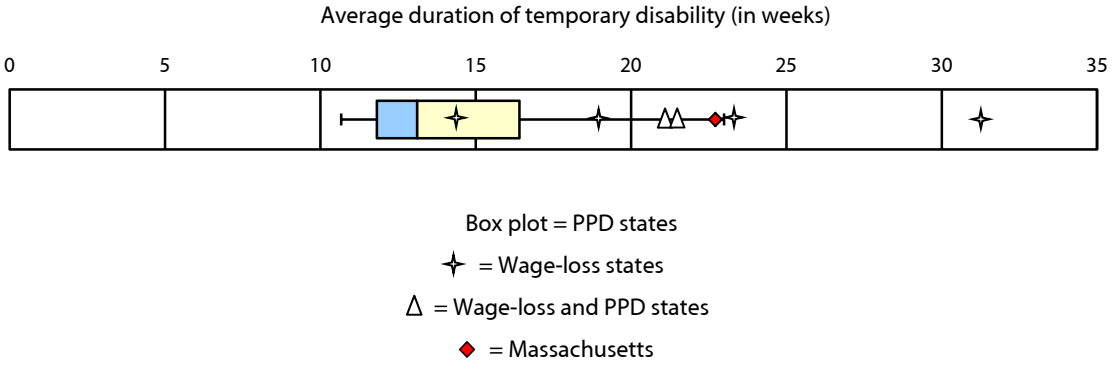


Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Box plots also show clearly how much variability there is across states—the longer the whisker or the box associated with a given measure, the greater the variability for that measure. A state that is a marked outlier (positioned at or close to the end of a long whisker) on a performance measure for which there is otherwise little variability (i.e., showing a narrow box and a short opposite whisker) may be especially noteworthy.

It is not appropriate to compare permanent partial disability (PPD) and temporary disability measures among wage-loss states, PPD system states, and states with attributes of both wage-loss and PPD benefit systems. The CompScope™ study ensures that its interstate comparisons are meaningful by comparing wage-loss states with wage-loss states and PPD states with PPD states, while treating states with attributes of both wage-loss and PPD systems as a separate category. To show how all 18 states compare, the report uses a special notation: a star is used to represent a wage-loss state, and a triangle is used to represent a state with features of both wage-loss and PPD systems. For example, the box plot below shows the measure of duration of temporary disability. In the Massachusetts CompScope™ report, the box plot depicts the 11 PPD system states, the stars identify 4 wage-loss states (Louisiana, Michigan, Pennsylvania, and Virginia), and the triangles identify 2 states that have features of both wage-loss and PPD systems (Georgia and North Carolina). Because Massachusetts, the 5th wage-loss state, is the state being analyzed, it is represented by a diamond. The box plot whiskers shown when wage-loss states are being compared with other states are based only on the non-wage-loss states. In this example, 3 of the 5 wage-loss states fall within the range of the non-wage-loss states. If a non-wage-loss state were the subject of the analysis, the box plot would display 5 stars, each representing one of the 5 wage-loss states, while triangles would represent states with attributes of both wage-loss and PPD systems.

Notation Distinguishes PPD System States, Wage-Loss System States, and States with Attributes of Both Systems



TERMS WE USE TO DESCRIBE PERFORMANCE

In characterizing an individual state's performance with respect to the median of the study states, we often use the terms *higher*, *lower*, and *typical of* or *close to*. *Higher* means more than 10 percent above the median of the 18 states, *lower* means more than 10 percent below the median of the 18 states, and *typical of* or *close to* means within 10 percent above or below the median of the 18 states.

When describing trends, or how performance in a state has changed over time, we typically report annual average change—percentage changes for cost and duration measures and percentage point changes for other measures that are themselves expressed as percentages, such as PPD/lump-sum claims as a percentage of

claims with more than seven days of lost time.

To avoid unnecessarily subjective characterizations, we use consistent criteria for selecting adjectives that describe multistate comparisons and growth trends. Table 1 shows the categories and terms we use throughout the study. We recognize that the criteria and terms we use reflect judgment. However, we believe that it is important to use a consistent approach, and adhering to a disclosed framework helps us to accomplish that.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

NAMING CONVENTION USED IN OUR ANALYSIS

We applied a naming convention for pairs of injury years and evaluation dates to uniquely describe the set of claims used in our analysis. The first year is the year in which the injuries occurred, and the second year is the maturity of the claims. For example, 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, with experience through March 31, 2015—an average of 12 months' maturity. We denote other injury year/evaluations similarly. The injury year for the CompScope™ Benchmarks includes claims from the fourth quarter of the prior year and the first, second, and third quarters of the named injury year. For example, injury year 2014 includes claims arising from October 1, 2013, through September 30, 2014.

INFORMATION FOR FIRST-TIME USERS

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

This section is intended to provide detail about the key benchmarks we analyze, the data we use, adjustments we make, and some presentational explanations for new CompScope™ users. This background information should help those who have not used the study before to better understand the objectives and scope of the report, what it contains and why, how the measures are constructed, and how the information it contains can be used.

THE COMPSCOPE™ BENCHMARKS

Benchmarks of system performance can be powerful tools for public officials and system stakeholders working to maintain and/or improve their systems. These tools can be used to monitor the effects of legislative, regulatory, judicial, and behavioral changes. We present various measures in several areas:

- Time from injury to payor notice of injury and first indemnity payment
- Average total cost per claim, average payment per claim for medical benefits,[1] and average payments per claim for indemnity benefits and components (temporary disability benefits, permanent partial disability benefits, and lump-sum settlements)
- Vocational rehabilitation use and costs
- Benefit delivery expenses per claim and defense attorney involvement
- Duration of temporary disability

These measures offer policymakers and stakeholders a comprehensive look at key aspects of the workers' compensation benefit delivery system, on a consistent and regular basis. Figure A shows the benefit and expense variables we examine, most of which we report in this study.

The unit of analysis in the CompScope™ benchmarking series is the individual workers' compensation claim, so most results are reported on a per claim basis. Costs per claim reflect the overall costs divided by the number of claims. Therefore, claim frequency does not directly factor into the measures we report. As reported by rating bureaus, however, claim frequency in virtually all states has been declining for well over a decade. At the same time, average costs per claim have increased in many study states. In some states, insurance rates have declined while average costs per claim have been growing—a seeming inconsistency. Generally, this results from the fact that total system costs are lower because the decline in the number of claims more than offsets increases in the average cost per claim. Insurance rates reflect the combination of all these cost considerations as well as other considerations.

The results of the key performance measures are provided for several claims bases. These include all claims, claims with more than seven days of lost time, and claims with specific types of benefits, i.e., temporary disability (which includes temporary total and temporary partial disability) or permanent partial disability.[2] Each measure may be useful for addressing different questions. For example, the broadest

[1] The CompScope™ Medical Benchmarks, a companion study, focuses on the costs, prices, and utilization of medical care received by injured workers in the aggregate and by type of medical provider and type of medical service.

[2] Claims are classified based on the type of benefits paid, from the least to the most severe—that is, medical-only, temporary disability, permanent partial disability, permanent total disability, and fatality. A claim's overall classification reflects the benefits paid as of the evaluation date for the most severe claim type.

measure—the average total cost per all paid claims (total costs per claim)—is the composite of all of the underlying cost components and offers an overall characterization of a state's costs as higher than, lower than, or typical of the study states as a group. However, we focus much of our analysis on claims with more than seven days of lost time for several reasons. Using a subset of claims with more than seven days of lost time offers more appropriate and meaningful interstate comparisons because it recognizes the cost impact of different waiting periods across states. Also, these claims account for the bulk of system costs and thus are the focus of most substantive public policy debate.

The following table shows the breakdown of total costs per claim for Kentucky and the proportion of each component measure relative to the total costs per claim for claims in injury year 2012 with an average 36 months of experience. Total cost per claim is comprised of four components—medical payments per claim, indemnity benefits per claim, benefit delivery expenses per claim, and vocational rehabilitation expenses per claim. Some of the numbers shown under average cost per claim with more than seven days of lost time differ from what we show in the CompScope™ study because those results use a different base, typically claims with more than seven days of lost time that had a payment of the type being analyzed. For example, we report the average medical cost containment expense per claim with more than seven days of lost time with medical cost containment expenses. This table looks different from state to state because of the particular combination of benefit delivery system features and processes found in each. The distribution of payments shown here represents only a snapshot, and it may differ at shorter or longer maturities. Note that some cells on the table are purposely left blank for components that represent a small share of total costs (for example, other indemnity payments per claim).

Breakdown of Total Costs per Claim with More Than 7 Days of Lost Time in Kentucky, 2012/2015

Performance Measure	Average Cost per Claim with More Than 7 Days of Lost Time	Share of Total Costs per Claim (percentage)		Percentage of Claims with That Payment	Average Cost per Claim with That Payment
Average total cost per claim	$38,299				
Average medical payment per claim	$14,050	36.7%			
Average indemnity benefit per claim	$18,332	47.9%			
Temporary disability payments per claim	$7,394		19.3%	88.9%	$8,316
Permanent partial disability or lump-sum payments per claim	$9,437		24.6%	32.3%	$29,260
Other indemnity payments per claim (includes permanent total and death payments)	$1,502		3.9%		
Average benefit delivery expense per claim	$5,896	15.4%			
Average medical cost containment expense per claim	$3,266		8.5%	96.2%	$3,395
Average defense attorney payment per claim	$1,485		3.9%	30.9%	$4,799
Average medical-legal expense per claim	$648		1.7%	30.2%	$2,142
Average other expense per claim	$497		1.3%		
Average vocational rehabilitation provider expense per claim	$36	0.1%			

Notes: 2012/2015 refers to claim arising in October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015. These claims have an average maturity of 36 months.

The data in the table have been adjusted for interstate differences in injury and industry mix and in wages, one of the methods we use to achieve more meaningful multistate comparisons.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

DATA USED IN THE ANALYSIS

We chose the states included in the study for a variety of reasons, including (1) representation of higher, lower, and medium costs per claim; (2) generally larger-than-average populations; (3) diverse benefit structures and other system features; (4) availability of funding sources within each state; and (5) geographic diversity. The states included in the study represent nearly 60 percent of all workers' compensation benefits paid nationwide.

The sample data for this 16th edition include about 7.6 million claims from the systems of 25 data sources (national and regional insurance companies, claims administration organizations, and state funds) in the 18 study states. Along with information on the injured worker and claim characteristics, we received information on all payment transactions for each claim, including the amount paid, date paid, and period covered, what the payment was for, and to whom the payment was made (for example, the worker or a medical provider). The claims data were provided to us under agreement, which limits WCRI use of the data to specified research purposes. The data remain the property of the data providers. We employ a variety of safeguards to maintain the security and confidentiality of the data, including encrypting all worker- and employer-identifying information.

The sample data include claims from all market segments in each state, including the voluntary market, residual market, self-insurers, and state funds (where applicable). To ensure that the sample data are representative of the full insurance market, we weighted our sample claims to represent the population proportions of the insurance market segments in each state. The state datasets contain a substantial portion of the claims in the population of all study states and are large enough to support detailed analysis. For example, for 2014, the database contains 40 to 76 percent of the claims in each state.

Given that workers' compensation claims typically change in terms of costs and/or characteristics, or *develop*, over several years, the CompScope™ Benchmarks provide snapshots of system performance at various points in time to address the trade-off between recent information and complete information. Generally, the multistate comparisons focus on claims at an average 36 months of experience, as this is a better indicator of the ultimate costs per claim than earlier snapshots would be. For most trend measures, we use claims at an average 12 months of experience to show the results for the most recent year. For some measures, such as the frequency and cost of PPD/lump-sum claims, we also report trends at 24 and/or 36 months. The injury year for the CompScope™ Benchmarks includes claims from the fourth quarter of the prior year and the first, second, and third quarters of the named injury year. For example, injury year 2014 includes claims arising from October 1, 2013, through September 30, 2014.

COMPARABILITY OF COMPSCOPE™ BENCHMARKING MEASURES

We used a number of adjustments to make the data meaningful for interstate comparisons. Our goal was to create a similar set of claims for analysis to reduce the differences across states that have clouded the usefulness of some claim-based interstate comparisons. To do that, we standardized the data using common terms to classify them, analyzed a subset of claims with more than seven days of lost time, and controlled for injury and industry mix and wage levels. Those adjustments yielded performance measures that are much more likely to reflect differences across states in system design, system implementation, or the behavior of system participants—those elements that must change to cause change in the performance results we observed. More detailed discussion of each of these adjustments, summarized below, can be found in the *Technical Appendix*, along with estimations of the effects of the various adjustments.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

To ensure valid comparisons across states and over time, we constructed variables that, to the fullest extent possible, reflect definitions common to the data sources and across states. To accomplish this, we mapped definitions from data sources or states to a set of standard definitions for payment transactions, injury groups, and industry categories. For example, expenses for medical-legal examinations may be required by the rating bureau to be reported as medical costs in some states, whereas we record all payments for medical-legal examinations as expenses. We also identified and calculated lump-sum settlements using the WCRI definition.

Differences in the waiting period for indemnity benefits across states directly affect the ratio of medical-only to indemnity claims and measures of claim frequency, and thus affect the comparability of the measures. Waiting periods in the 18 states we studied vary from three days to five days to seven days. To increase the validity of the interstate comparisons, we focused much of our analysis on the subset of claims with more than seven days of lost time.

We enhanced the comparability of the performance measures for interstate comparisons by applying adjustments to control for the state differences in injury and industry mix and wage levels—also referred to as case-mix adjustment. Workers in certain industries are at a greater or lesser risk of injuries; those injuries are more or less likely to be severe; and return to work is affected by the nature of employment. Based on our classifications of 12 injury groups and 7 industry categories, we adjusted the sample of claims in each state so that the claim distribution across injury and industry categories looked the same across the states. To accomplish this, we (1) determined the distribution of claims by injury and industry category for the pooled sample of all 18 states and for the sample claims in each state, (2) compared the sample distribution in each state with the pooled state distribution and calculated a unique set of injury and industry weights for each state, and (3) used those weights to adjust the sample claims in each state in calculating the performance measures so that the measures reflect a constant injury and industry mix across the states. Wages are related to both workers' and employers' characteristics and can affect the cost and duration of claims. For example, higher-wage workers tend to be older, more experienced, better educated, and more skilled. Further, higher-wage workers tend to work for larger companies, be unionized, and be employed in more capital-intensive and hazardous industries. Thus, wage-level adjustments can be used to control, at least in part, for differences in worker characteristics and the economic characteristics of employers. We adjusted for interstate differences in wages in a similar way to what we did for differences in injuries and industries.

OTHER DEFINITIONAL/PRESENTATIONAL EXPLANATIONS

We often compare an individual state's performance with that of the median of the study states. We use the median of the 18 states rather than the mean (average) because it offers a more unbiased comparison—50 percent of the states are higher and 50 percent are lower. The mean is more sensitive to extreme high or low values than is the median.

For measures involving indemnity components—PPD and temporary disability measures—we separate out the states with a wage-loss benefit structure (Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia) in order to provide meaningful interstate comparisons. That is because, under a wage-loss benefit structure, most indemnity benefits are paid as temporary disability, generally resulting in longer duration, and PPD benefits are less frequent. For these measures, we use an 11-state median for comparison and use a special notation (the stars) on the box plots to denote the values for the wage-loss states. The range presented by the whiskers of the box plots is similarly derived from data excluding the wage-loss states. Two states that have the attributes of both a wage-loss system and a PPD benefit system are denoted and treated differently

from the wage-loss states and from the PPD states. Lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. To achieve consistency in the treatment of lump-sum payments among the data sources and to develop measures that are comparable across states, we grouped the lump-sum medical payments with other lump-sum payments, reporting them as indemnity payments. The current requirements of Medicare Set-Aside Arrangements might suggest that companies are, or will become, increasingly able to extract the medical component of settlements. We will continue to monitor any changes in data reporting that allow us to modify our current approach in constructing the lump-sum settlement measure.

The trends we report are based on data weighted to represent the full insurance market in the state. However, we did not adjust the trends for the interstate differences in injury and industry mix and wage levels. The unadjusted numbers used in the trend analysis provide the most relevant information on how the system performed in each state over time. We do recognize, however, that many study states have experienced considerable changes in injury and industry mix and wage levels over time. We factored these into our trend analysis whenever we believed the effect of these changes in the external factors could be a significant part of the trends. The trend figures in the report show the year-to-year change in the levels rather than showing the actual levels for a measure. For the state that is the focus of a report, we connect the change points for each year with a line. The downward or upward lines show deceleration or acceleration in growth from one year to another. A change point below zero on the vertical axis indicates a decrease; similarly, a change point above zero means an increase.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

QUICK REFERENCE GUIDE TO FIGURES AND TABLES

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Measure	Interstate Comparison			
	All Paid Claims		Claims with More Than 7 Days of Lost Time	
	2014/2015 (12-month maturity)	2012/2015 (36-month maturity)	2014/2015 (12-month maturity)	2012/2015 (36-month maturity)
Costs and benefits, and major components	Figure 1 Table 2	Figure 2 Table 2	Figure 3 Table 2	Figure 4 Table 2
Incurred benefits and components	—	—	Figure 5 Table 2	Figure 6 Table 2
Indemnity benefits and components (including duration)	—	—	Figure 7 Table 2	Figure 8 Table 2
Temporary disability benefits	—	—	Figure 9 Table 2	Figure 10 Table 2
Permanent partial disability benefits/lump-sum settlements	—	—	Table 2	Figure 11 Table 2
Benefit delivery expenses and major components	Table 2	Table 2	Figure 12 Table 2	Figure 13 Table 2
Timing of reporting and payments	—	—	Figure 14 Table 2	—

Measure	Trend			
	All Paid Claims		Claims with More Than 7 Days of Lost Time	
	2014/2015 (12-month maturity)	2012/2015 (36-month maturity)	2014/2015 (12-month maturity)	2012/2015 (36-month maturity)
Total costs and major components	Figure 15 Table 3	Table 3	Figure 17 Table 3	Table 3
Percentage of claims with more than 7 days of lost time	Figure 16 Table 3	Table 3	—	—
Incurred benefits and components	—	—	Figure 18 Table 3	Table 3
Medical payments	Table 3	Table 3	Figure 19 Table 3	Table 3
Indemnity benefits and components	—	—	Figure 20 Table 3	Table 3
Duration of temporary disability	—	—	Figure 21 Table 3	Table 3
Permanent partial disability benefits/lump-sum settlements	—	—	Figures 22, 24 Table 3	Figures 23, 25 Table 3
Benefit delivery expenses and major components	Table 3	Table 3	Figure 26 Table 3	Figure 27 Table 3
Medical cost containment expenses	—	—	Figure 28 Table 3	Figure 29 Table 3
Defense attorney payments	—	—	Figures 30, 32 Table 3	Figures 31, 33 Table 3
Medical-legal expenses	—	—	Figure 34 Table 3	Figure 35 Table 3
Timing of reporting and payments	—	—	Table 3	—

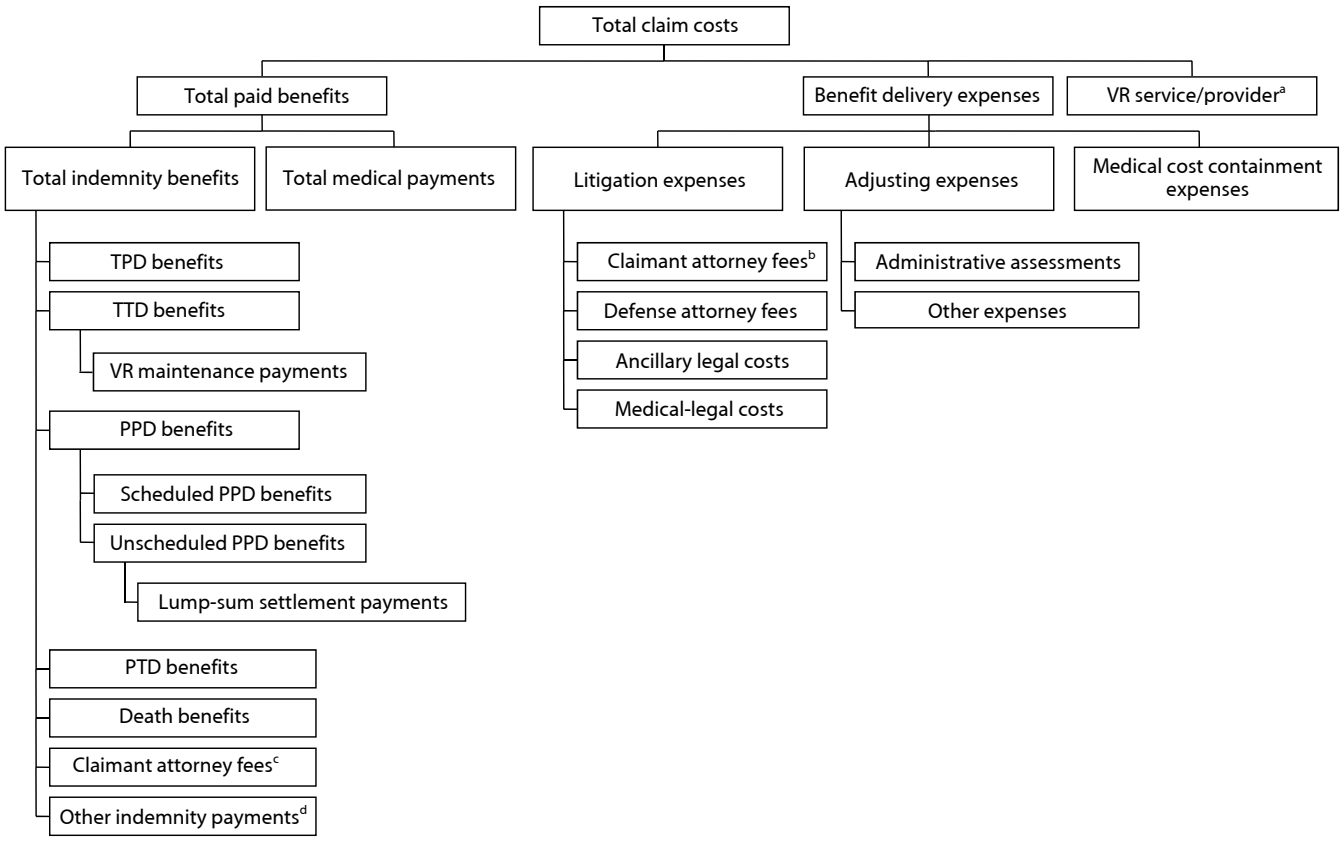
continued

Web Site Addresses for Supplementary Materials

CompScope™ Benchmarks, 16th Edition: The DataBook: http://www.wcrinet.org/cs16/the_databook.pdf

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure A WCRI Benefit and Expense Variables



[a] We treat vocational rehabilitation provider expenses as a separate category; some readers might regard them as benefits, others as expenses.

[b] Claimant attorney fees that are the worker's responsibility.

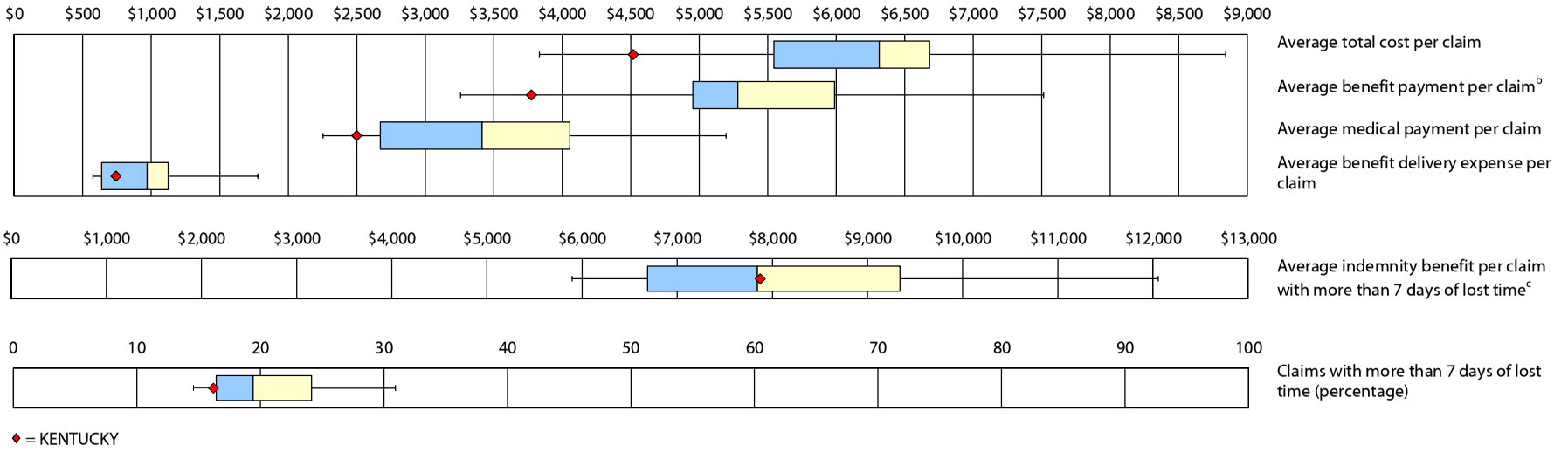
[c] Claimant attorney fees that are the payor's responsibility.

[d] Indemnity payments that are not elsewhere classified, including penalties and awards.

Key: PPD: permanent partial disability; PTD: permanent total disability; TPD: temporary partial disability; TTD: temporary total disability; VR: vocational rehabilitation.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 1 Average Costs for All Paid Claims at 12 Months' Average Maturity,[a] 2014/2015



Performance Measure, 2014/2015 Claims	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[d]
Average total cost per claim	$4,379	$6,383	$6,508	$7,112	$5,692	$8,842	$5,617	$4,519	$8,056	$5,973	$3,834	$5,105	$6,357	$8,766	$6,332	$6,299	$6,147	$6,744	$6,315
Average benefit payment per claim[b]	$3,741	$5,129	$5,437	$5,987	$5,101	$7,514	$4,954	$3,775	$6,813	$4,988	$3,257	$4,367	$5,350	$6,988	$5,372	$5,214	$5,360	$6,125	$5,282
Average medical payment per claim	$2,672	$2,649	$3,759	$3,438	$3,721	$4,958	$4,056	$2,499	$4,503	$2,569	$2,255	$3,095	$2,984	$5,196	$3,391	$3,351	$3,972	$5,021	$3,414
Average benefit delivery expense per claim	$637	$1,249	$1,069	$1,124	$590	$1,323	$662	$743	$1,234	$983	$574	$611	$1,003	$1,778	$957	$1,085	$783	$617	$970
Average indemnity benefit per claim with more than 7 days of lost time[c]	$6,807	$9,341	$7,705	$12,057	$8,225	$9,287	$6,151	$7,874	$10,299	$7,814	$6,101	$6,632	$11,994	$6,687	$10,804	$7,717	$8,567	$5,896	$7,844
Claims with more than 7 days of lost time (percentage)	15.7%	26.4%	21.7%	21.1%	16.7%	27.5%	14.6%	16.2%	22.4%	30.9%	16.4%	19.1%	19.7%	26.8%	18.3%	24.1%	16.2%	18.6%	19.4%

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

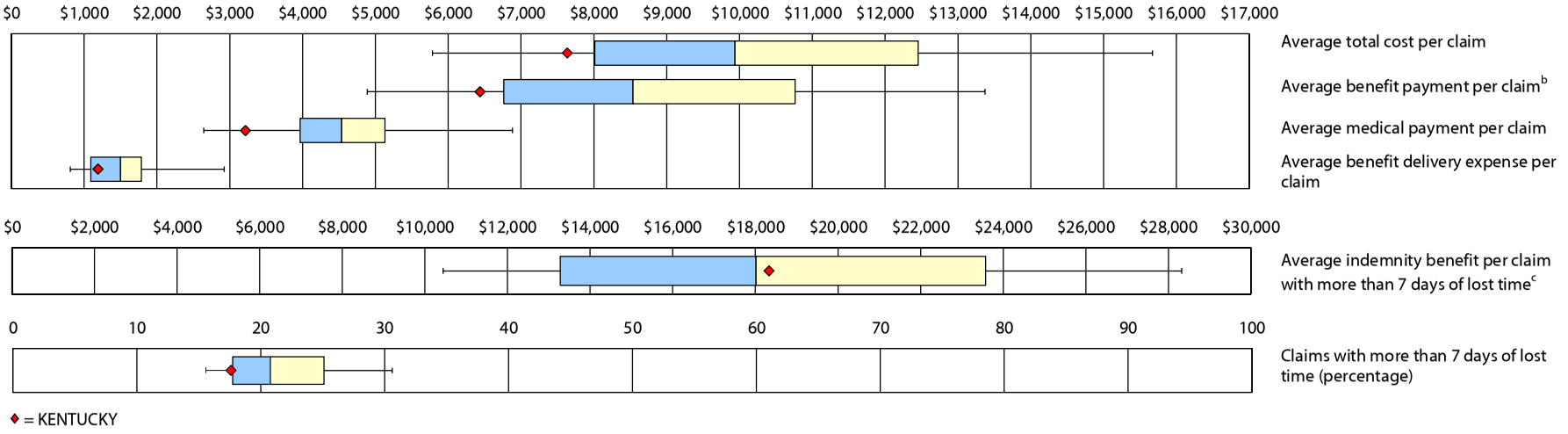
[a] The average indemnity benefit per claim is reported for claims with more than seven days of lost time.

[b] Benefits include both medical and indemnity benefits.

[c] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[d] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Figure 2 Average Costs for All Paid Claims at 36 Months' Average Maturity,[a] 2012/2015



Performance Measure, 2012/2015 Claims	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[d]
Average total cost per claim	$6,553	$13,712	$9,641	$11,515	$10,777	$15,671	$7,041	$7,636	$13,265	$10,239	$5,782	$8,116	$12,710	$13,240	$10,472	$8,602	$9,578	$8,305	$9,940
Average benefit payment per claim[b]	$5,614	$10,763	$7,930	$9,806	$9,561	$13,371	$6,230	$6,437	$11,057	$8,721	$4,887	$6,761	$10,896	$10,779	$8,949	$7,074	$8,351	$7,473	$8,536
Average medical payment per claim	$3,363	$4,986	$4,640	$4,337	$4,873	$6,881	$4,605	$3,214	$5,684	$3,393	$2,643	$3,967	$4,472	$6,772	$4,304	$4,364	$5,132	$5,329	$4,539
Average benefit delivery expense per claim	$938	$2,926	$1,705	$1,708	$1,209	$2,266	$810	$1,192	$2,133	$1,489	$881	$1,092	$1,788	$2,460	$1,511	$1,527	$1,183	$823	$1,500
Average indemnity benefit per claim with more than 7 days of lost time[c]	$13,280	$19,734	$13,792	$25,208	$23,576	$21,187	$10,438	$18,332	$24,167	$17,707	$12,648	$14,054	$28,319	$13,563	$24,404	$10,792	$18,960	$11,792	$18,020
Claims with more than 7 days of lost time (percentage)	16.9%	29.1%	23.8%	21.7%	19.9%	30.6%	15.6%	17.6%	22.2%	30.1%	17.7%	19.8%	22.7%	29.5%	19.0%	25.1%	17.0%	18.1%	20.8%

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

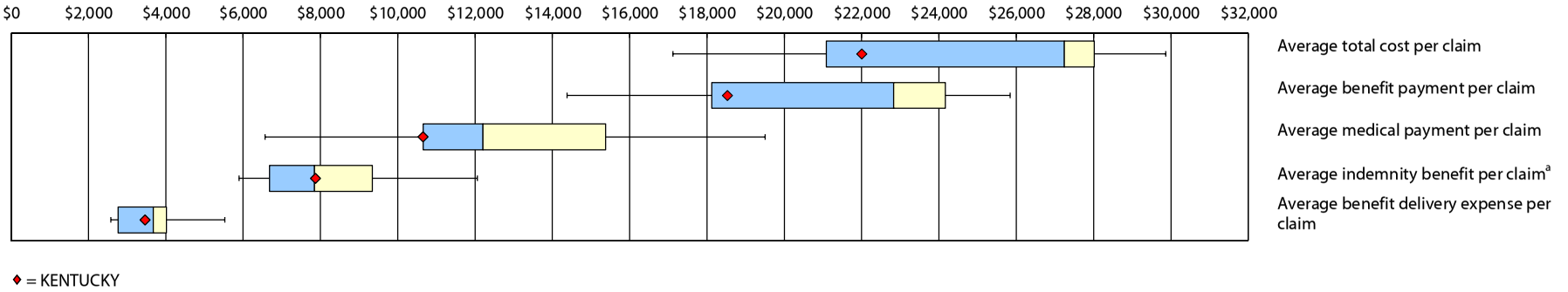
[a] The average indemnity benefit per claim is reported for claims with more than seven days of lost time.

[b] Benefits include both medical and indemnity benefits.

[c] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[d] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Figure 3 Average Costs for Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015



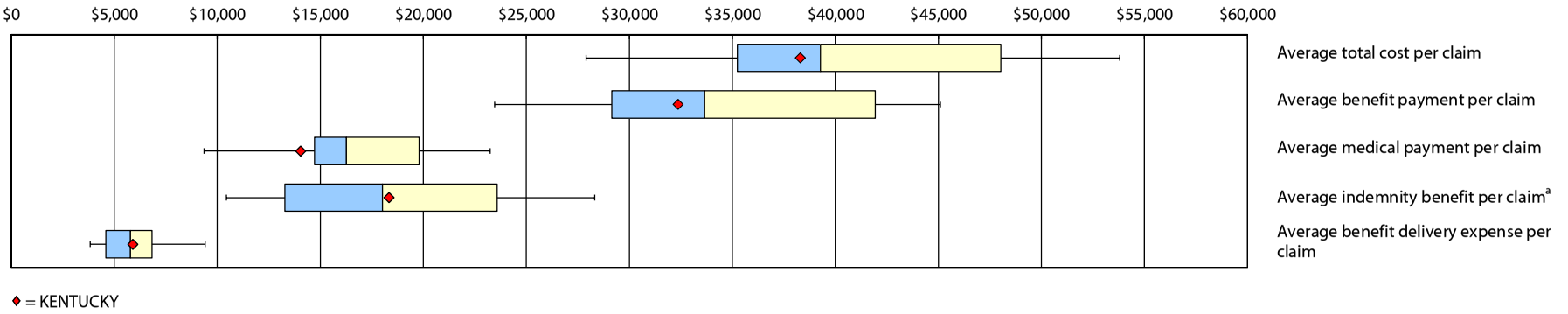
Performance Measure, 2014/2015 Claims	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
Average total cost per claim	$21,707	$20,666	$24,227	$28,189	$26,900	$28,250	$28,277	$22,003	$29,863	$17,118	$18,122	$21,334	$27,621	$27,592	$28,039	$21,891	$29,460	$27,991	$27,246
Average benefit payment per claim	$18,709	$16,669	$20,219	$23,947	$24,167	$24,115	$24,954	$18,529	$25,285	$14,381	$15,338	$18,095	$23,585	$22,066	$24,004	$18,124	$25,838	$25,399	$22,825
Average medical payment per claim	$11,902	$7,328	$12,514	$11,890	$15,942	$14,828	$18,803	$10,655	$14,993	$6,566	$9,237	$11,463	$11,590	$15,378	$13,201	$10,407	$17,271	$19,503	$12,208
Average indemnity benefit per claim[a]	$6,807	$9,341	$7,705	$12,057	$8,225	$9,287	$6,151	$7,874	$10,299	$7,814	$6,101	$6,632	$11,994	$6,687	$10,804	$7,717	$8,567	$5,896	$7,844
Average benefit delivery expense per claim	$2,996	$3,979	$4,001	$4,239	$2,723	$4,120	$3,315	$3,466	$4,539	$2,730	$2,768	$2,592	$4,019	$5,525	$4,020	$3,766	$3,595	$2,580	$3,680

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Figure 4 Average Costs for Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015



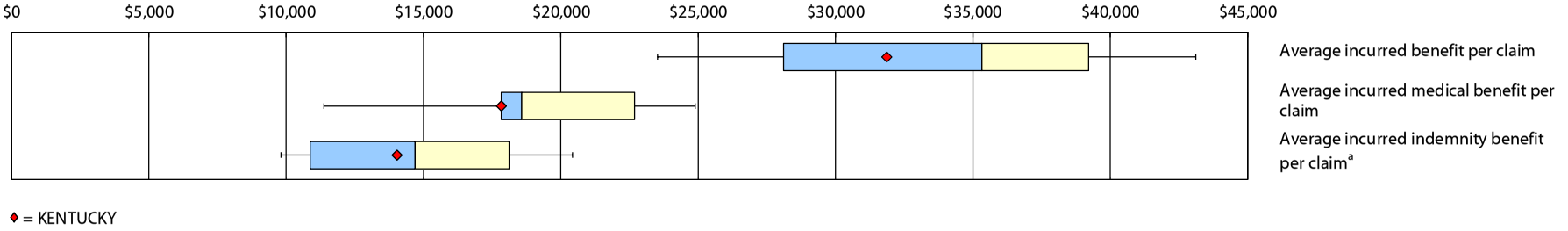
Performance Measure, 2012/2015 Claims	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
Average total cost per claim	$32,597	$43,963	$35,495	$47,822	$48,366	$47,842	$36,810	$38,299	$53,804	$31,590	$27,895	$35,646	$51,937	$40,247	$48,817	$30,313	$48,122	$38,221	$39,273
Average benefit payment per claim	$27,997	$34,475	$29,143	$40,963	$42,983	$40,981	$32,602	$32,367	$44,668	$27,060	$23,464	$29,489	$45,097	$32,968	$41,931	$24,900	$42,200	$34,343	$33,655
Average medical payment per claim	$14,717	$14,741	$15,351	$15,755	$19,407	$19,794	$22,164	$14,050	$20,501	$9,353	$10,816	$15,434	$16,778	$19,405	$17,527	$14,108	$23,240	$22,551	$16,267
Average indemnity benefit per claim[a]	$13,280	$19,734	$13,792	$25,208	$23,576	$21,187	$10,438	$18,332	$24,167	$17,707	$12,648	$14,054	$28,319	$13,563	$24,404	$10,792	$18,960	$11,792	$18,020
Average benefit delivery expense per claim	$4,593	$9,410	$6,329	$6,854	$5,349	$6,748	$4,201	$5,896	$8,790	$4,433	$4,352	$4,850	$6,726	$7,278	$6,824	$5,407	$5,665	$3,829	$5,780

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Figure 5 Average Incurred Benefits for Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015



Performance Measure, 2014/2015 Claims	AR	CA	FL	GA	IA	IL	IN[b]	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	17-State Median[c]
Average incurred benefit per claim	$30,202	$33,053	$28,111	$37,176	$40,093	$43,110	n/a	$31,872	$42,005	$24,849	$23,517	$27,909	$39,209	$37,116	$37,431	$27,633	$40,259	$35,331	$35,331
Average incurred medical benefit per claim	$18,545	$18,360	$17,930	$18,576	$22,284	$22,681	n/a	$17,832	$23,897	$11,378	$13,707	$17,036	$18,835	$20,049	$18,607	$16,011	$24,865	$24,894	$18,576
Average incurred indemnity benefit per claim[a]	$11,657	$14,693	$10,181	$18,600	$17,808	$20,429	n/a	$14,039	$18,122	$13,471	$9,811	$10,873	$20,373	$17,066	$18,824	$11,622	$15,394	$10,437	$14,693

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

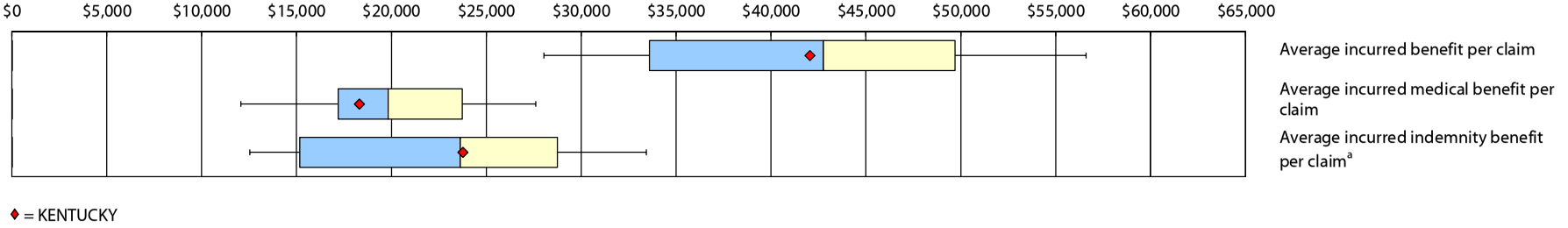
[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[b] Incurred measures are not shown because Indiana results may not be comparable to those of the other study states. Indiana's second injury fund may be petitioned to pay compensation to permanently and totally disabled workers who have received the maximum compensation allowable under Indiana law but remain permanently and totally disabled.

[c] The 17-state median is the state ranked 9th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure. Indiana is excluded for the incurred measures because those measures in Indiana may not be comparable to those of the other study states.

Key: n/a: not applicable.

Figure 6 Average Incurred Benefits for Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015



Performance Measure, 2012/2015 Claims	AR	CA	FL	GA	IA	IL	IN[b]	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	17-State Median[c]
Average incurred benefit per claim	$32,179	$48,222	$32,347	$46,958	$49,504	$52,966	n/a	$42,057	$56,595	$33,586	$28,036	$34,793	$53,267	$42,766	$49,692	$29,073	$51,387	$39,453	$42,766
Average incurred medical benefit per claim	$17,015	$24,604	$17,198	$18,213	$21,634	$23,724	n/a	$18,307	$25,433	$12,070	$12,429	$18,123	$19,832	$21,579	$20,514	$16,541	$27,610	$24,966	$19,832
Average incurred indemnity benefit per claim[a]	$15,164	$23,619	$15,149	$28,746	$27,870	$29,243	n/a	$23,770	$31,162	$21,516	$15,607	$16,671	$33,435	$21,188	$29,178	$12,533	$23,777	$14,487	$23,619

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

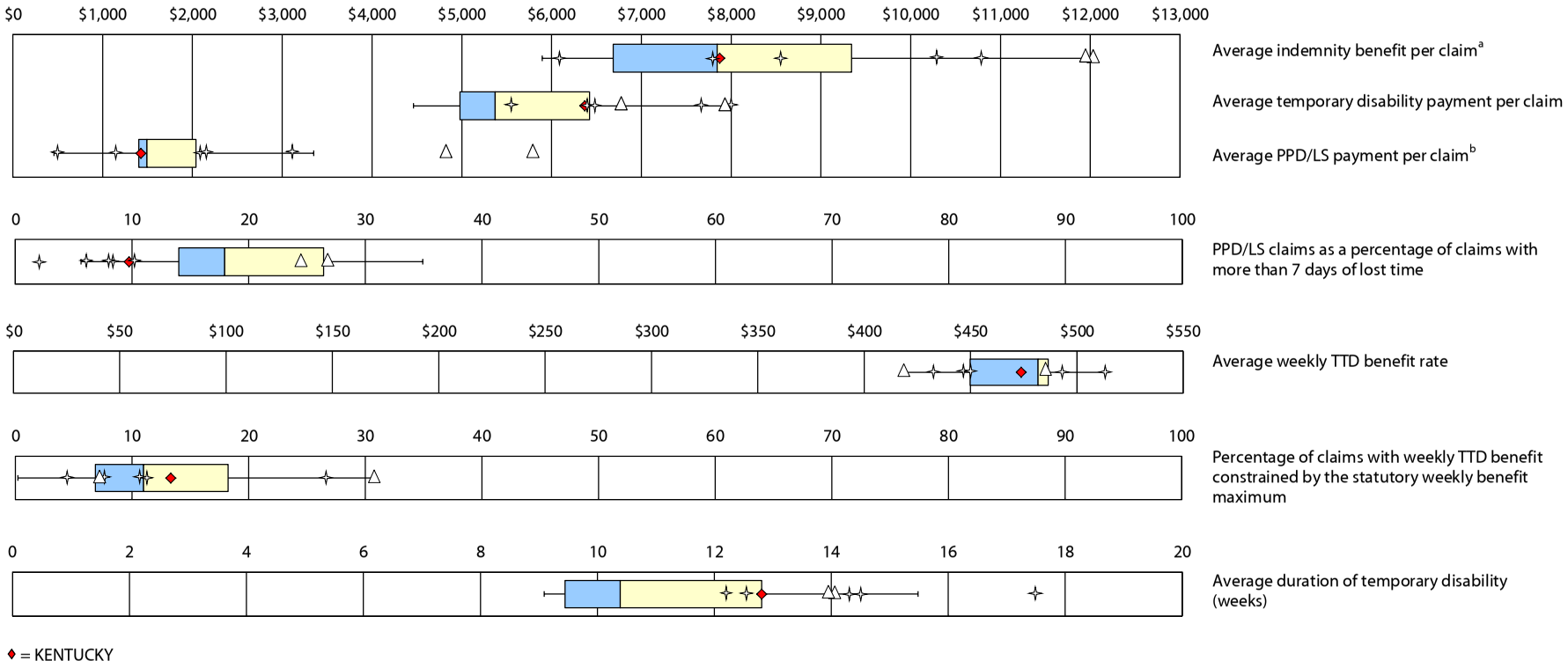
[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[b] Incurred measures are not shown because Indiana results may not be comparable to those of the other study states. Indiana's second injury fund may be petitioned to pay compensation to permanently and totally disabled workers who have received the maximum compensation allowable under Indiana law but remain permanently and totally disabled.

[c] The 17-state median is the state ranked 9th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure. Indiana is excluded for the incurred measures because those measures in Indiana may not be comparable to those of the other study states.

Key: n/a: not applicable.

Figure 7 Average Indemnity Benefits for Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015



Performance Measure, 2014/2015 Claims	AR	CA	FL	GA[c]	IA	IL	IN	KY	LA[d]	MA[d]	MI[d]	MN	NC[c]	NJ	PA[d]	TX	VA[d]	WI	18-State Median[e]	11-State Median[e]
Average indemnity benefit per claim[a]	$6,807	$9,341	$7,705	$12,057	$8,225	$9,287	$6,151	$7,874	$10,299	$7,814	$6,101	$6,632	$11,994	$6,687	$10,804	$7,717	$8,567	$5,896	$7,844	n/a
Average temporary disability payment per claim	$5,004	$7,962	$5,372	$6,793	$5,072	$7,435	$4,915	$6,371	$7,973	$6,488	$5,566	$4,980	$7,943	$6,217	$7,692	$6,423	$6,420	$4,461	n/a	$5,372
Average PPD/LS payment per claim[b]	$1,970	$1,404	$2,517	$5,820	$3,350	$2,040	$1,414	$1,425	$2,111	$1,160	$518	$1,619	$4,836	$457	$3,140	$1,397	$2,155	$1,494	n/a	$1,494
PPD/LS claims as a percentage of claims with more than 7 days of lost time	24.2%	14.0%	34.9%	26.9%	32.2%	14.6%	18.0%	9.7%	10.3%	6.0%	2.0%	14.8%	24.6%	5.6%	8.5%	26.4%	8.2%	23.2%	n/a	18.0%
Average weekly TTD benefit rate	$449	$487	$475	$419	$483	$502	$462	$474	$433	$450	$447	$486	$485	$484	$514	$487	$493	$480	$482	n/a
Percentage of claims with weekly TTD benefit constrained by the statutory weekly benefit maximum	23.1%	6.4%	10.0%	30.7%	0.2%	1.6%	20.0%	13.3%	26.6%	4.4%	11.3%	7.3%	7.4%	19.1%	10.7%	15.6%	7.5%	11.2%	11.0%	n/a
Average duration of temporary disability (weeks)	10.4	15.5	9.4	14.0	9.4	13.7	9.9	12.8	17.5	14.3	12.2	9.6	13.9	12.3	14.5	12.4	12.5	9.1	n/a	10.4

continued

Figure 7 Average Indemnity Benefits for Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015 (continued)

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[b] Includes both PPD benefits and lump-sum settlements.

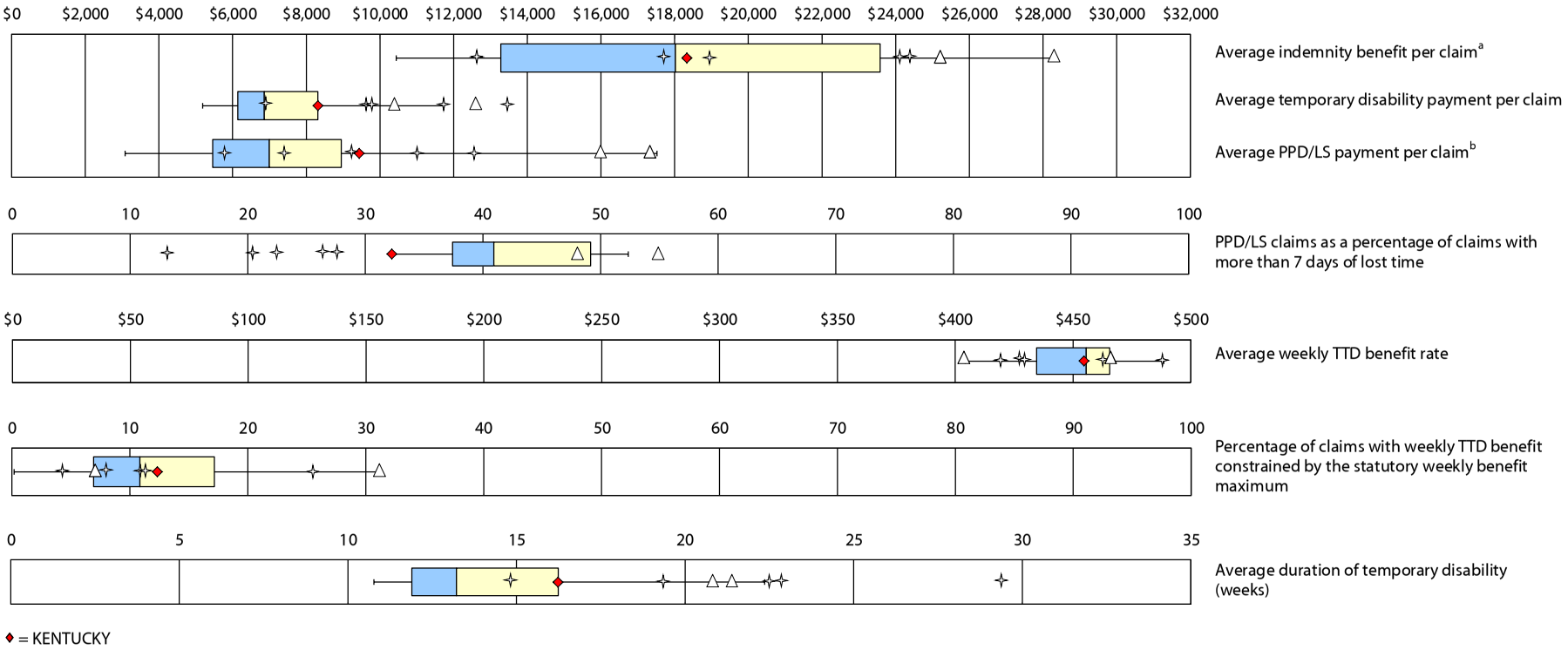
[c] States with attributes of both wage-loss and PPD systems are marked with a " △ " on the box plot.

[d] Wage-loss states are marked with a " ✛ " on the box plot.

[e] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure. In the box plots for the following measures, the median line represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system): average temporary disability payment per claim, average PPD/LS payment per claim, PPD/LS claims as a percentage of claims with more than 7 days of lost time, and average duration of temporary disability. The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated.

Key: n/a: not applicable; PPD: permanent partial disability; PPD/LS: permanent partial disability or lump sum; TTD: temporary total disability.

Figure 8 Average Indemnity Benefits for Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015



Performance Measure, 2012/2015 Claims	AR	CA	FL	GA[c]	IA	IL	IN[d]	KY	LA[e]	MA[e]	MI[e]	MN	NC[c]	NJ	PA[e]	TX	VA[e]	WI	18-State Median[f]	11-State Median[f]
Average indemnity benefit per claim[a]	$13,280	$19,734	$13,792	$25,208	$23,576	$21,187	$10,438	$18,332	$24,167	$17,707	$12,648	$14,054	$28,319	$13,563	$24,404	$10,792	$18,960	$11,792	$18,020	n/a
Average temporary disability payment per claim	$6,389	$11,728	$6,743	$10,385	$6,028	$11,095	$6,138	$8,316	$13,476	$9,825	$6,938	$6,862	$12,597	$7,414	$11,710	$7,523	$9,748	$5,184	n/a	$6,862
Average PPD/LS payment per claim[b]	$6,997	$8,467	$6,894	$15,971	$17,523	$11,111	$4,718	$9,437	$11,021	$7,391	$5,819	$7,132	$17,360	$6,207	$12,577	$3,084	$9,246	$6,465	n/a	$6,997
PPD/LS claims as a percentage of claims with more than 7 days of lost time	39.4%	49.2%	49.2%	48.0%	52.4%	42.7%	37.4%	32.3%	27.6%	20.3%	13.1%	36.6%	54.9%	38.9%	22.4%	40.9%	26.3%	41.5%	n/a	40.9%
Average weekly TTD benefit rate	$435	$462	$453	$404	$467	$480	$440	$455	$420	$429	$430	$455	$466	$462	$489	$460	$465	$457	$456	n/a
Percentage of claims with weekly TTD benefit constrained by the statutory weekly benefit maximum	20.5%	7.3%	9.5%	31.0%	0.2%	1.6%	18.3%	12.3%	25.3%	4.1%	10.9%	10.4%	7.2%	19.6%	10.8%	17.2%	7.9%	13.2%	10.8%	n/a
Average duration of temporary disability (weeks)	13.0	22.4	11.9	20.8	11.3	18.7	11.9	16.2	29.4	22.5	14.8	13.2	21.4	13.6	22.9	15.1	19.4	10.8	n/a	13.2

continued

Figure 8 Average Indemnity Benefits for Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015 (continued)

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[b] Includes both PPD benefits and lump-sum settlements.

[c] States with attributes of both wage-loss and PPD systems are marked with a " △ " on the box plot.

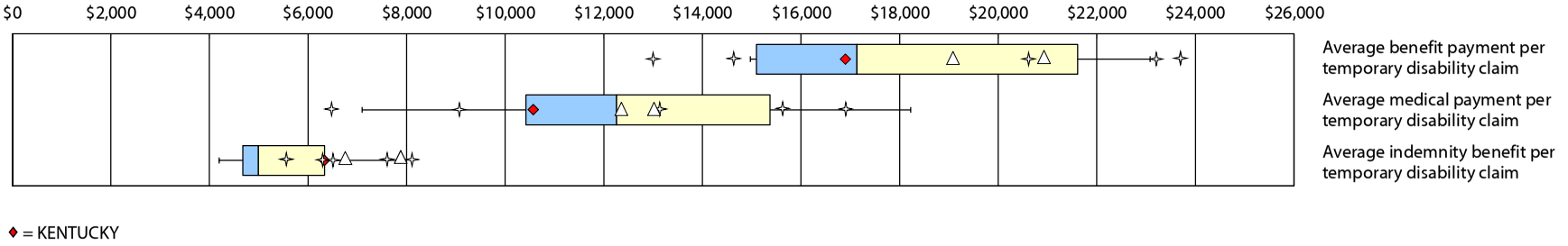
[d] For claims with more than 24 months' maturity, average temporary disability payments per claim and average PPD/LS payments per claim may not be comparable to those of other study states because temporary disability payments in excess of 125 weeks can be credited against any permanent impairment benefits due to the worker once maximum medical improvement has been reached. However, these payments may not be consistently recorded by the data sources.

[e] Wage-loss states are marked with a " ✧ " on the box plot.

[f] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure. In the box plots for the following measures, the median line represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system): average temporary disability payment per claim, average PPD/LS payment per claim, PPD/LS claims as a percentage of claims with more than 7 days of lost time, and average duration of temporary disability. The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated.

Key: n/a: not applicable; PPD: permanent partial disability; PPD/LS: permanent partial disability or lump sum; TTD: temporary total disability.

Figure 9 Average Costs for Temporary Disability Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015



Performance Measure, 2014/2015 Claims	AR	CA	FL	GA[a]	IA	IL	IN	KY	LA[b]	MA[b]	MI[b]	MN	NC[a]	NJ	PA[b]	TX	VA[b]	WI	11-State Median[c]
Average benefit payment per temporary disability claim	$15,096	$14,971	$17,253	$19,096	$17,133	$22,579	$23,080	$16,902	$23,727	$12,993	$14,648	$15,424	$20,924	$21,613	$20,623	$15,094	$23,225	$20,716	$17,133
Average medical payment per temporary disability claim	$10,417	$7,096	$12,260	$12,375	$12,596	$14,990	$18,222	$10,569	$15,631	$6,477	$9,081	$10,626	$13,017	$15,370	$13,033	$9,011	$16,938	$16,523	$12,260
Average indemnity benefit per temporary disability claim	$4,679	$7,874	$4,993	$6,721	$4,538	$7,589	$4,858	$6,333	$8,103	$6,515	$5,568	$4,798	$7,907	$6,243	$7,590	$6,083	$6,287	$4,194	$4,993

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

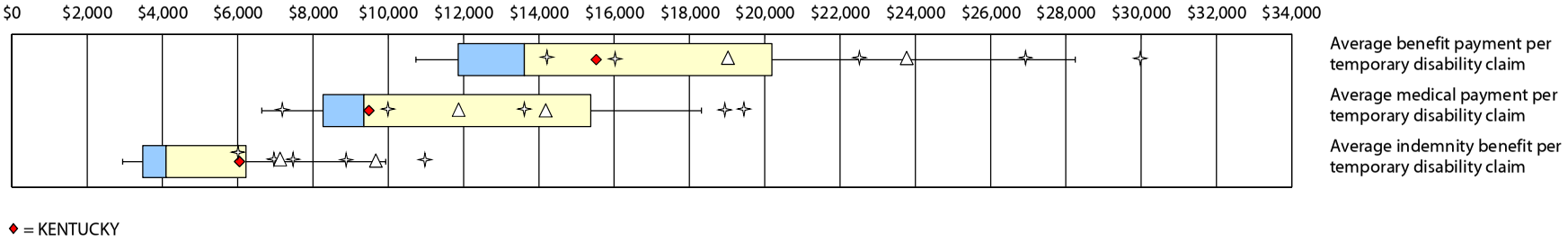
[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[b] Wage-loss states are marked with a "✧" on the box plot.

[c] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Figure 10 Average Costs for Temporary Disability Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015



Performance Measure, 2012/2015 Claims	AR	CA	FL	GA[a]	IA	IL	IN[b]	KY	LA[c]	MA[c]	MI[c]	MN	NC[a]	NJ	PA[c]	TX	VA[c]	WI	11-State Median[d]
Average benefit payment per temporary disability claim	$12,005	$13,732	$11,860	$19,017	$11,282	$28,253	$20,188	$15,526	$29,968	$14,220	$16,046	$13,362	$23,820	$23,194	$22,516	$10,735	$26,974	$13,617	$13,617
Average medical payment per temporary disability claim	$8,270	$7,157	$8,385	$11,868	$8,335	$18,317	$15,382	$9,488	$18,958	$7,172	$10,025	$9,355	$14,149	$16,977	$13,638	$6,640	$19,465	$10,458	$9,355
Average indemnity benefit per temporary disability claim	$3,735	$6,575	$3,475	$7,148	$2,947	$9,935	$4,806	$6,046	$11,010	$7,048	$6,021	$4,007	$9,671	$6,217	$8,878	$4,096	$7,508	$3,158	$4,096

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[b] For claims with more than 24 months' maturity, average temporary disability payments per claim and average PPD/LS payments per claim may not be comparable to those of other study states because temporary disability payments in excess of 125 weeks can be credited against any permanent impairment benefits due to the worker once maximum medical improvement has been reached. However, these payments may not be consistently recorded by the data sources.

[c] Wage-loss states are marked with a "✧" on the box plot.

[d] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability; PPD/LS: permanent partial disability or lump sum.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 11 Average Costs for Permanent Partial Disability/Lump-Sum Claims[a] with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 11 Non-Wage-Loss States and 2 States with Attributes of both Wage-Loss and PPD Systems, 2012/2015

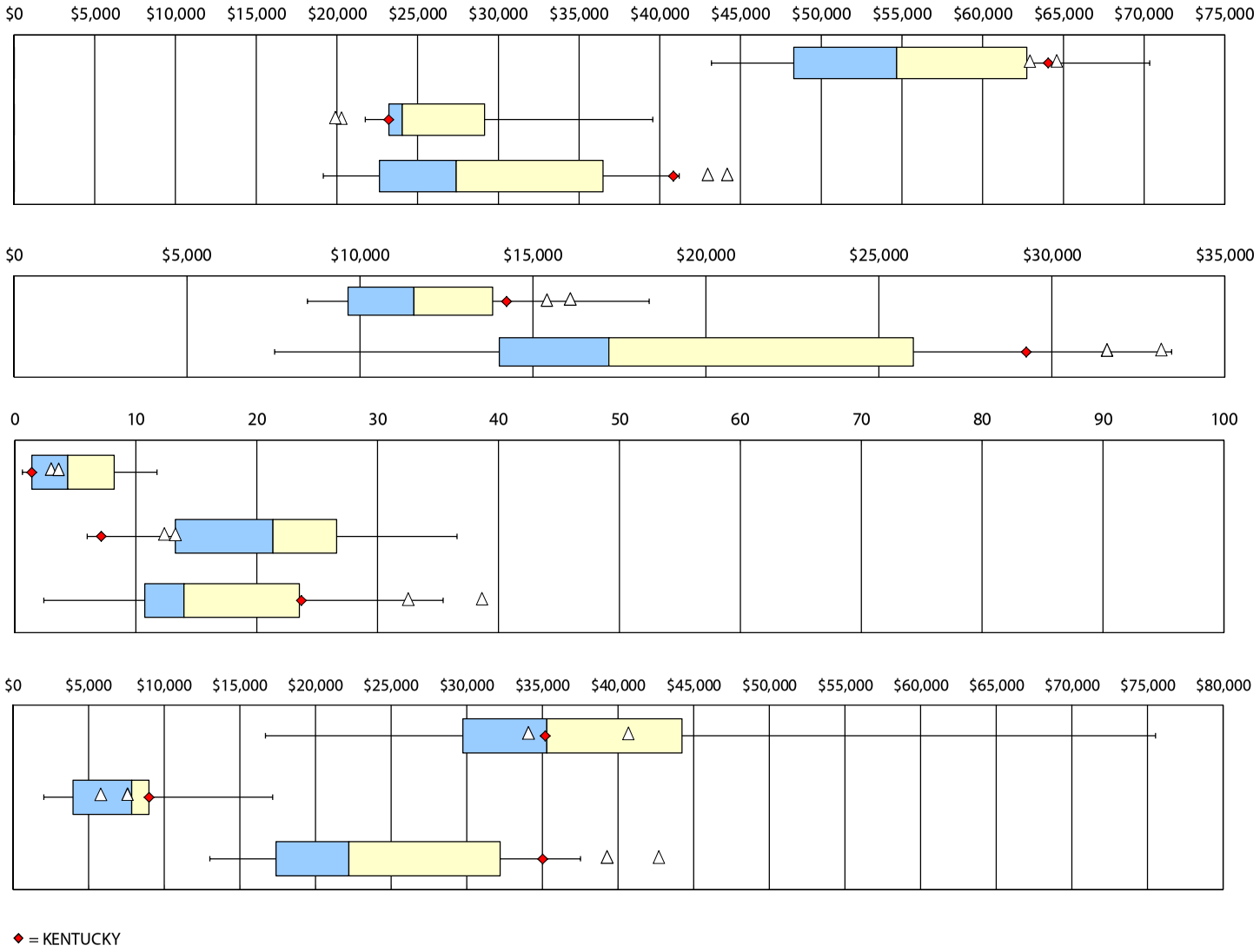


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Figure 11 Average Costs for Permanent Partial Disability/Lump-Sum Claims[a] with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 11 Non-Wage-Loss States and 2 States with Attributes of both Wage-Loss and PPD Systems, 2012/2015 (continued)

Performance Measure, 2012/2015 Claims	AR	CA	FL	GA[b]	IA	IL	IN[c]	KY	MN	NC[b]	NJ	TX	WI	11-State Median[d]
Average benefit payment per PPD/LS claim	$52,190	$54,670	$44,397	$64,667	$70,339	$60,139	$53,145	$64,060	$56,510	$63,014	$48,295	$43,204	$62,730	$54,670
Average medical payment per PPD/LS claim	$24,804	$22,181	$21,764	$20,458	$29,146	$23,650	$33,752	$23,213	$26,176	$19,972	$23,377	$24,044	$39,564	$24,044
Average indemnity benefit per PPD/LS claim	$27,386	$32,489	$22,633	$44,209	$41,193	$36,488	$19,393	$40,848	$30,334	$43,042	$24,918	$19,160	$23,166	$27,386
Average temporary disability benefit per PPD/LS claim	$11,564	$18,356	$10,412	$15,489	$9,482	$13,382	$9,659	$14,242	$13,025	$16,118	$10,154	$13,839	$8,479	$11,564
Average PPD/LS payment per claim with PPD/LS payments	$17,763	$17,198	$14,025	$33,243	$33,465	$25,994	$12,607	$29,260	$19,473	$31,601	$15,953	$7,536	$15,584	$17,198
Claims with more than 7 days of lost time with both PPD and lump-sum payments (percentage)	7.3%	11.6%	8.2%	3.0%	11.8%	1.4%	0.6%	1.4%	2.8%	2.9%	8.2%	2.0%	4.4%	4.4%
Average PPD/LS payment per claim with both PPD and lump-sum payments	$38,156	$32,579	$35,283	$40,795	$75,543	$61,207	$29,745	$35,193	$44,232	$34,315	$17,897	$16,684	$37,102	$35,283
Claims with more than 7 days of lost time with PPD payments only (percentage)	21.3%	24.3%	23.4%	12.3%	26.6%	6.0%	13.3%	7.2%	17.7%	13.1%	17.9%	36.6%	27.1%	21.3%
Average PPD payment per claim with PPD payments only	$8,801	$7,153	$2,042	$5,839	$12,736	$8,803	$3,317	$8,990	$3,965	$7,765	$17,164	$6,612	$7,839	$7,839
Claims with more than 7 days of lost time with lump-sum settlements only (percentage)	10.7%	13.3%	17.5%	32.7%	14.0%	35.4%	23.5%	23.7%	16.2%	38.9%	12.8%	2.4%	10.0%	14.0%
Average lump-sum settlement per claim with lump-sum settlements only	$21,690	$22,198	$20,108	$42,853	$37,510	$27,550	$17,389	$35,026	$32,196	$39,453	$13,017	$14,115	$27,164	$22,198

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. The reader should further note that lump-sum settlements in California reflect payments based on the agreed amount at the time of Compromise and Release (C&R) or Stipulation and do not include any potential subsequent payments for outstanding liens.

[b] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[c] For claims with more than 24 months' maturity, average temporary disability payments per claim and average PPD/LS payments per claim may not be comparable to those of other study states because temporary disability payments in excess of 125 weeks can be credited against any permanent impairment benefits due to the worker once maximum medical improvement has been reached. However, these payments may not be consistently recorded by the data sources.

[d] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability; PPD/LS: permanent partial disability or lump-sum settlement.

Figure 12 Average Benefit Delivery Expenses[a] for Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015

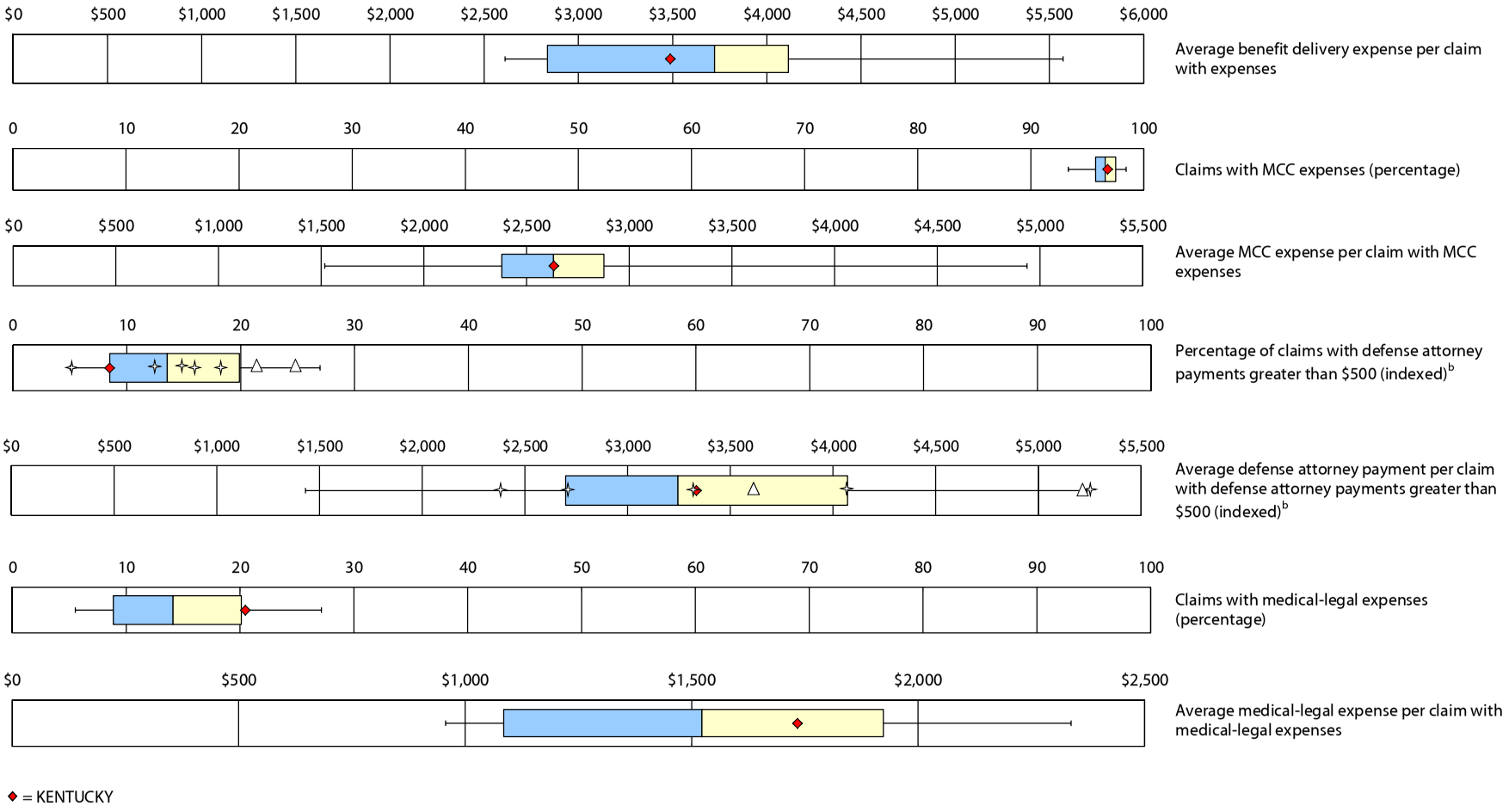

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Figure 12 Average Benefit Delivery Expenses[a] for Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015 (continued)

Performance Measure, 2014/2015 Claims	AR[c]	CA	FL[c]	GA[d]	IA	IL	IN	KY	LA[e]	MA[e]	MI[e]	MN	NC[d]	NJ	PA[e]	TX	VA[e]	WI	18-State Median[f]
Average benefit delivery expense per claim with expenses	$3,026	$3,995	$4,114	$4,261	$2,759	$4,168	$3,337	$3,487	$4,584	$2,779	$2,835	$2,617	$4,046	$5,572	$4,051	$3,809	$3,635	$2,611	$3,722
Claims with MCC expenses (percentage)	97.6%	97.8%	93.3%	95.7%	96.9%	96.5%	98.4%	96.8%	96.3%	95.7%	95.7%	95.0%	96.0%	97.5%	97.1%	97.5%	96.7%	96.5%	96.6%
Average MCC expense per claim with MCC expenses	$2,549	$2,631	$2,513	$2,531	$2,164	$2,877	$3,028	$2,632	$2,934	$1,883	$2,379	$1,517	$2,836	$4,938	$2,651	$3,141	$2,850	$1,972	$2,632
Percentage of claims with defense attorney payments greater than $500 (indexed)[b]	8.5%	19.1%	27.0%	24.8%	9.4%	19.9%	5.9%	8.5%	18.1%	12.3%	5.2%	11.8%	21.3%	20.4%	15.9%	5.6%	14.8%	5.0%	13.6%
Average defense attorney payment per claim with defense attorney payments greater than $500 (indexed)[b]	$3,142	$3,418	$4,460	$5,222	$3,171	$2,285	$2,155	$3,335	$5,236	$2,383	$2,712	$4,611	$3,621	$1,432	$4,070	$2,887	$3,321	$2,699	$3,246
Claims with medical-legal expenses (percentage)	n/a	9.2%	n/a	9.9%	8.5%	25.6%	6.5%	20.5%	12.9%	19.8%	15.3%	12.6%	6.5%	18.1%	18.0%	27.2%	5.5%	20.4%	14.1%
Average medical-legal expense per claim with medical-legal expenses	n/a	$1,819	n/a	$1,092	$1,078	$2,308	$1,093	$1,733	$2,102	$1,180	$1,318	$2,338	$957	$1,018	$2,027	$966	$1,727	$1,732	$1,523

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

[a] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[c] Percentage of claims with medical-legal expenses and average medical-legal expense per claim at 12 months' average maturity are not reported for Arkansas and Florida because underlying data in our sample are not necessarily representative of the state's experience.

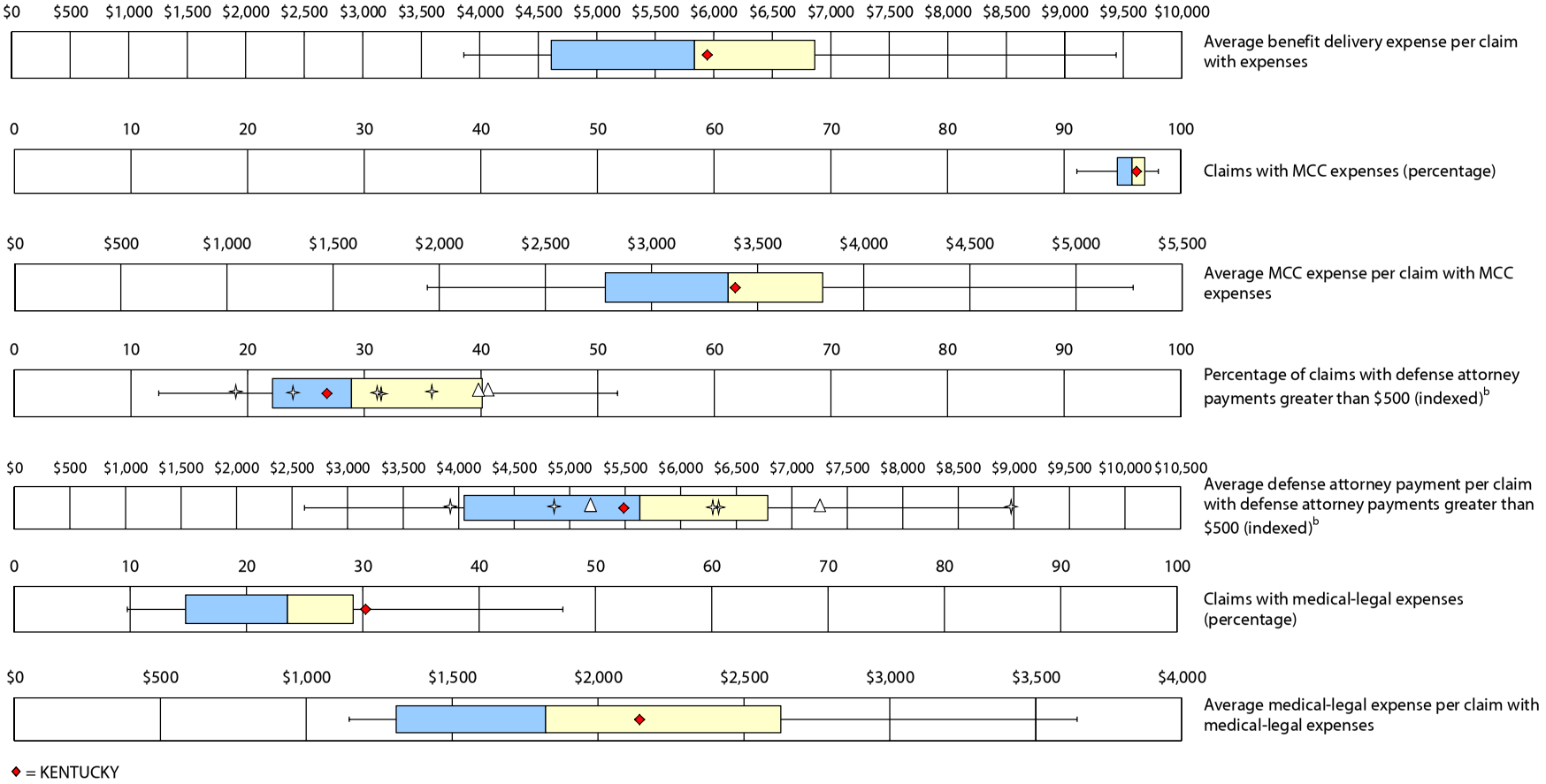
[d] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[e] Wage-loss states are marked with a "✧" on the box plot.

[f] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Key: MCC: medical cost containment; n/a: not applicable; PPD: permanent partial disability.

Figure 13 Average Benefit Delivery Expenses[a] for Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015



continued

Figure 13 Average Benefit Delivery Expenses[a] for Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity, 2012/2015 (continued)

Performance Measure, 2012/2015 Claims	AR	CA	FL[c]	GA[d]	IA	IL	IN	KY	LA[e]	MA[e]	MI[e]	MN	NC[d]	NJ	PA[e]	TX	VA[e]	WI	18-State Median[f]
Average benefit delivery expense per claim with expenses	$4,611	$9,439	$6,482	$6,879	$5,396	$6,833	$4,227	$5,943	$8,851	$4,502	$4,526	$4,872	$6,769	$7,331	$6,864	$5,479	$5,728	$3,864	$5,836
Claims with MCC expenses (percentage)	97.3%	97.6%	93.3%	94.6%	96.5%	94.7%	98.1%	96.2%	95.3%	95.8%	91.1%	93.3%	94.9%	94.4%	96.9%	97.6%	96.6%	95.9%	95.8%
Average MCC expense per claim with MCC expenses	$3,351	$4,208	$3,045	$3,065	$2,783	$3,807	$3,203	$3,395	$4,337	$2,536	$2,575	$1,943	$3,687	$5,270	$3,371	$3,973	$3,534	$2,213	$3,361
Percentage of claims with defense attorney payments greater than $500 (indexed)[b]	22.1%	41.7%	39.5%	40.2%	25.0%	41.3%	16.7%	26.8%	35.7%	23.8%	19.0%	24.5%	40.1%	51.7%	31.0%	12.4%	31.3%	14.3%	28.9%
Average defense attorney payment per claim with defense attorney payments greater than $500 (indexed)[b]	$3,983	$6,709	$6,784	$7,240	$6,850	$4,048	$3,956	$5,488	$8,983	$3,938	$6,292	$7,392	$5,174	$2,613	$6,327	$5,775	$4,864	$5,089	$5,631
Claims with medical-legal expenses (percentage)	12.0%	28.2%	n/a	17.2%	19.6%	33.3%	9.8%	30.2%	19.0%	25.5%	23.5%	22.5%	11.8%	47.2%	27.0%	30.1%	12.3%	26.3%	23.5%
Average medical-legal expense per claim with medical-legal expenses	$1,306	$3,642	n/a	$1,310	$1,821	$2,742	$1,521	$2,142	$2,511	$1,462	$1,656	$2,925	$1,147	$1,195	$2,763	$1,226	$1,897	$2,150	$1,821

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[c] Percentage of claims with medical-legal expenses and average medical-legal expense per claim at 36 months' average maturity are not reported for Florida because underlying data in our sample are not necessarily representative of the state's experience.

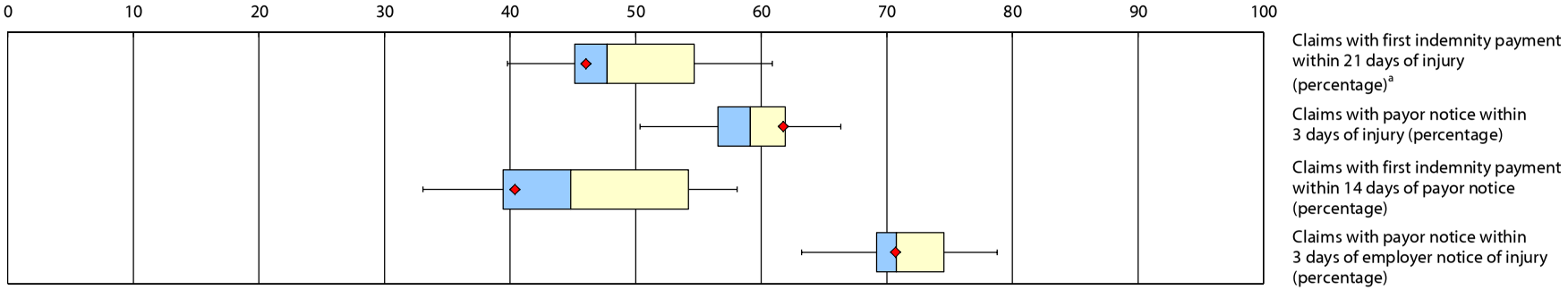
[d] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[e] Wage-loss states are marked with a "✧" on the box plot.

[f] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Key: MCC: medical cost containment; n/a: not applicable; PPD: permanent partial disability.

Figure 14 Timing of First Indemnity Payments and Reporting of Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity, 2014/2015



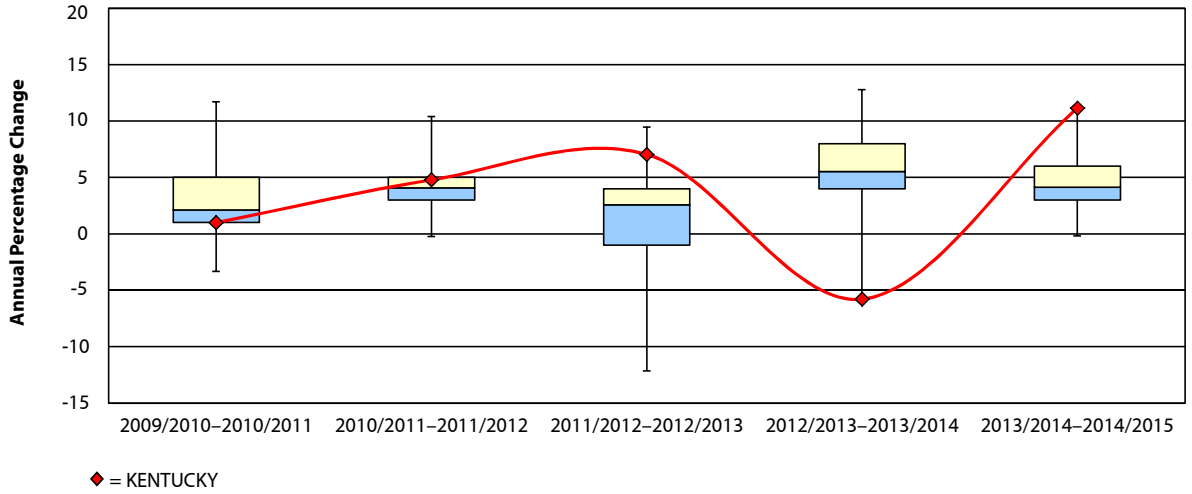
Performance Measure, 2014/2015 Claims	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
Claims with first indemnity payment within 21 days of injury (percentage)[a]	56.4%	45.8%	47.0%	41.2%	48.8%	44.1%	45.2%	46.0%	48.4%	60.9%	48.7%	57.7%	39.8%	54.7%	45.2%	56.4%	42.8%	54.6%	47.7%
Claims with payor notice within 3 days of injury (percentage)	65.5%	50.4%	65.9%	61.9%	56.2%	56.5%	58.3%	61.8%	59.0%	58.3%	53.1%	57.3%	60.7%	61.7%	63.7%	59.2%	66.3%	54.7%	59.1%
Claims with first indemnity payment within 14 days of payor notice (percentage)	54.2%	45.7%	44.3%	34.2%	44.9%	39.4%	40.9%	40.4%	44.7%	58.1%	45.1%	57.3%	34.6%	48.8%	33.1%	54.3%	35.0%	55.1%	44.8%
Claims with payor notice within 3 days of employer notice of injury (percentage)	74.9%	66.3%	78.8%	73.5%	66.3%	69.7%	69.2%	70.7%	69.3%	70.7%	63.2%	71.2%	72.2%	74.6%	77.3%	70.8%	77.2%	68.0%	70.8%

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

[a] The measure shown here does not purport to show compliance with individual state requirements for timely payment, and WCRI results will differ from numbers from the workers' compensation agency. Our data include claims that were denied and/or litigated but paid within the evaluation cutoff, as well as claims in which the workers were not continuously disabled from the date of injury, so the obligation to pay did not arise until later in the claim.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the vertical line within the box of the box plot figure for a measure.

Figure 15 Trend of Average Total Cost per All Paid Claims at 12 Months' Average Maturity



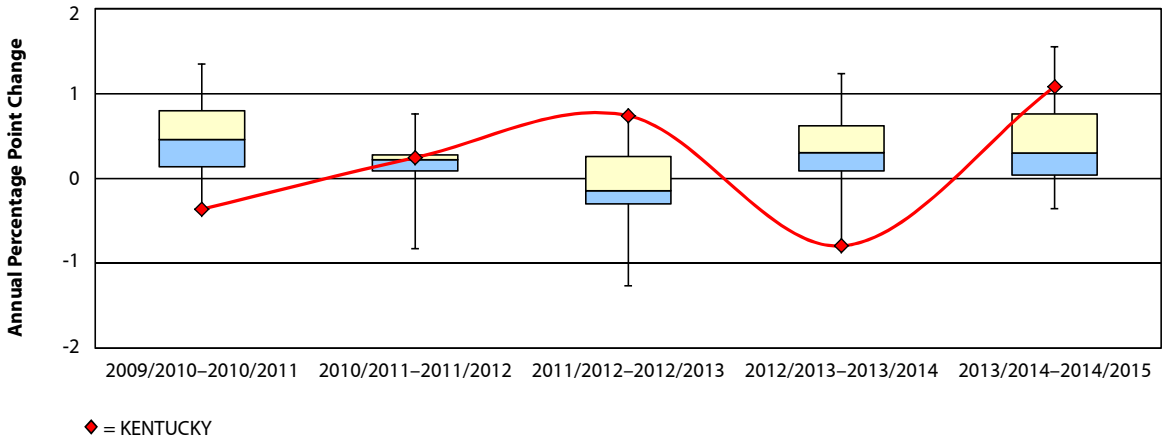
Period	Average Total Cost per All Paid Claims (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
2009/2010 to 2010/2011	4.5	7.5	2.2	-0.1	0.8	1.4	5.9	1.0	2.2	-3.3	0.2	4.3	1.5	11.7	2.5	1.6	11.6	2.1	2.1
2010/2011 to 2011/2012	5.0	4.9	4.5	3.7	10.4	-0.1	6.6	4.8	10.1	0.5	2.9	-0.2	2.7	3.0	4.7	2.9	2.0	5.9	4.1
2011/2012 to 2012/2013	-2.5	3.7	2.0	2.4	-0.7	-12.1	1.8	7.0	-3.0	4.1	-0.3	4.3	2.7	2.7	5.2	-0.2	9.5	4.5	2.6
2012/2013 to 2013/2014	4.4	1.1	2.0	7.4	12.8	5.5	8.9	-5.8	5.5	9.3	6.4	5.8	3.1	5.6	5.5	3.9	3.9	8.5	5.5
2013/2014 to 2014/2015	0.4	2.6	5.1	6.3	0.5	3.2	4.0	11.1	8.4	4.3	3.0	3.5	-0.2	5.6	6.8	2.9	4.4	7.1	4.1

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 16 Trend of Percentage of Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity



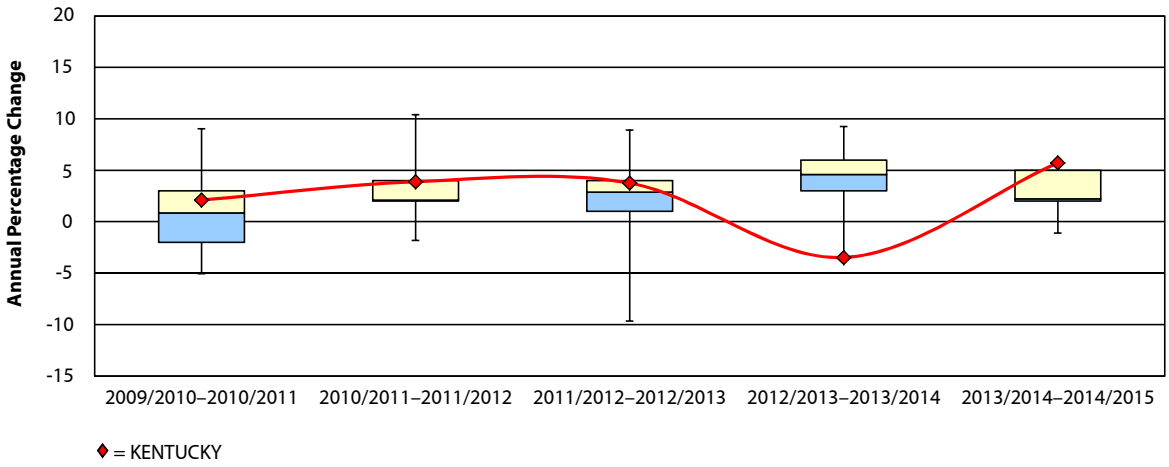
Period	Percentage of Claims with More Than 7 Days of Lost Time (annual percentage point change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
2009/2010 to 2010/2011	0.3	1.3	0.2	0.1	-0.4	0.7	0.2	-0.4	0.9	0.4	0.5	1.0	0.5	0.9	-0.1	0.8	0.7	-0.2	0.5
2010/2011 to 2011/2012	-0.8	0.7	0.7	0.3	0.2	0.2	0.2	0.2	0.2	-0.3	0.3	0.1	0.1	0.8	0.2	-0.4	-0.1	0.3	0.2
2011/2012 to 2012/2013	-0.2	0.6	-0.4	0.1	-0.3	-0.7	-0.1	0.7	-0.9	0.3	-0.2	0.0	0.3	-0.3	-0.2	-1.3	0.4	0.2	-0.1
2012/2013 to 2013/2014	0.3	0.3	-0.3	0.3	1.0	0.3	0.4	-0.8	0.7	1.2	0.1	0.6	0.2	0.8	0.0	-0.7	0.6	0.4	0.3
2013/2014 to 2014/2015	-0.2	0.0	0.1	1.6	-0.4	0.3	0.2	1.1	0.8	0.8	-0.1	0.5	0.2	0.6	0.8	0.3	-0.2	0.6	0.3

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 17 Trend of Average Total Cost per Claim with More Than 7 Days of Lost Time at 12 Months' Average Maturity



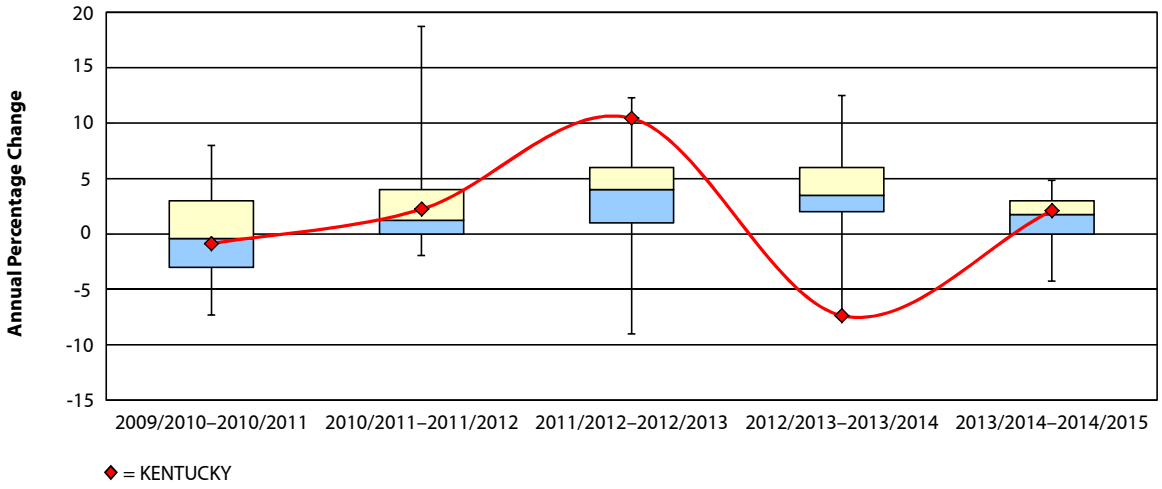
Period	Average Total Cost per Claim with More Than 7 Days of Lost Time (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
2009/2010 to 2010/2011	1.4	2.3	0.3	-1.8	1.3	-1.4	3.9	2.1	-2.2	-5.1	-4.0	-1.2	-1.8	9.0	2.8	-1.5	7.6	2.1	0.8
2010/2011 to 2011/2012	10.2	2.1	1.7	1.6	9.9	-0.6	5.6	3.9	10.4	1.6	1.6	-1.8	2.1	-0.5	3.9	3.1	2.0	3.8	2.1
2011/2012 to 2012/2013	-2.9	1.3	3.6	2.7	0.1	-9.7	1.6	3.8	-0.5	3.4	0.6	4.4	1.5	3.1	6.7	4.1	8.9	3.7	2.9
2012/2013 to 2013/2014	4.4	0.4	2.6	6.5	9.3	4.8	6.3	-3.5	2.6	6.0	6.4	3.2	1.6	3.2	5.3	6.9	1.8	5.9	4.6
2013/2014 to 2014/2015	1.8	2.2	5.2	-0.2	1.7	2.3	1.9	5.7	6.0	2.1	3.3	2.0	-1.1	4.0	3.7	1.8	5.0	4.7	2.2

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 18 Trend of Average Incurred Benefit per Claim with More Than 7 Days of Lost Time at 12 Months' Average Maturity



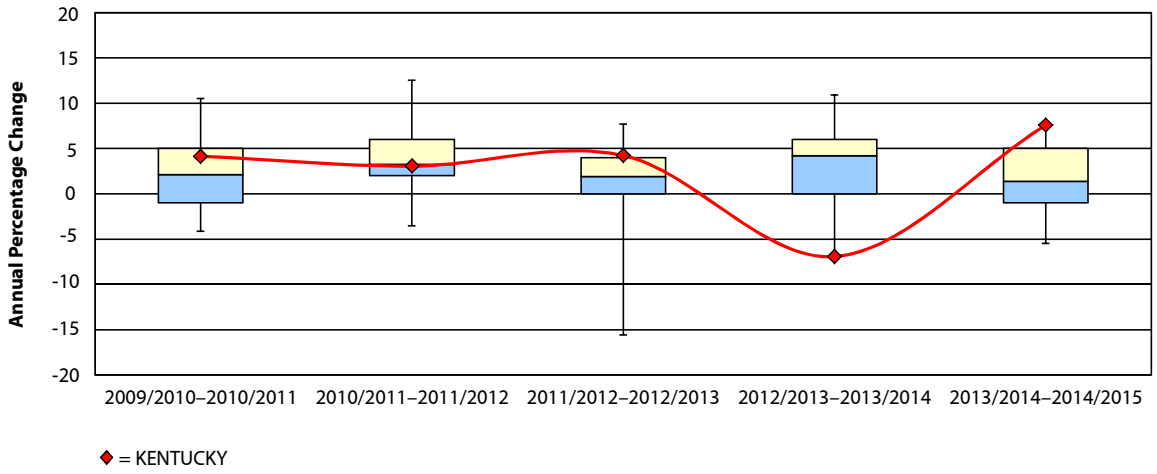
Period	Average Incurred Benefit per Claim with More Than 7 Days of Lost Time (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
2009/2010 to 2010/2011	-0.4	3.5	0.6	-3.7	4.0	-1.8	6.3	-0.9	-3.4	-4.3	-7.3	-0.4	-4.8	5.7	-0.2	-2.1	8.0	0.9	-0.4
2010/2011 to 2011/2012	18.7	1.3	1.7	-1.5	6.7	0.0	3.6	2.2	5.4	-1.6	0.7	-1.9	0.8	0.8	2.1	1.2	-0.6	4.2	1.2
2011/2012 to 2012/2013	-9.0	0.7	3.3	3.6	1.2	-7.1	3.2	10.4	6.1	4.8	2.1	5.7	1.3	4.5	12.2	6.4	12.3	5.7	4.0
2012/2013 to 2013/2014	4.2	1.7	1.5	10.3	6.8	2.7	6.4	-7.4	4.9	12.5	2.6	2.2	0.6	3.5	4.0	7.0	-0.2	3.5	3.5
2013/2014 to 2014/2015	4.1	0.3	4.8	-4.3	1.4	3.2	2.9	2.1	0.9	-3.3	1.3	0.0	-2.2	2.7	0.9	2.5	4.8	3.8	1.8

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 19 Trend of Average Medical Payment per Claim with More Than 7 Days of Lost Time at 12 Months' Average Maturity



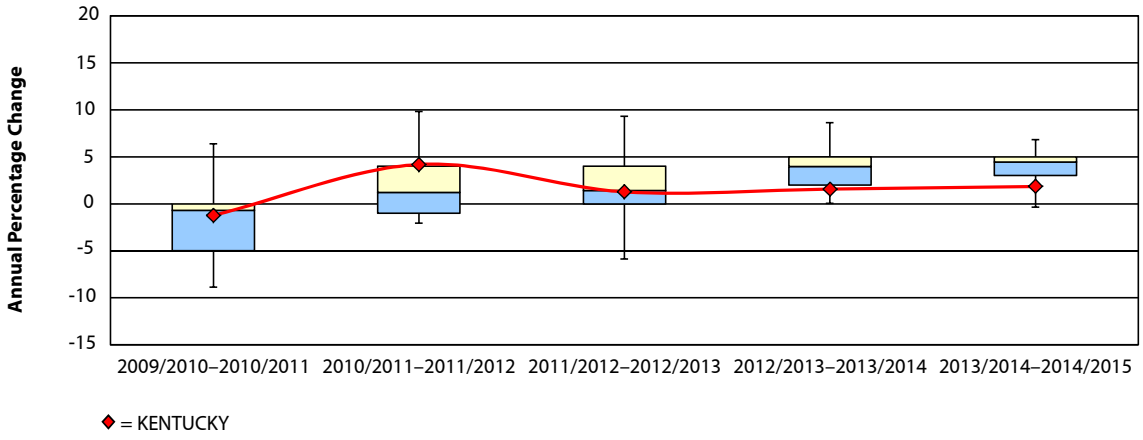
Period	Average Medical Payment per Claim with More Than 7 Days of Lost Time (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
2009/2010 to 2010/2011	5.0	3.1	1.9	-4.1	0.6	2.3	5.7	4.1	-3.1	0.9	-2.0	-1.2	-3.4	10.5	3.5	0.0	9.8	5.1	2.1
2010/2011 to 2011/2012	9.8	1.4	2.7	2.4	12.5	-3.5	6.1	3.1	10.9	1.6	5.7	-2.8	3.5	1.5	4.6	7.0	3.2	3.3	3.3
2011/2012 to 2012/2013	-3.1	0.2	4.6	0.7	-1.3	-15.6	1.7	4.2	-0.2	2.1	-0.3	5.4	-3.2	3.0	6.3	3.6	7.7	4.4	1.9
2012/2013 to 2013/2014	5.4	-4.2	1.7	5.2	10.9	4.2	6.6	-6.9	-0.1	4.3	5.0	3.1	-1.1	0.6	6.3	7.6	-1.5	5.8	4.2
2013/2014 to 2014/2015	0.4	-2.5	6.2	-2.7	0.1	2.0	1.5	7.6	5.6	0.1	2.1	-0.9	-5.5	1.3	1.4	-0.9	5.1	5.9	1.4

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 20 Trend of Average Indemnity Benefit per Claim with More Than 7 Days of Lost Time at 12 Months' Average Maturity



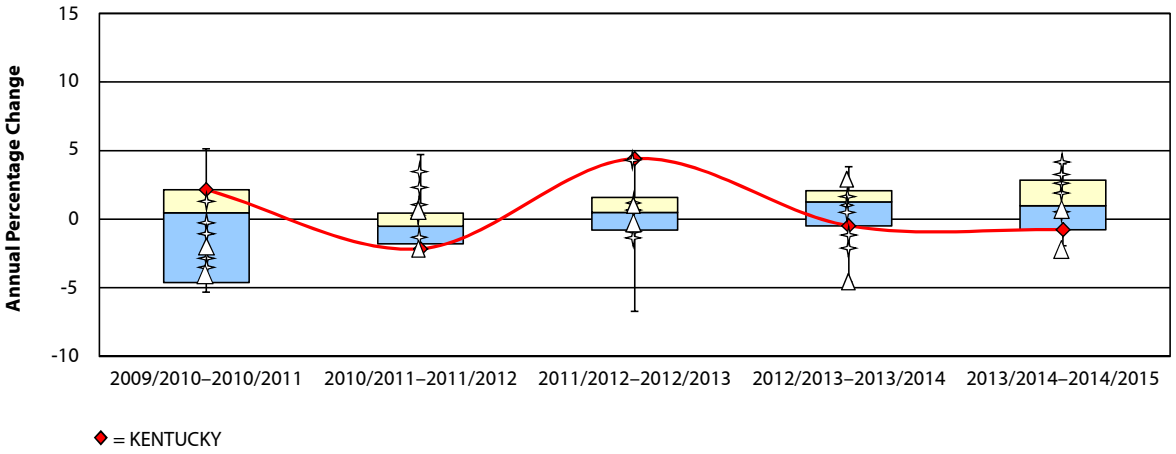
Period	Average Indemnity Benefit per Claim with More Than 7 Days of Lost Time (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
2009/2010 to 2010/2011	-4.6	1.4	0.2	2.2	0.1	-7.6	0.3	-1.2	-0.7	-8.9	-7.1	-0.5	-2.2	6.4	-0.7	-3.9	5.5	-4.7	-0.7
2010/2011 to 2011/2012	7.9	1.5	0.6	-0.9	6.7	2.0	2.8	4.2	9.8	0.4	-2.1	-1.4	0.9	-1.1	2.6	-0.3	-0.5	3.8	1.2
2011/2012 to 2012/2013	-0.7	2.9	1.6	5.2	-0.6	-5.9	0.1	1.3	-3.6	3.9	1.5	1.1	4.7	1.4	8.7	3.1	9.3	0.7	1.4
2012/2013 to 2013/2014	0.1	2.5	4.1	8.6	6.9	3.8	2.5	1.6	5.3	8.2	3.4	4.7	2.5	2.7	3.1	4.9	7.8	4.2	4.0
2013/2014 to 2014/2015	6.8	5.3	4.3	1.7	5.3	3.0	-0.4	1.8	5.6	3.2	4.9	4.8	3.4	5.6	6.8	3.9	4.6	0.8	4.4

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 21 Trend of Average Weeks of Temporary Disability per Claim with More Than 7 Days of Lost Time at 12 Months' Average Maturity



Period	Average Weeks of Temporary Disability per Claim with More Than 7 Days of Lost Time (annual percentage change)																		
	AR	CA	FL	GA[a]	IA	IL	IN	KY	LA[b]	MA[b]	MI[b]	MN	NC[a]	NJ	PA[b]	TX	VA[b]	WI	11-State Median[c]
2009/2010 to 2010/2011	-4.6	0.5	2.1	-3.8	3.8	1.8	-3.0	2.1	1.3	-3.6	-2.9	-1.9	-2.1	5.1	-1.2	-5.3	-0.5	-5.3	0.5
2010/2011 to 2011/2012	4.7	-0.7	0.2	0.5	-0.5	-0.5	1.3	-2.2	3.4	2.2	0.9	-1.8	-2.4	-2.0	-1.5	-0.9	0.5	0.4	-0.5
2011/2012 to 2012/2013	-6.7	1.6	-0.8	0.9	1.0	-1.4	0.0	4.4	-0.8	0.6	-1.0	0.5	-0.5	1.2	0.9	-0.3	4.3	1.9	0.5
2012/2013 to 2013/2014	-2.5	0.1	-4.6	2.6	1.3	2.1	3.8	-0.5	-1.4	0.2	0.7	2.3	-4.7	1.4	1.4	1.5	-2.2	1.0	1.3
2013/2014 to 2014/2015	4.0	1.0	1.6	-2.4	0.4	2.9	-1.9	-0.8	1.7	3.2	4.0	-0.9	0.5	3.8	0.6	1.4	2.5	-0.5	1.0

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

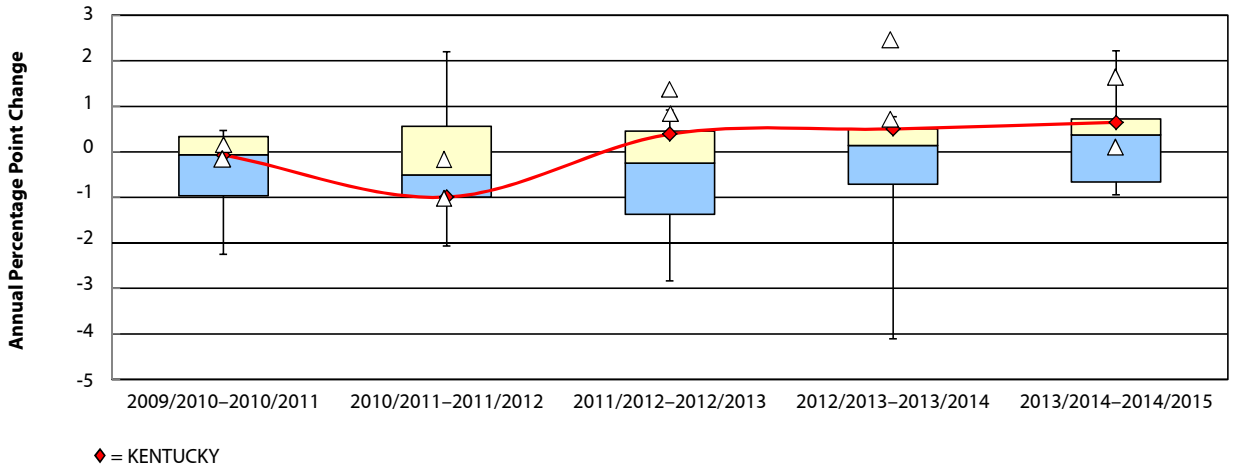
[b] Wage-loss states are marked with a "✧" on the box plot.

[c] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 22 Trend of PPD/Lump-Sum Claims as a Percentage of Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity



Period	PPD/Lump-Sum Claims as a Percentage of Claims with More Than 7 Days of Lost Time (annual percentage point change)													
	AR	CA	FL	GA[a]	IA	IL	IN	KY	MN	NC[a]	NJ	TX	WI	11-State Median[b]
2009/2010 to 2010/2011	-0.8	0.3	-1.0	0.1	-0.8	-2.3	0.5	-0.1	0.0	-0.1	0.4	-1.9	0.0	-0.1
2010/2011 to 2011/2012	0.6	-0.5	-0.9	-0.2	2.2	-0.5	0.3	-1.0	-2.1	-1.1	-0.7	-1.8	1.0	-0.5
2011/2012 to 2012/2013	0.9	-1.1	0.6	0.8	-1.4	-2.8	-0.2	0.4	0.5	1.3	-0.8	0.3	-1.4	-0.2
2012/2013 to 2013/2014	-0.1	-4.1	0.7	0.6	0.8	0.4	-1.3	0.5	-0.7	2.4	0.1	0.4	0.0	0.1
2013/2014 to 2014/2015	2.2	-0.9	0.7	1.6	2.0	0.4	0.0	0.6	0.0	0.1	-0.7	-0.7	0.4	0.4

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

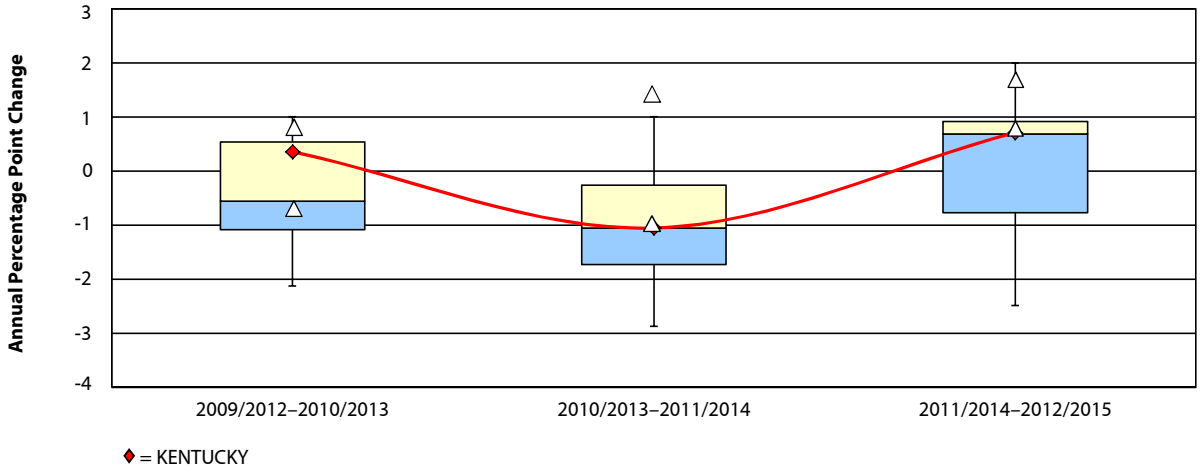
[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[b] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 23 Trend of PPD/Lump-Sum Claims as a Percentage of Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity



Period	PPD/Lump-Sum Claims as a Percentage of Claims with More Than 7 Days of Lost Time (annual percentage point change)													
	AR	CA	FL	GA[a]	IA	IL	IN	KY	MN	NC[a]	NJ	TX	WI	11-State Median[b]
2009/2012 to 2010/2013	0.8	0.2	-1.1	-0.7	1.0	-2.1	0.5	0.4	-1.1	0.8	-1.0	-2.1	-0.6	-0.6
2010/2013 to 2011/2014	-0.4	-1.7	-1.3	1.4	1.0	-1.7	-0.3	-1.1	-1.8	-1.0	-0.4	-2.9	0.6	-1.1
2011/2014 to 2012/2015	2.0	-1.2	0.8	0.7	-0.8	-2.5	1.5	0.7	0.9	1.6	-0.5	0.7	-0.5	0.7

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

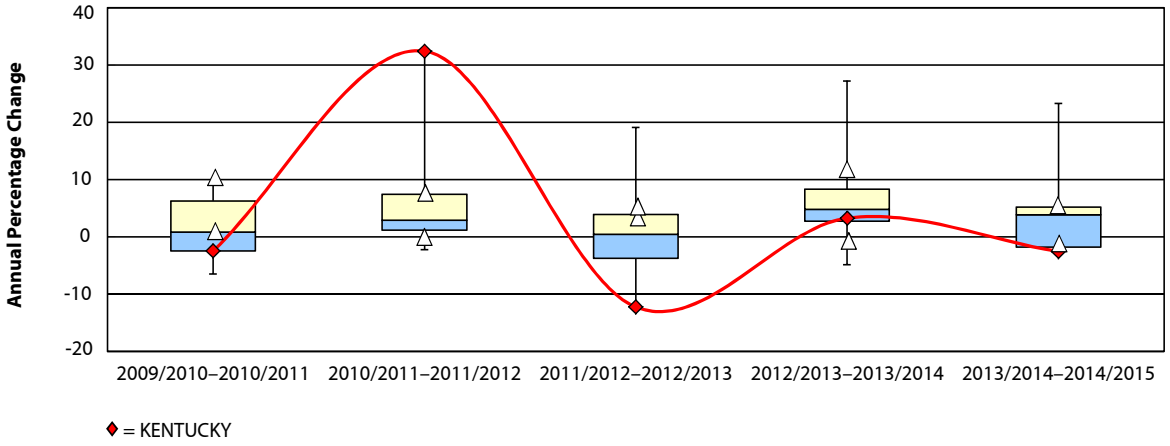
[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[b] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 24 Trend of Average PPD/Lump-Sum Payment per PPD/Lump-Sum Claim with More Than 7 Days of Lost Time at 12 Months' Average Maturity



Period	Average PPD/Lump-Sum Payment per PPD/Lump-Sum Claim with More Than 7 Days of Lost Time (annual percentage change)													
	AR	CA	FL	GA[a]	IA	IL	IN	KY	MN	NC[a]	NJ	TX	WI	11-State Median[b]
2009/2010 to 2010/2011	-5.4	6.3	1.6	10.0	0.8	-6.5	7.5	-2.5	3.4	0.5	9.2	0.3	-1.4	0.8
2010/2011 to 2011/2012	-2.2	9.3	1.2	-0.8	7.4	2.9	0.5	32.4	3.4	7.3	1.3	2.2	3.5	2.9
2011/2012 to 2012/2013	13.0	19.1	3.0	4.8	0.4	-10.4	-3.7	-12.2	0.2	4.3	1.7	3.9	-3.0	0.4
2012/2013 to 2013/2014	-4.9	27.2	9.1	11.3	5.9	2.7	1.3	3.2	4.8	-1.1	4.5	4.9	8.3	4.8
2013/2014 to 2014/2015	5.2	23.3	4.9	-1.5	-1.8	-1.8	-0.8	-2.6	20.9	5.0	3.8	4.5	1.6	3.8

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

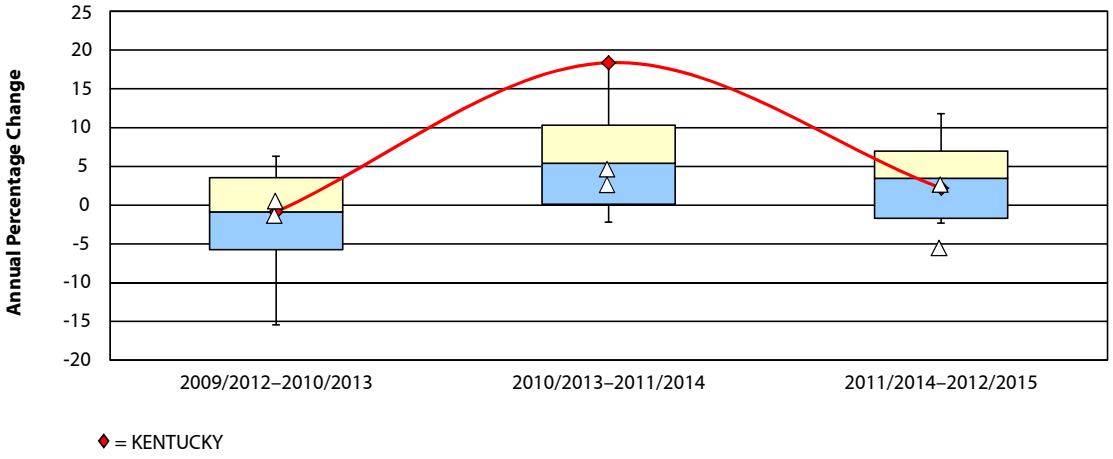
[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[b] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 25 Trend of Average PPD/Lump-Sum Payment per PPD/Lump-Sum Claim with More Than 7 Days of Lost Time at 36 Months' Average Maturity



Period	Average PPD/Lump-Sum Payment per PPD/Lump-Sum Claim with More Than 7 Days of Lost Time (annual percentage change)													
	AR	CA	FL	GA[a]	IA	IL	IN	KY	MN	NC[a]	NJ	TX	WI	11-State Median[b]
2009/2012 to 2010/2013	-15.5	6.3	1.2	0.4	1.2	-1.0	5.9	-0.9	-5.8	-1.5	3.5	-4.2	-8.1	-0.9
2010/2013 to 2011/2014	10.3	8.5	0.8	2.0	5.4	-2.2	0.1	18.4	15.8	3.9	-0.9	1.8	7.5	5.4
2011/2014 to 2012/2015	7.4	6.3	3.4	2.1	11.8	-1.7	-2.3	2.2	-2.3	-6.0	1.6	7.0	6.1	3.4

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

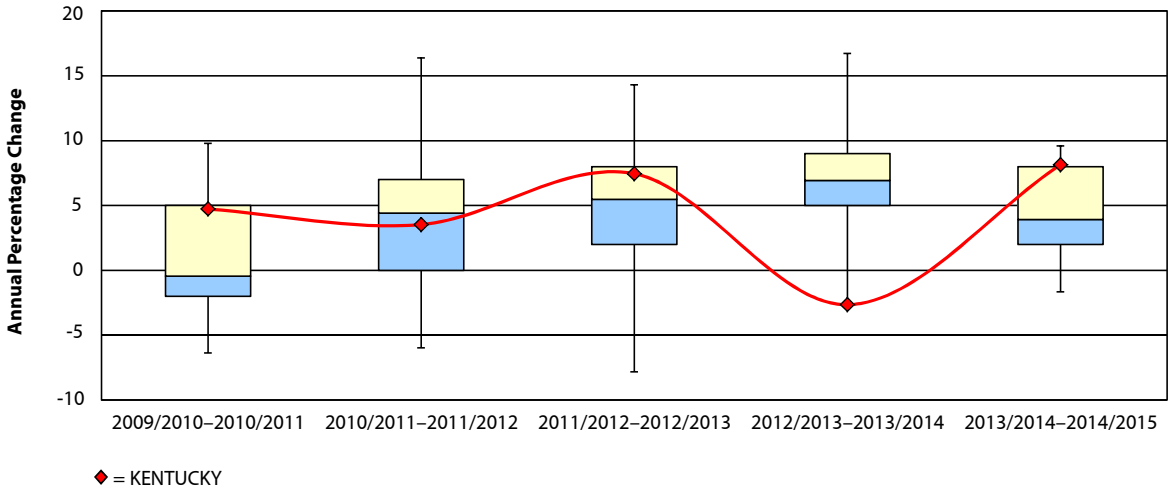
[a] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[b] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 26 Trend of Average Benefit Delivery Expense[a] per Claim with More Than 7 Days of Lost Time with Expenses at 12 Months' Average Maturity



Period	Average Benefit Delivery Expense[a] per Claim with More Than 7 Days of Lost Time with Expenses (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
2009/2010 to 2010/2011	-0.1	2.7	-1.7	-3.9	9.8	-1.0	0.0	4.7	-2.2	-6.4	-3.6	-3.2	6.4	8.5	9.5	-0.8	1.2	-1.0	-0.4
2010/2011 to 2011/2012	16.4	5.1	0.1	5.2	3.0	7.3	9.0	3.5	10.0	5.5	-2.9	3.7	0.3	-6.0	5.1	-0.1	2.3	7.0	4.4
2011/2012 to 2012/2013	-7.8	-0.4	3.8	2.2	11.5	8.0	2.8	7.5	5.6	5.1	-0.2	6.6	10.5	5.4	2.4	7.7	14.3	6.2	5.5
2012/2013 to 2013/2014	9.1	4.7	2.8	5.1	6.2	8.8	11.3	-2.6	5.2	2.9	16.7	0.7	9.1	12.7	7.7	9.0	5.7	11.9	6.9
2013/2014 to 2014/2015	-1.7	3.8	3.3	2.5	1.4	1.5	8.8	8.1	8.9	3.1	4.1	8.8	0.1	9.6	2.6	5.6	5.6	5.0	3.9

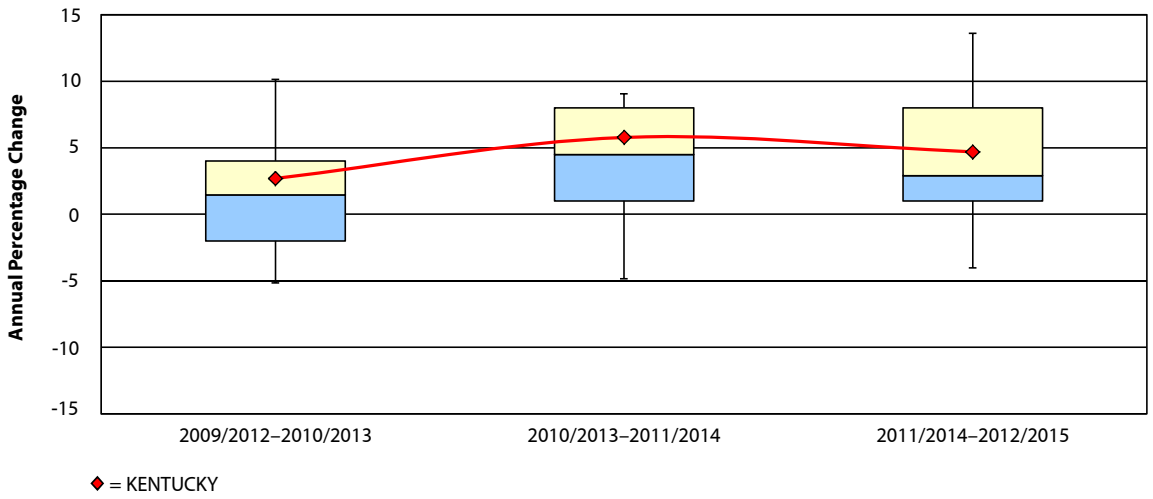
Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 27 Trend of Average Benefit Delivery Expense[a] per Claim with More Than 7 Days of Lost Time with Expenses at 36 Months' Average Maturity



Period	Average Benefit Delivery Expense[a] per Claim with More Than 7 Days of Lost Time with Expenses (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
2009/2012 to 2010/2013	2.9	3.4	-1.7	-3.3	9.6	1.4	4.2	2.7	1.3	-2.2	-3.9	-5.2	1.5	10.1	5.4	-0.3	3.8	-1.4	1.5
2010/2013 to 2011/2014	8.8	3.3	-2.6	7.9	1.4	7.5	8.4	5.8	7.6	4.5	-4.9	6.0	4.5	-2.5	3.8	0.8	-0.4	9.1	4.5
2011/2014 to 2012/2015	-4.0	1.3	1.5	-3.6	12.4	8.5	4.8	4.7	1.8	2.7	-0.6	1.5	2.7	6.1	3.0	7.6	13.6	7.8	2.9

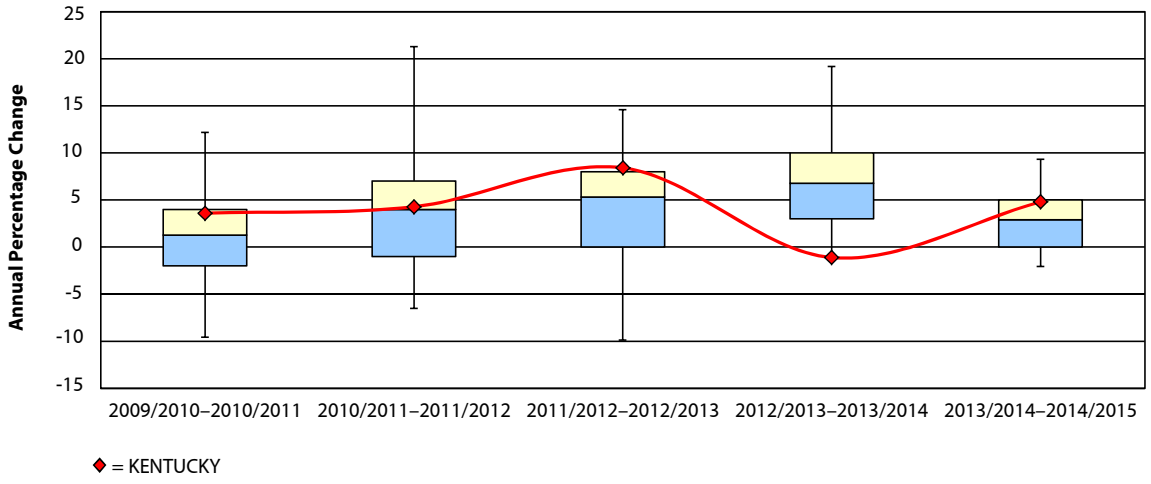
Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 28 Trend of Average Medical Cost Containment Expense[a] per Claim with More Than 7 Days of Lost Time with Medical Cost Containment Expenses at 12 Months' Average Maturity



Period	Average Medical Cost Containment Expense[a] per Claim with More Than 7 Days of Lost Time with Medical Cost Containment Expenses (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
2009/2010 to 2010/2011	-0.1	3.6	4.2	-7.3	9.2	0.5	0.1	3.6	-9.6	-1.8	-3.3	-4.6	6.1	6.8	12.2	2.0	-0.2	2.4	1.3
2010/2011 to 2011/2012	21.3	3.7	-1.2	6.7	1.6	5.4	8.8	4.3	9.4	6.9	-4.0	6.7	-1.7	-6.5	5.2	-2.8	1.6	3.4	4.0
2011/2012 to 2012/2013	-9.9	-0.9	5.4	-2.2	11.5	7.6	3.6	8.4	6.0	5.2	2.4	-1.5	8.5	4.1	-0.2	7.9	14.6	9.9	5.3
2012/2013 to 2013/2014	8.7	4.3	4.9	4.1	6.4	7.2	12.5	-1.1	3.2	0.5	19.2	3.5	10.2	14.1	7.4	10.4	3.3	11.3	6.8
2013/2014 to 2014/2015	-2.0	0.2	2.6	2.7	1.1	0.5	9.3	4.8	5.8	1.9	5.1	3.1	0.2	8.9	-0.7	3.9	8.7	5.2	2.9

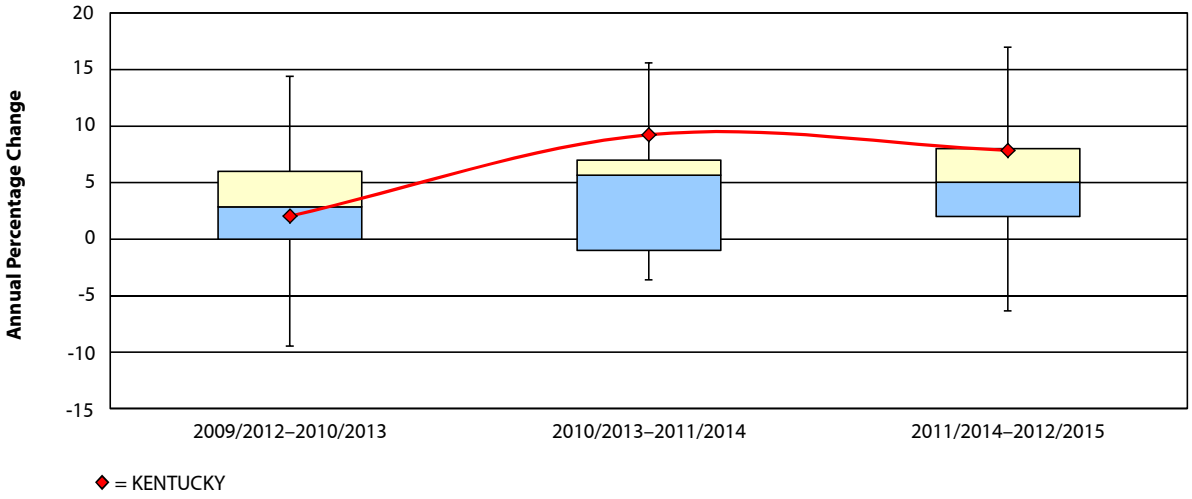
Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 29 Trend of Average Medical Cost Containment Expense[a] per Claim with More Than 7 Days of Lost Time with Medical Cost Containment Expenses at 36 Months' Average Maturity



Period	Average Medical Cost Containment Expense[a] per Claim with More Than 7 Days of Lost Time with Medical Cost Containment Expenses (annual percentage change)																		
	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
2009/2012 to 2010/2013	5.5	4.3	3.0	-9.3	14.4	2.7	5.7	2.0	-9.5	-2.2	-0.4	-6.1	3.3	9.6	11.1	1.1	4.1	1.9	2.9
2010/2013 to 2011/2014	15.6	1.4	0.3	7.3	-1.8	5.1	7.4	9.2	15.3	6.8	-1.9	9.1	2.6	-3.6	6.2	-1.8	-1.2	7.1	5.7
2011/2014 to 2012/2015	-6.4	3.1	2.3	-5.0	12.5	7.2	6.0	7.9	8.0	4.4	1.5	-4.3	5.6	3.0	0.3	8.0	17.0	9.7	5.0

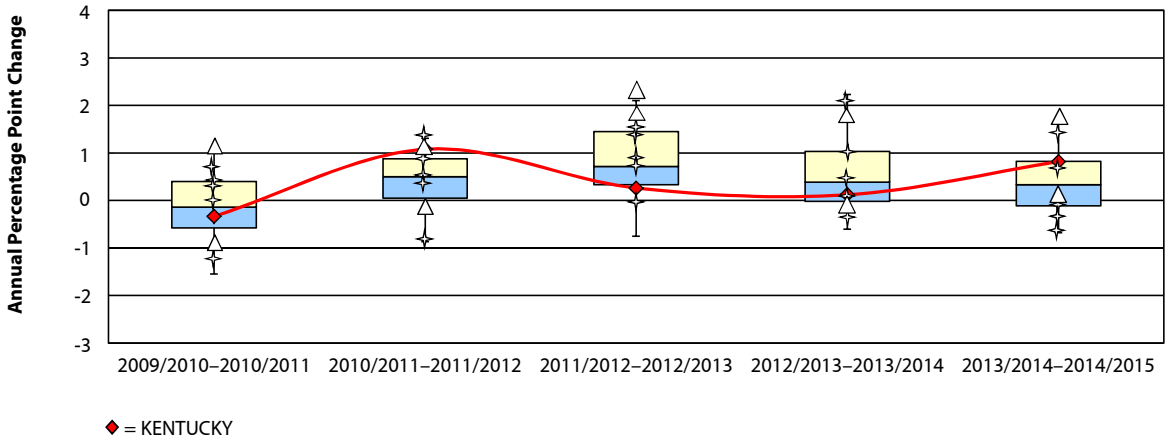
Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 30 Trend of Claims with Defense Attorney Payments[a] Greater Than $500 (indexed)[b] as a Percentage of Claims with More Than 7 Days of Lost Time at 12 Months' Average Maturity



Period	Claims with Defense Attorney Payments[a] Greater Than $500 (indexed)[b] as a Percentage of Claims with More Than 7 Days of Lost Time (annual percentage point change)																		
	AR[c]	CA	FL	GA[d]	IA[c]	IL	IN	KY[c]	LA[e]	MA[e]	MI[e]	MN	NC[d]	NJ	PA[e]	TX	VA[e]	WI[c]	18-State Median[f]
2009/2010 to 2010/2011	-0.3	0.2	-1.5	-1.0	0.4	-1.3	-0.1	-0.3	0.4	-1.3	0.0	-0.2	1.0	0.6	0.3	-0.6	0.6	-0.3	-0.1
2010/2011 to 2011/2012	0.1	0.8	0.8	1.0	0.4	1.1	0.8	1.1	0.9	0.3	-0.9	-0.3	-0.1	0.2	0.4	0.6	1.3	0.0	0.5
2011/2012 to 2012/2013	0.7	1.2	-0.8	1.7	1.5	0.4	-0.1	0.3	1.3	0.8	-0.1	1.8	2.1	0.7	1.5	0.3	0.7	0.4	0.7
2012/2013 to 2013/2014	-0.2	1.3	1.0	1.8	0.5	0.7	0.2	0.1	1.0	-0.3	0.0	-0.6	-0.1	2.2	0.4	0.4	2.0	0.1	0.4
2013/2014 to 2014/2015	0.0	1.5	-0.2	-0.1	0.3	0.4	-0.3	0.8	1.4	-0.1	-0.4	1.3	1.7	0.2	0.6	0.3	-0.7	0.4	0.3

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[c] Results in Arkansas, Iowa, Kentucky, and Wisconsin should be used with caution since the small cell sizes (< 300) in these states for claims with 12 months of experience underlying this measure may lead to volatile trends. For trends based on claims with 36 months of experience, please refer to Figure 31.

[d] States with attributes of both wage-loss and PPD systems are marked with a " △" on the box plot.

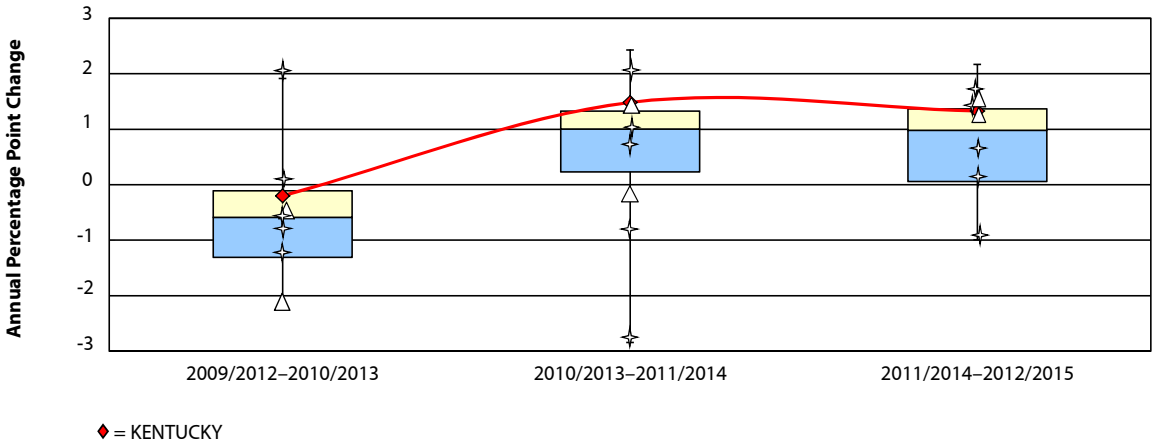
[e] Wage-loss states are marked with a "✧" on the box plot.

[f] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 31 Trend of Claims with Defense Attorney Payments[a] Greater Than $500 (indexed)[b] as a Percentage of Claims with More Than 7 Days of Lost Time at 36 Months' Average Maturity



Period	Claims with Defense Attorney Payments[a] Greater Than $500 (indexed)[b] as a Percentage of Claims with More Than 7 Days of Lost Time (annual percentage point change)																		
	AR	CA	FL	GA[c]	IA	IL	IN	KY	LA[d]	MA[d]	MI[d]	MN	NC[c]	NJ	PA[d]	TX	VA[d]	WI	18-State Median[e]
2009/2012 to 2010/2013	-0.2	-0.2	-1.4	-0.6	1.4	-0.6	-0.1	-0.2	1.9	-0.6	-1.3	-1.7	-2.2	-1.4	0.0	0.2	-0.8	-1.2	-0.6
2010/2013 to 2011/2014	1.3	1.3	-0.3	1.4	0.8	1.1	1.0	1.5	-0.9	0.6	-2.8	1.1	-0.3	2.4	0.9	0.9	2.0	1.1	1.0
2011/2014 to 2012/2015	1.3	1.3	-0.4	1.1	0.6	2.2	-0.2	1.3	0.6	0.1	-1.0	1.4	1.4	-0.4	1.6	0.8	1.4	0.5	1.0

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[c] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

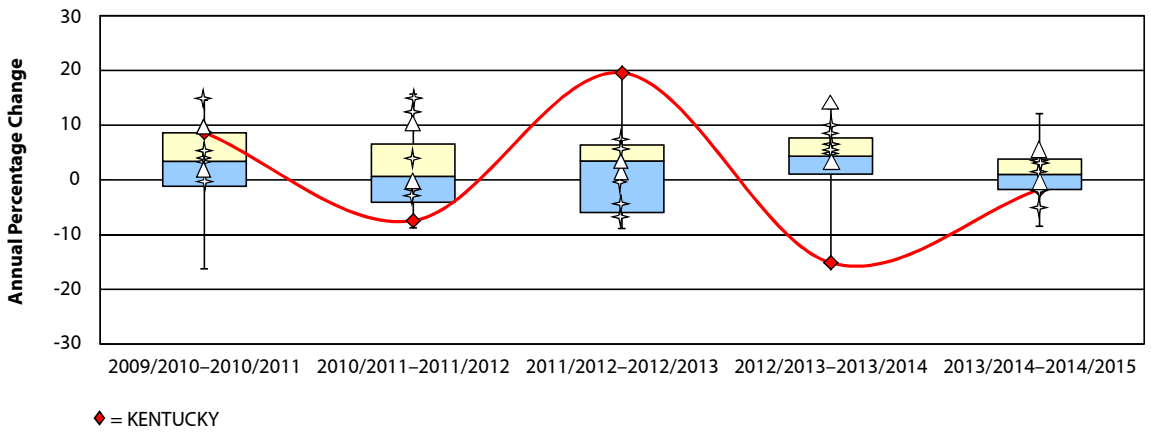
[d] Wage-loss states are marked with a "✧" on the box plot.

[e] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 32 Trend of Average Defense Attorney Payment[a] per Claim with More Than 7 Days of Lost Time with Defense Attorney Payments Greater Than $500 (indexed)[b] at 12 Months' Average Maturity



Period	Average Defense Attorney Payment[a] per Claim with More Than 7 Days of Lost Time with Defense Attorney Payments Greater Than $500 (indexed)[b] (annual average percentage change)																		
	AR[c]	CA	FL	GA[d]	IA[c]	IL	IN	KY[c]	LA[e]	MA[e]	MI[e]	MN	NC[d]	NJ	PA[e]	TX	VA[e]	WI[c]	18-State Median[f]
2009/2010 to 2010/2011	9.9	1.3	-7.4	8.5	-5.1	-1.8	14.6	8.7	14.1	3.9	-0.6	7.2	1.2	8.3	4.4	-16.3	0.7	2.9	3.4
2010/2011 to 2011/2012	-8.8	0.0	4.0	-1.0	-5.2	1.3	-8.0	-7.5	13.8	-3.0	11.8	1.6	9.1	-2.5	3.2	3.4	-0.8	15.6	0.6
2011/2012 to 2012/2013	-7.2	-2.5	4.1	2.8	8.5	6.1	-7.3	19.5	0.7	-4.8	-7.2	6.6	2.6	10.8	4.5	5.8	6.1	-8.9	3.5
2012/2013 to 2013/2014	4.7	3.5	-2.2	2.2	1.7	8.1	9.2	-15.2	7.3	4.7	6.9	1.8	13.0	0.4	3.9	-2.2	6.0	10.6	4.3
2013/2014 to 2014/2015	12.1	4.3	2.8	4.4	-0.6	-0.1	6.2	-1.7	1.3	2.2	-4.7	1.2	-1.8	0.8	3.3	-8.5	-0.8	-5.6	1.0

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[c] Results in Arkansas, Iowa, Kentucky, and Wisconsin should be used with caution since the small cell sizes (< 300) in these states for claims with 12 months of experience underlying this measure may lead to volatile trends. For trends based on claims with 36 months of experience, please refer to Figure 33.

[d] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

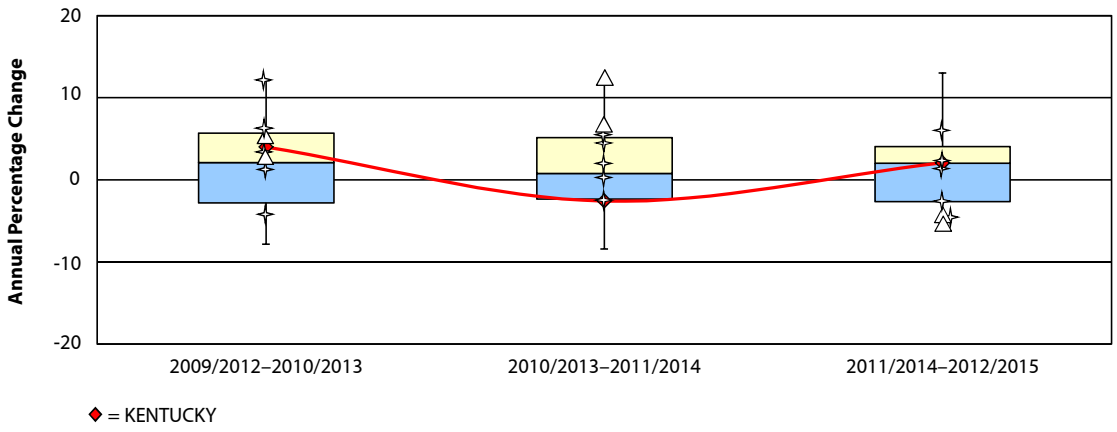
[e] Wage-loss states are marked with a "✧" on the box plot.

[f] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: n/a: not available; PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 33 Trend of Average Defense Attorney Payment[a] per Claim with More Than 7 Days of Lost Time with Defense Attorney Payments Greater Than $500 (indexed)[b] at 36 Months' Average Maturity



Period	Average Defense Attorney Payment[a] per Claim with More Than 7 Days of Lost Time with Defense Attorney Payments Greater Than $500 (indexed)[b] (annual average percentage change)																		
	AR	CA	FL	GA[c]	IA	IL	IN	KY	LA[d]	MA[d]	MI[d]	MN	NC[c]	NJ	PA[d]	TX	VA[d]	WI	18-State Median[e]
2009/2012 to 2010/2013	-2.6	2.5	-3.9	5.7	-3.0	0.2	-1.4	4.0	12.1	6.0	-4.5	1.4	2.9	8.0	1.7	-7.9	3.5	5.7	2.1
2010/2013 to 2011/2014	-8.4	1.1	-1.9	6.0	-2.2	8.4	4.4	-2.6	4.9	-2.5	5.3	-2.6	11.8	-0.6	1.9	2.3	-0.4	0.4	0.8
2011/2014 to 2012/2015	-2.3	-2.0	2.4	-4.7	13.0	1.9	4.0	2.1	-5.3	-3.0	5.7	3.6	-5.2	7.6	1.8	3.9	1.2	4.1	2.0

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[c] States with attributes of both wage-loss and PPD systems are marked with a "△" on the box plot.

[d] Wage-loss states are marked with a "✧" on the box plot.

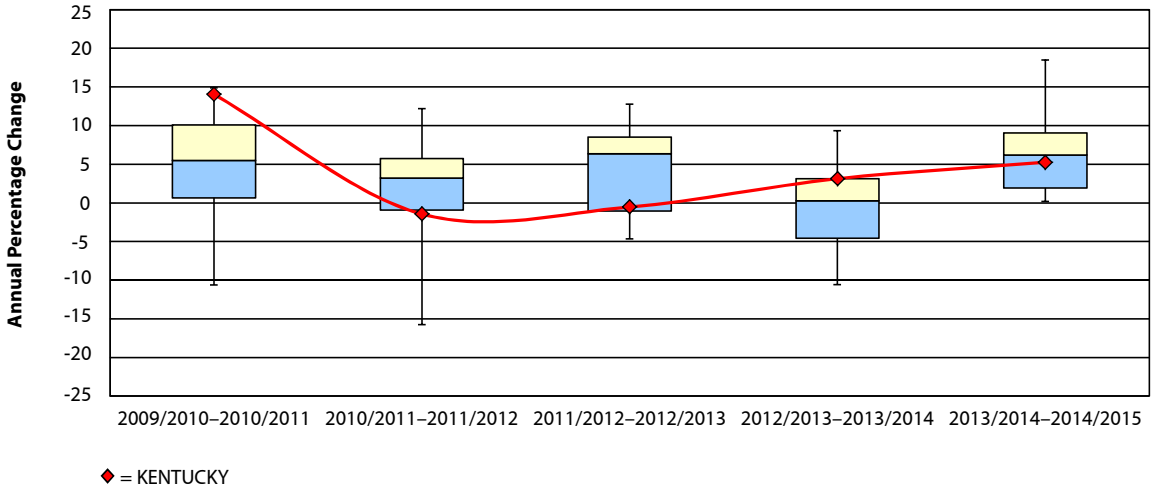
[e] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: n/a: not available; PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure 34 Trend of Average Medical-Legal Expense[a] per Claim with More Than 7 Days of Lost Time with Medical-Legal Expenses at 12 Months' Average Maturity



Period	Average Medical-Legal Expense[a] per Claim with More Than 7 Days of Lost Time with Medical-Legal Expenses (annual average percentage change)																		
	AR[b]	CA	FL[b]	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA[c]	WI	16-State Median[d]
2009/2010 to 2010/2011	n/a	9.4	n/a	2.7	2.1	5.1	-10.6	14.0	14.9	6.2	-2.9	5.9	-1.8	9.2	5.9	1.8	13.4	-0.5	5.5
2010/2011 to 2011/2012	n/a	5.1	n/a	-3.0	4.8	6.4	9.6	-1.4	-0.3	-0.4	3.5	2.9	-15.7	4.0	0.4	-3.8	12.2	3.7	3.2
2011/2012 to 2012/2013	n/a	-4.7	n/a	2.8	3.4	8.1	7.8	-0.5	8.3	12.8	6.7	11.7	9.0	8.7	6.0	-1.6	2.9	-2.8	6.3
2012/2013 to 2013/2014	n/a	5.0	n/a	-0.2	-2.3	6.2	-10.6	3.1	-6.3	2.4	9.3	0.7	-5.6	-3.6	0.8	-0.6	-7.3	3.2	0.3
2013/2014 to 2014/2015	n/a	0.2	n/a	0.3	1.7	6.5	2.2	5.2	13.4	9.0	5.9	6.4	2.4	7.4	9.1	10.1	18.5	4.9	6.2

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

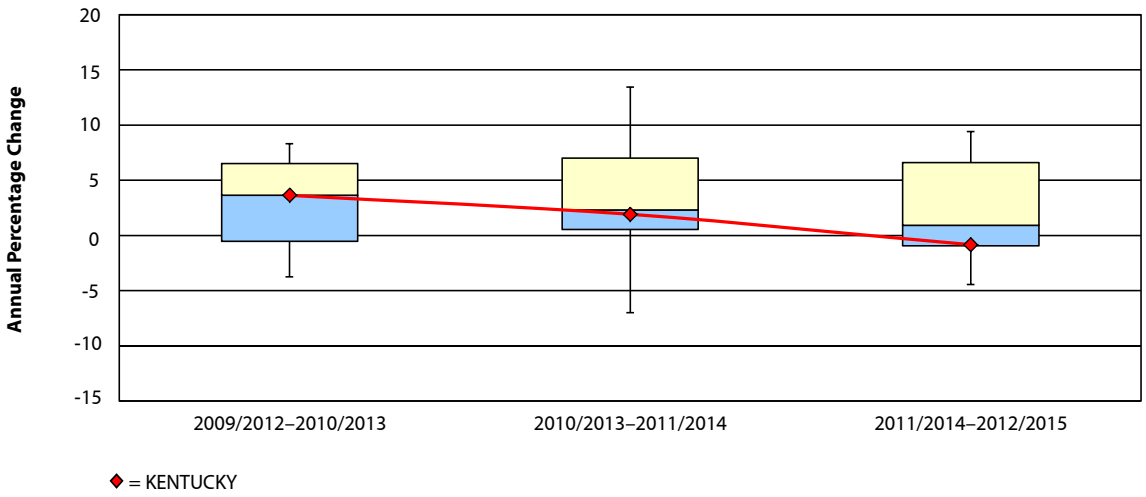
[b] Trends in medical-legal expenses are not reported for claims with 12 months of experience for Arkansas and Florida because underlying data in our sample are not necessarily representative of the state's trends.

[c] Results in Virginia should be used with caution since the small cell sizes (< 300) in this state for claims with 12 months of experience underlying this measure may lead to volatile trends. For trends based on claims with 36 months of experience, please refer to Figure 35.

[d] The 16-state median is the average of the states ranked 8th and 9th on a given measure; these states change depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: n/a: not available.

Figure 35 Trend of Average Medical-Legal Expense[a] per Claim with More Than 7 Days of Lost Time with Medical-Legal Expenses at 36 Months' Average Maturity



Period	Average Medical-Legal Expense[a] per Claim with More Than 7 Days of Lost Time with Medical-Legal Expenses (annual average percentage change)																		
	AR[b]	CA	FL[c]	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	17-State Median[d]
2009/2012 to 2010/2013	7.7	6.2	n/a	-2.2	4.7	3.9	-1.4	3.6	2.2	7.2	1.8	5.7	-3.7	6.8	2.9	0.4	8.3	-1.6	3.6
2010/2013 to 2011/2014	8.7	8.2	n/a	0.7	4.8	8.2	13.4	1.9	5.9	1.7	2.3	2.3	-7.0	0.3	0.4	-3.4	3.1	5.6	2.3
2011/2014 to 2012/2015	-4.4	-2.2	n/a	-1.0	7.5	7.5	-0.9	-0.8	-0.2	9.4	6.3	6.6	-3.2	5.9	5.6	0.7	6.6	0.9	0.9

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015; similar notation is used for other years.

[a] For benefit delivery expense and its component measures (including the measure shown in this figure), we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[b] Results in Arkansas should be used with caution since the small cell sizes (< 300) in this state for claims with 36 months of experience underlying this measure may lead to volatile trends.

[c] Trends in medical-legal expenses are not reported for claims with 36 months of experience for Florida because underlying data in our sample are not necessarily representative of the state's trends.

[d] The 17-state median is the state ranked 9th on a given measure; this state changes depending on the measure being evaluated. The median is also shown as the horizontal line within the box of the box plot figure for a measure.

Key: n/a: not available.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table 1 Terms We Use to Describe Performance

Multistate Values	Comparison with Median State	
Higher	More than 10 percent above median	
Lower	More than 10 percent below median	
Typical or close to	Within 10 percent above or below median	
Trends[a]	**Change in Cost Measures (annual average percentage)**	**Change in Frequency Measures (annual average percentage points)**
Very rapid increase	+9% and higher	+4 points and higher
Rapid increase	+6% to 8.9%	+2 to 3.9 points
Moderate increase	+3% to 5.9%	+1 to 1.9 points
Flat, little change	+2.9% to –2.9%	+0.9 points to –0.9 points
Moderate decrease	–3% to –5.9%	–1 to –1.9 points
Rapid decrease	–6% to –8.9%	–2 to –3.9 points
Very rapid decrease	–9% and lower	–4 points and lower

[a] Other words used to describe an increase include *growth*, *rise*, and *acceleration* (movement up at least one category over the period analyzed). Other words used to describe a decrease include *fall*, *drop*, *decline*, and *deceleration* (movement down at least one category over the period analyzed).

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table 2 Comparing Kentucky with Other States: Selected Performance Measures, Adjusted for Injury and Industry Mix and Wages

Performance Measure	2014/2015 Claims			2012/2015 Claims			For More Details, Refer to *CompScope™ Benchmarks, 16th Edition: The DataBook*[c]
	KY	18-State Median[a]	Percentage or Percentage Point Difference[b]	KY	18-State Median[a]	Percentage or Percentage Point Difference[b]	
Time to notice and first indemnity payment							
Claims with payor notice within 3 days of injury (percentage)	61.8%	59.1%	2.6	—	—	—	Table 2.1
Claims with first payment within 14 days of payor notice (percentage)	40.4%	44.8%	-4.4	—	—	—	Table 2.1
Claims with first payment within 21 days of injury (percentage)	46.0%	47.7%	-1.7	—	—	—	Table 2.1
Benefit payments and costs per claim							
All paid claims							
Average total cost per claim	$4,519	$6,315	-28.4	$7,636	$9,940	-23.2	Table 2.2
Average benefit payment per claim	$3,775	$5,282	-28.5	$6,437	$8,536	-24.6	Table 2.2
Average medical payment per claim	$2,499	$3,414	-26.8	$3,214	$4,539	-29.2	Table 2.2
Average benefit delivery expense per claim[d]	$743	$970	-23.4	$1,192	$1,500	-20.5	Table 2.2
Average incurred total cost per claim	$7,319	$9,282	-21.2	$9,486	$12,256	-22.6	Table 2.2
Average incurred medical benefit per claim	$3,947	$5,116	-22.9	$4,004	$5,172	-22.6	Table 2.2
Claims with more than 7 days of lost time							
Percentage of all paid claims	16.2%	19.4%	-3.2	17.6%	20.8%	-3.2	Table 2.12
Average total cost per claim	$22,003	$27,246	-19.2	$38,299	$39,273	-2.5	Table 2.4
Average benefit payment per claim	$18,529	$22,825	-18.8	$32,367	$33,655	-3.8	Table 2.4
Average medical payment per claim	$10,655	$12,208	-12.7	$14,050	$16,267	-13.6	Table 2.4
Average indemnity benefit per claim[e]	$7,874	$7,844	0.4	$18,332	$18,020	1.7	Table 2.4
Average incurred total cost per claim	$36,186	$38,712	-6.5	$48,072	$50,139	-4.1	Table 2.4
Average incurred medical benefit per claim	$17,832	$18,576	-4.0	$18,307	$19,832	-7.7	Table 2.4
Average incurred indemnity benefit per claim[e]	$14,039	$14,693	-4.4	$23,770	$23,619	0.6	Table 2.4
Temporary disability claims with more than 7 days of lost time[f]							
Average benefit payment per claim	$16,902	$17,133	-1.4	$15,526	$13,617	14.0	Table 2.5
Average medical payment per claim	$10,569	$12,260	-13.8	$9,488	$9,355	1.4	Table 2.5
Average indemnity benefit per claim	$6,333	$4,993	26.8	$6,046	$4,096	47.6	Table 2.5
PPD/lump-sum claims with more than 7 days of lost time[f]							
PPD/lump-sum claims as a percentage of claims with more than 7 days of lost time	9.7%	18.0%	-8.2	32.3%	40.9%	-8.7	Table 2.6
Average benefit payment per claim	$32,704	$32,704	0.0	$64,060	$54,670	17.2	Table 2.6
Average medical payment per claim	$12,243	$16,086	-23.9	$23,213	$24,044	-3.5	Table 2.6
Average indemnity benefit per claim	$20,461	$14,174	44.4	$40,848	$27,386	49.2	Table 2.6
Average PPD/lump-sum payment per claim[g]	$14,626	$8,134	79.8	$29,260	$17,198	70.1	Table 2.6
Claims with more than 7 days of lost time							
Claims with lump-sum settlements (percentage)[f]	7.5%	6.7%	0.8	25.5%	24.3%	1.2	Table 2.9
Average lump-sum settlement per claim with lump-sum settlement[f]	$18,279	$14,717	24.2	$34,385	$24,725	39.1	Table 2.9
Benefit delivery expenses[d]							
Average benefit delivery expense per claim with benefit delivery expenses	$3,487	$3,722	-6.3	$5,943	$5,836	1.8	Table 2.11
Average medical cost containment expense per claim with medical cost containment expenses	$2,632	$2,632	0.0	$3,395	$3,361	1.0	Table 2.11
Claims with medical-legal expenses (percentage)[h]	20.5%	14.1%	6.4	30.2%	23.5%	6.7	Table 2.11
Average medical-legal expense per claim with medical-legal expenses[h]	$1,733	$1,523	13.8	$2,142	$1,821	17.7	Table 2.11

continued

Table 2 Comparing Kentucky with Other States: Selected Performance Measures, Adjusted for Injury and Industry Mix and Wages (continued)

Performance Measure	2014/2015 Claims			2012/2015 Claims			For More Details, Refer to *CompScope™ Benchmarks, 16th Edition: The DataBook* [c]
	KY	18-State Median[a]	Percentage or Percentage Point Difference[b]	KY	18-State Median[a]	Percentage or Percentage Point Difference[b]	
Attorney involvement[d]							
Percentage of claims with defense attorney payments greater than $500 (indexed)[i]	8.5%	13.6%	-5.1	26.8%	28.9%	-2.1	Table 2.11
Average defense attorney payment per claim with defense attorney payments greater than $500 (indexed)[i]	$3,335	$3,246	2.8	$5,488	$5,631	-2.5	Table 2.11
Duration of disability[f]							
Average duration of temporary disability (weeks)	12.8	10.4	23.3	16.2	13.2	22.8	Table 2.12
Vocational rehabilitation (VR) benefits and expenses[j]							
Claims with VR provider expenses (percentage)	n/a	n/a	n/a	n/a	n/a	n/a	Table 2.10
Average VR provider expense per claim with VR provider expenses	n/a	n/a	n/a	n/a	n/a	n/a	Table 2.10

Notes: Unless specified, measures are shown for claims with more than seven days of lost time. PPD/LS claims are those claims with PPD payments and/or lump-sum settlements. 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated. If a measure is not applicable or meaningful for a state, the state is not included in the calculation of the median. For example, Indiana is excluded for the average incurred benefit per claim; therefore, we report a 17-state median for this measure. The vocational rehabilitation measures for 2012/2015 claims with more than seven days of lost time are not meaningful for 8 states due to small cell sizes. Therefore, we report a 10-state median instead of the 18-state median by excluding the results of these 8 states. The 10-state median is the average of the states ranked 5th and 6th on these measures.

[b] Differences between the state values and 18-state median values may not be exactly equal to the percentage or percentage point difference shown due to rounding.

[c] Available in *CompScope™ Benchmarks, 16th Edition: The DataBook* (http://www.wcrinet.org/cs16/the_databook.pdf).

[d] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[e] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. The reader should further note that lump-sum settlements in California reflect payments based on the agreed amount at the time of Compromise and Release (C&R) or Stipulation and do not include any potential subsequent payments for outstanding liens. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report.

[f] We use an 11-state median for measures for temporary disability claims, PPD/LS claims, lump-sum settlements, and duration of temporary disability, excluding Georgia, Louisiana, Massachusetts, Michigan, North Carolina, Pennsylvania, and Virginia. In these 7 states, permanent partial disability means something fundamentally different, so comparisons with the 11 non-wage-loss states may not be meaningful. The 11-state median is the state ranked 6th on a given measure; this state changes depending on the measure being evaluated.

[g] Includes both PPD benefits and lump-sum settlements.

[h] Percentage of claims with medical-legal expenses and average medical-legal expense per claim are not reported for Arkansas at 12 months' experience and Florida at 12 and 36 months' experience because underlying data in our sample are not necessarily representative of the state's experience.

[i] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

[j] Measures for vocational rehabilitation provider expenses are not shown for claims with 12 months of experience because the small cell sizes underlying these measures in most of the study states make the interstate comparisons not meaningful. For claims with 36 months of experience, Arkansas, Georgia, Iowa, Indiana, Kentucky, and New Jersey are excluded from the interstate comparisons due to small cell sizes. Data for Texas and Wisconsin are not shown because underlying data in our sample are not necessarily representative of the state's experience. The medians for these measures are based on 10 states. We do not show interstate comparisons of vocational rehabilitation maintenance benefits due to small claim cell sizes underlying this measure in the vast majority of the study states.

Key: n/a: not applicable; PPD: permanent partial disability; PPD/LS: permanent partial disability or lump sum.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table 3 Trends in Kentucky: Selected Performance Measures, Not Adjusted for Injury and Industry Mix and Wages

Performance Measure	Claims at 12 Months' Average Maturity				Claims at 36 Months' Average Maturity			For More Details, Refer to *CompScope™ Benchmarks, 16th Edition: The DataBook* [a]
	Unadjusted Values	Trend (annual average percentage or percentage point change)			Unadjusted Values	Trend (annual average percentage or percentage point change)		
	2014/2015 Claims	2013/2014 to 2014/2015	2012/2013 to 2014/2015	2009/2010 to 2014/2015	2012/2015 Claims	2011/2014 to 2012/2015	2009/2012 to 2012/2015	
Time to notice and first indemnity payment								
Claims with payor notice within 3 days of injury (percentage)	61.5%	*-0.9*	*-0.1*	*0.0*	—	—	—	Table 4.1
Claims with first payment within 14 days of payor notice (percentage)	40.4%	1.8	*0.5*	-0.3	—	—	—	Table 4.1
Claims with first payment within 21 days of injury (percentage)	45.9%	*0.6*	*-0.3*	-0.3	—	—	—	Table 4.1
Benefit payments and costs per claim								
All paid claims								
Average total cost per claim	$4,657	11.1	*2.3*	3.5	$7,839	9.7	5.5	Table 4.2
Average benefit payment per claim	$3,885	10.4	1.8	2.9	$6,559	9.5	5.2	Table 4.2
Average medical payment per claim	$2,656	11.2	1.4	3.0	$3,404	8.3	4.5	Table 4.2
Average benefit delivery expense per claim	$770	15.3	5.3	6.7	$1,274	10.6	7.2	Table 4.2
Average incurred total cost per claim	$7,473	9.2	*-0.7*	2.8	$9,761	11.8	3.8	Table 4.2
Average incurred medical benefit per claim	$4,156	12.1	*0.3*	3.5	$4,236	9.5	2.7	Table 4.2
Claims with more than 7 days of lost time								
Percentage of all paid claims	17.5%	1.1	*0.1*	0.2	18.9%	0.9	0.3	Table 4.12
Average total cost per claim	$21,195	5.7	*1.0*	2.3	$36,619	5.3	4.1	Table 4.4
Average benefit payment per claim	$17,827	5.2	*0.7*	2.0	$30,713	5.4	4.0	Table 4.4
Average medical payment per claim	$10,797	7.6	*0.1*	2.3	$14,063	5.2	3.7	Table 4.4
Average indemnity benefit per claim [b]	$7,030	*1.8*	*1.7*	1.5	$16,650	5.5	4.3	Table 4.4
Average incurred total cost per claim	$34,445	*2.9*	-2.2	1.5	$46,039	7.8	2.3	Table 4.4
Average incurred medical benefit per claim	$17,703	6.9	*-1.4*	2.5	$18,188	6.5	*1.3*	Table 4.4
Average incurred indemnity benefit per claim [b]	$12,516	*-4.0*	-4.5	*-0.7*	$21,846	9.7	2.7	Table 4.4
Temporary disability claims with more than 7 days of lost time								
Average benefit payment per claim	$16,448	6.8	*0.9*	2.0	$15,336	*-2.2*	*1.5*	Table 4.5
Average medical payment per claim	$10,706	7.9	*0.8*	2.4	$9,747	*-4.0*	*1.6*	Table 4.5
Average indemnity benefit per claim	$5,742	4.9	*1.2*	1.4	$5,589	*1.1*	*1.5*	Table 4.5
PPD/lump-sum claims with more than 7 days of lost time								
PPD/lump-sum claims as a percentage of claims with more than 7 days of lost time	9.0%	*0.6*	0.6	*0.1*	32.3%	*0.7*	*0.0*	Table 4.8
Average benefit payment per claim	$31,144	*2.8*	*-0.8*	1.8	$59,806	5.9	4.6	Table 4.8
Average medical payment per claim	$12,699	*9.1*	*-4.0*	*1.6*	$22,760	11.9	4.8	Table 4.8
Average indemnity benefit per claim	$18,446	*-1.0*	*1.6*	1.9	$37,046	*2.5*	4.4	Table 4.8
Average PPD/lump-sum payment per claim [c]	$12,999	*-2.6*	*0.3*	2.7	$26,598	*2.2*	6.2	Table 4.8

continued

Table 3 Trends in Kentucky: Selected Performance Measures, Not Adjusted for Injury and Industry Mix and Wages (continued)

Performance Measure	Claims at 12 Months' Average Maturity				Claims at 36 Months' Average Maturity			For More Details, Refer to *CompScope™ Benchmarks, 16th Edition: The DataBook* [a]
	Unadjusted Values	Trend (annual average percentage or percentage point change)			Unadjusted Values	Trend (annual average percentage or percentage point change)		
	2014/2015 Claims	2013/2014 to 2014/2015	2012/2013 to 2014/2015	2009/2010 to 2014/2015	2012/2015 Claims	2011/2014 to 2012/2015	2009/2012 to 2012/2015	
Claims with more than 7 days of lost time								
Claims with lump-sum settlements (percentage)	6.7%	0.8	0.6	0.2	25.5%	*0.4*	0.5	Table 4.9
Average lump-sum settlement per claim with lump-sum settlement	$16,648	*-7.3*	*-1.5*	2.3	$31,337	*2.8*	6.2	Table 4.9
Benefit delivery expenses [d]								
Average benefit delivery expense per claim with benefit delivery expenses	$3,379	8.1	2.6	4.2	$5,922	4.7	4.4	Table 4.11
Average medical cost containment expense per claim with medical cost containment expenses	$2,602	*4.8*	*1.8*	3.9	$3,417	7.9	6.3	Table 4.11
Claims with medical-legal expenses (percentage) [e]	20.0%	3.0	1.9	0.6	30.0%	-1.1	*0.2*	Table 4.11
Average medical-legal expense per claim with medical-legal expenses [e]	$1,706	5.2	4.2	3.9	$2,133	*-0.8*	1.6	Table 4.11
Attorney involvement [f]								
Percentage of claims with defense attorney payments greater than $500 (indexed) [f]	7.8%	0.8	0.5	0.4	26.4%	1.3	0.9	Table 4.11
Average defense attorney payment per claim with defense attorney payments greater than $500 (indexed) [f]	$3,172	*-1.7*	-8.7	*0.0*	$5,503	*2.1*	*1.1*	Table 4.11
Duration of disability								
Average duration of temporary disability payments (weeks)	12.8	*-0.8*	*-0.6*	0.6	16.2	*3.1*	*0.9*	Table 4.12
Vocational rehabilitation (VR) benefits and expenses [g]								
Percentage of claims with VR provider expenses	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Table 4.10
Average VR provider expense per claim with VR provider expenses	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Table 4.10

Notes: Unless specified, measures are shown for claims with more than seven days of lost time. PPD/LS claims are those claims with PPD payments and/or lump-sum settlements. 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; 2012/2015 refers to claims arising in October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015. Similar notation is used to describe other injury years and valuations. We performed a two-tailed test for statistical significance of the difference of the means for the years being compared at an 80 percent confidence level. The null hypothesis was that the difference between the two means was zero. In most cases, the result of that test was statistically significant and is shown in regular typeface. For some measures, the result of the test was not statistically significant, although the percentage or percentage point change is large for some measures; these results are shown in italics. A result that is not statistically significant may be caused by large variance and/or small sample size associated with the means. We did not test the medians for statistical significance.

[a] Available in *CompScope™ Benchmarks, 16th Edition: The DataBook* (http://www.wcrinet.org/cs16/the_databook.pdf).

[b] The reader should be aware that we report all lump-sum payments as indemnity benefits. We do this to achieve consistency and comparability in this measure across states because lump-sum payments to close out future obligations are rarely separated into medical and indemnity components in the data. In most study states (California, Illinois, Indiana, Iowa, New Jersey, North Carolina, Pennsylvania, Texas, and Wisconsin, and Michigan [under some circumstances]), the second injury fund pays benefits directly to the injured worker once the fund's liability is established, rather than reimbursing the employer or insurer (as in Louisiana, Massachusetts, and Virginia). Our results do not include second injury fund payments; thus, certain indemnity cost measures may be somewhat understated. However, because second injury fund payments typically do not occur until later in the claim, after the employer/insurer obligation has been paid, and because the eligibility requirements are quite restrictive in many states (e.g., applicable only to permanent total disability), we estimated that the magnitude of the understatement is not large, ranging from minimal to 4 percent across the states, and did not materially affect the interstate comparisons that we report. understatement, see *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

continued

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table 3 Trends in Kentucky: Selected Performance Measures, Not Adjusted for Injury and Industry Mix and Wages (continued)

[c] Includes both PPD benefits and lump-sum settlements.

[d] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[e] Trends in medical-legal expenses are not reported for Arkansas at 12 months' average maturity and Florida at 12 and 36 months' average maturity because underlying data in our sample are not necessarily representative of the state's trends.

[f] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. See *CompScope™ Benchmarks: Technical Appendix, 16th Edition*. Results in Arkansas, Iowa, Kentucky, and Wisconsin should be used with caution since the small cell sizes (< 300) in these states for claims with 12 months of experience underlying these measures may lead to volatile trends.

[g] Measures for vocational rehabilitation provider expenses are only shown in Minnesota, Pennsylvania, and Virginia for claims with 12 months of experience because the cell sizes underlying these measures in the other study states are too small to support meaningful trend analysis. For claims with 36 months of experience, Arkansas, Georgia, Iowa, Indiana, Kentucky, and New Jersey are excluded from the trend analysis due to small cell sizes. We do not show measures for vocational rehabilitation expenses for Florida, California, and Illinois at 12 months of experience and for Florida at 36 months of experience because underlying data in our sample are not necessarily representative of the state's experience. We do not show trends of vocational rehabilitation maintenance benefits due to small claim cell sizes underlying this measure in the vast majority of the study states.

Key: n/a: not applicable; PPD: permanent partial disability; PPD/LS: permanent partial disability or lump sum.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table 4 Trend in Average Weekly Wages of Injured Workers, 2009–2014

Wage Measure	AR	CA	FL	GA[a]	IA	IL	IN[a]	KY	LA	MA	MI	MN[b]	NC	NJ	PA	TX	VA	WI
Average weekly wage of injured workers (data from WCRI's Detailed Benchmark/Evaluation database)																		
2009/2010	$622.59	$726.43	$626.48	$605.42	$671.56	$744.79	$634.52	$655.46	$662.55	$825.31	$741.40	$711.91	$636.62	$764.17	$725.45	$698.43	$673.86	$749.41
2010/2011	$613.16	$726.86	$634.62	$608.60	$660.62	$727.82	$638.55	$641.46	$691.21	$833.64	$721.82	$710.51	$633.41	$777.31	$719.38	$716.88	$682.14	$749.93
2011/2012	$655.15	$734.18	$646.53	$626.81	$693.58	$754.34	$665.66	$658.89	$712.44	$834.68	$742.46	$726.80	$651.29	$791.51	$750.84	$736.75	$688.58	$775.00
2012/2013	$640.87	$740.09	$650.76	$636.74	$704.06	$761.78	$658.57	$664.10	$699.13	$827.60	$747.92	$729.91	$651.13	$796.02	$771.43	$760.99	$708.60	$769.77
2013/2014	$673.61	$742.59	$666.28	$649.73	$735.19	$778.82	$675.16	$682.00	$722.55	$859.67	$751.38	$742.28	$684.81	$799.30	$778.47	$780.27	$713.44	$789.34
2014/2015	$711.28	$751.63	$675.45	$660.20	$754.88	$788.81	$696.60	$694.02	$746.32	$873.79	$778.58	$740.36	$684.01	$810.94	$795.76	$798.20	$728.97	$799.70
2008/2009 to 2009/2010	-1.5%	0.1%	1.3%	0.5%	-1.6%	-2.3%	0.6%	-2.1%	4.3%	1.0%	-2.6%	-0.2%	-0.5%	1.7%	-0.8%	2.6%	1.2%	0.1%
2009/2010 to 2010/2011	6.8%	1.0%	1.9%	3.0%	5.0%	3.6%	4.2%	2.7%	3.1%	0.1%	2.9%	2.3%	2.8%	1.8%	4.4%	2.8%	0.9%	3.3%
2010/2011 to 2011/2012	-2.2%	0.8%	0.7%	1.6%	1.5%	1.0%	-1.1%	0.8%	-1.9%	-0.8%	0.7%	0.4%	0.0%	0.6%	2.7%	3.3%	2.9%	-0.7%
2011/2012 to 2012/2013	5.1%	0.3%	2.4%	2.0%	4.4%	2.2%	2.5%	2.7%	3.4%	3.9%	0.5%	1.7%	5.2%	0.4%	0.9%	2.5%	0.7%	2.5%
2012/2013 to 2013/2014	5.6%	1.2%	1.4%	1.6%	2.7%	1.3%	3.2%	1.8%	3.3%	1.6%	3.6%	-0.3%	-0.1%	1.5%	2.2%	2.3%	2.2%	1.3%
Statewide average weekly wage for workers' compensation purposes (as of June 30 each year)																		
2009	$647.40	$956.20	$765.00	n/a	$683.00	$923.56	n/a	$694.30	$728.10	$1,093.27	$834.79	n/a	$741.81	$1,031.00	$836.00	$750.00	$841.00	$734.55
2010	$661.66	$984.83	$772.00	n/a	$706.50	$922.45	n/a	$711.79	$768.83	$1,094.70	$828.73	n/a	$758.18	$1,059.00	$845.00	$773.00	$895.00	$740.90
2011	$676.49	$979.90	$782.00	n/a	$710.00	$930.39	n/a	$721.97	$772.18	$1,088.06	$823.35	n/a	$760.00	$1,056.00	$858.00	$766.00	$885.00	$745.45
2012	$686.71	$1,003.55	$803.00	n/a	$728.50	$966.72	n/a	$736.19	$789.00	$1,135.82	$886.66	n/a	$783.64	$1,080.00	$888.00	$787.00	$905.00	$776.36
2013	$707.91	$1,059.38	$816.00	n/a	$749.00	$990.02	n/a	$752.69	$807.07	$1,173.06	$886.66	n/a	$803.64	$1,101.33	$917.00	$818.00	$935.00	$799.09
2014	$725.88	$1,067.25	$827.00	n/a	$771.50	$1,002.68	n/a	$769.06	$825.54	$1,181.28	$894.44	$945.00	$821.82	$1,124.00	$932.00	$850.00	$955.00	$810.91
2009 to 2010	2.2%	3.0%	0.9%	2.6%	3.4%	-0.1%	2.8%	2.5%	5.6%	0.1%	-0.7%	3.3%	2.2%	2.7%	1.1%	3.1%	6.4%	0.9%
2010 to 2011	2.2%	-0.5%	1.3%	2.9%	0.5%	0.9%	2.6%	1.4%	0.4%	-0.6%	-0.6%	-1.1%	0.2%	-0.3%	1.5%	-0.9%	-1.1%	0.6%
2011 to 2012	1.5%	2.4%	2.7%	3.0%	2.6%	3.9%	2.7%	2.0%	2.2%	4.4%	7.7%	3.2%	3.1%	2.3%	3.5%	2.7%	2.3%	4.1%
2012 to 2013	3.1%	5.6%	1.6%	1.2%	2.8%	2.4%	1.1%	2.2%	2.3%	3.3%	0.0%	2.2%	2.6%	2.0%	3.3%	3.9%	3.3%	2.9%
2013 to 2014	2.5%	0.7%	1.3%	2.7%	3.0%	1.3%	2.2%	2.2%	2.3%	0.7%	0.9%	3.2%	2.3%	2.1%	1.6%	3.9%	2.1%	1.5%

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. Similar notation is used to describe other injury years and valuations.

[a] In Georgia and Indiana, the weekly maximum TTD benefit was adjusted periodically by statute, rather than being tied to annual changes in the statewide average weekly wage as it was in the other study states. The annual changes in the statewide average weekly wage for Georgia and Indiana shown in this table come from Bureau of Labor Statistics data for the average weekly wage for private industries, total covered employment, and all establishment sizes (available at http://www.bls.gov).

[b] Effective October 1, 2013 (and each October 1 thereafter), the maximum weekly TTD compensation payable to Minnesota injured workers was changed from a statutorily-set fixed amount of $850 to 102 percent of the statewide average weekly wage for the period ending December 31 of the preceding year. The annual changes in the statewide average weekly wage for Minnesota shown in this table come from the average weekly wage data of nonfederal workers covered under unemployment insurance, reported in *Common Minnesota Workers' Compensation Benefit Adjustments* (http://www.dli.mn.gov/WC/ComBenExp.asp).

Key: n/a: not applicable; TTD: temporary total disability.

Table 5 Total Costs per Claim and Components, 2012/2015

	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI
2012/2015 claims with more than 7 days of lost time																		
Costs per claim																		
Medical	$14,717	$14,741	$15,351	$15,755	$19,407	$19,794	$22,164	$14,050	$20,501	$9,353	$10,816	$15,434	$16,778	$19,405	$17,527	$14,108	$23,240	$22,551
Indemnity	$13,280	$19,734	$13,792	$25,208	$23,576	$21,187	$10,438	$18,332	$24,167	$17,707	$12,648	$14,054	$28,319	$13,563	$24,404	$10,792	$18,960	$11,792
Benefit delivery expenses	$4,593	$9,410	$6,329	$6,854	$5,349	$6,748	$4,201	$5,896	$8,790	$4,433	$4,352	$4,850	$6,726	$7,278	$6,824	$5,407	$5,665	$3,829
Vocational rehabilitation	$8	$79	$23	$6	$34	$112	$7	$36	$345	$97	$80	$1,307	$115	$1	$63	$6	$256	$49
Total	$32,597	$43,963	$35,495	$47,822	$48,366	$47,842	$36,810	$38,314	$53,804	$31,590	$27,895	$35,646	$51,937	$40,247	$48,817	$30,313	$48,122	$38,221
Component share of total costs per claim																		
Medical	45.1%	33.5%	43.2%	32.9%	40.1%	41.4%	60.2%	36.7%	38.1%	29.6%	38.8%	43.3%	32.3%	48.2%	35.9%	46.5%	48.3%	59.0%
Indemnity	40.7%	44.9%	38.9%	52.7%	48.7%	44.3%	28.4%	47.8%	44.9%	56.1%	45.3%	39.4%	54.5%	33.7%	50.0%	35.6%	39.4%	30.9%
Benefit delivery expenses	14.1%	21.4%	17.8%	14.3%	11.1%	14.1%	11.4%	15.4%	16.3%	14.0%	15.6%	13.6%	12.9%	18.1%	14.0%	17.8%	11.8%	10.0%
Vocational rehabilitation	0.0%	0.2%	0.1%	0.0%	0.1%	0.2%	0.0%	0.1%	0.6%	0.3%	0.3%	3.7%	0.2%	0.0%	0.1%	0.0%	0.5%	0.1%

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

Table 6 Comparison of Statutory Maximum Weekly Temporary Total Disability Benefit and Statewide Average Weekly Wage, 2014

Wage Measure	AR	CA	FL	GA[a]	IA	IL	IN[a]	KY	LA	MA	MI	MN[a]	NC	NJ	PA	TX[b]	VA	WI	18-State Median[c]
Statewide average weekly wage for workers' compensation purposes (as of June 30)																			
2014	$725.53	$1,074.64	$827.00	$914.00	$771.50	$1,002.68	$804.00	$769.06	$825.33	$1,181.28	$893.44	$945.00	$821.82	$1,123.80	$932.00	$965.91	$955.00	$810.91	$903.72
Maximum weekly statutory temporary disability benefit (as of June 30)																			
2014	$617.00	$1,074.64	$827.00	$525.00	$1,543.00	$1,336.91	$650.00	$769.06	$619.00	$1,181.28	$805.00	$963.90	$904.00	$843.00	$932.00	$850.00	$955.00	$892.00	$871.00
Maximum weekly statutory temporary disability benefit as a percentage of the statewide average weekly wage																			
2014	85%	100%	100%	57%	200%	133⅓%	81%	100%	75%	100%	90%	102%	110%	75%	100%	88%	100%	110%	100%
Average weekly wage of injured workers (2014 claims at 12 months' maturity, adjusted for injury/industry mix)																			
2014	$708.92	$752.57	$680.51	$667.33	$741.02	$792.74	$694.33	$700.40	$740.45	$868.29	$774.07	$748.29	$688.13	$814.76	$799.86	$780.93	$733.15	$792.45	$744.66
Percentage of claims with weekly TTD benefit constrained by the statutory weekly benefit maximum (claims at an average 12 months' maturity)																			
2014	23.1%	6.4%	10.0%	30.7%	0.2%	1.6%	20.0%	13.3%	26.6%	4.4%	11.3%	7.3%	7.4%	19.1%	10.7%	15.6%	7.5%	11.2%	11.0%

[a] In Georgia and Indiana, the weekly maximum TTD benefit is adjusted periodically by statute rather than being tied to annual changes in the statewide average weekly wage, as it is in the other study states. The statewide average weekly wage shown for Georgia and Indiana is for comparison purposes and is the average weekly wage in private employment for all industries from the U.S. Bureau of Labor Statistics. In Georgia, effective July 1, 2013, the maximum weekly statutory benefit was increased to $525. In Minnesota, effective October 1, 2013, the statutory weekly maximum benefit is adjusted annually to 102 percent of the statewide average weekly wage for the period ending December 31 of the preceding year. Prior to that change, the maximum benefit was adjusted periodically by statute. In Indiana, under HEA 1320, the maximum statutory weekly benefit was increased 20 percent overall from 2014 to 2016, from $650 to $694 effective July 1, 2014, to $737 effective July 1, 2015, and to $780 effective July 1, 2016. The Indiana change effective July 1, 2014, is not reflected in the data shown here.

[b] In Texas, the statewide average weekly wage, used to calculate the maximum weekly compensation income benefits, since October 1, 2006, has been set at 88 percent of the average weekly wage in covered employment for the preceding year as computed by the Texas Workforce Commission.

[c] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated.

Key: TTD: temporary total disability.

Table 7 Lump-Sum Settlements for Claims with More Than 7 Days of Lost Time, Multistate Comparisons, Adjusted for Injury and Industry Mix and Wages

Performance Measure	AR	CA	FL	GA[a]	IA	IL	IN	KY	LA[b]	MA[b]	MI[b]	MN	NC[a]	NJ	PA[b]	TX	VA[b]	WI	18-State Median[c]	11-State Median[d]
2014/2015 claims																				
Claims with lump-sum settlements (percentage)	7%	7%	17%	19%	7%	11%	9%	7%	9%	5%	2%	6%	18%	3%	8%	2%	7%	4%	7%	7%
Average lump-sum settlement per claim with more than 7 days of lost time and a lump-sum settlement	$14,717	$15,746	$13,030	$28,703	$20,715	$15,856	$12,920	$18,279	$21,546	$23,911	$30,173	$23,940	$24,519	$9,888	$37,920	$9,102	$29,850	$12,170	$19,497	$14,717
Performance Measure	**AR**	**CA**	**FL**	**GA[a]**	**IA**	**IL**	**IN**	**KY**	**LA[b]**	**MA[b]**	**MI[b]**	**MN**	**NC[a]**	**NJ**	**PA[b]**	**TX**	**VA[b]**	**WI**	**18-State Average[e]**	**11-State Average[e]**
Percentage distribution of average lump-sum settlements																				
≤ $2,500	8%	7%	14%	3%	0%	1%	1%	3%	4%	0%	10%	5%	4%	1%	1%	0%	5%	2%	4%	4%
> $2,500 but ≤ $5,000	7%	9%	23%	2%	2%	5%	1%	4%	7%	4%	6%	4%	3%	11%	3%	7%	3%	4%	6%	7%
> $5,000 but ≤ $10,000	33%	32%	23%	24%	37%	38%	58%	32%	30%	32%	25%	32%	30%	65%	19%	71%	29%	70%	38%	45%
> $10,000 but ≤ $20,000	33%	29%	23%	25%	37%	31%	28%	36%	24%	29%	21%	23%	28%	15%	20%	19%	24%	16%	26%	26%
> $20,000 but ≤ $50,000	16%	19%	13%	28%	17%	21%	10%	18%	23%	25%	21%	23%	23%	7%	30%	3%	22%	5%	18%	14%
> $50,000	4%	4%	4%	18%	7%	3%	2%	6%	10%	10%	17%	14%	12%	1%	28%	0%	17%	3%	9%	4%
Performance Measure	**AR**	**CA**	**FL**	**GA[a]**	**IA**	**IL**	**IN**	**KY**	**LA[b]**	**MA[b]**	**MI[b]**	**MN**	**NC[a]**	**NJ**	**PA[b]**	**TX**	**VA[b]**	**WI**	**18-State Median[c]**	**11-State Median[d]**
2012/2015 claims																				
Claims with lump-sum settlements (percentage)	18%	26%	31%	37%	26%	37%	24%	26%	26%	17%	13%	20%	43%	21%	22%	4%	21%	15%	23%	24%
Average lump-sum settlement per claim with more than 7 days of lost time and a lump-sum settlement	$24,725	$23,322	$21,076	$41,115	$47,286	$28,457	$17,472	$34,385	$41,090	$42,977	$44,835	$31,885	$38,055	$12,999	$56,703	$12,820	$40,934	$26,975	$33,135	$24,725
Performance Measure	**AR**	**CA**	**FL**	**GA[a]**	**IA**	**IL**	**IN**	**KY**	**LA[b]**	**MA[b]**	**MI[b]**	**MN**	**NC[a]**	**NJ**	**PA[b]**	**TX**	**VA[b]**	**WI**	**18-State Average[e]**	**11-State Average[e]**
Percentage distribution of average lump-sum settlements																				
≤ $2,500	5%	6%	10%	2%	1%	1%	1%	2%	4%	0%	4%	4%	1%	0%	1%	0%	3%	2%	3%	3%
> $2,500 but ≤ $5,000	3%	7%	18%	2%	2%	4%	1%	2%	5%	4%	2%	3%	1%	5%	2%	4%	3%	5%	4%	5%
> $5,000 but ≤ $10,000	29%	25%	21%	18%	22%	27%	43%	24%	17%	18%	17%	23%	24%	44%	12%	64%	22%	47%	28%	33%
> $10,000 but ≤ $20,000	27%	26%	23%	19%	22%	28%	32%	25%	21%	22%	18%	22%	25%	38%	14%	21%	21%	19%	24%	26%
> $20,000 but ≤ $50,000	27%	27%	18%	29%	24%	28%	17%	29%	26%	31%	27%	27%	26%	11%	26%	8%	23%	13%	23%	21%
> $50,000	9%	11%	10%	30%	29%	12%	5%	18%	27%	26%	32%	20%	23%	1%	45%	2%	27%	14%	19%	12%

Note: 2014/2015 refers to claims arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] States with attributes of both wage-loss and PPD systems.

[b] Wage-loss states.

[c] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated.

[d] The 11-state median represents the 11 PPD system states in the study, excluding Louisiana, Massachusetts, Michigan, Pennsylvania, and Virginia (wage-loss states) and Georgia and North Carolina (states with attributes of both a PPD and wage-loss benefit system). The 11-state median is the state ranked 6th on a given measure; the state changes depending on the measure being evaluated.

[e] We show the 18-state and 11-state average for the percentage distribution of lump-sum settlements so that the total for each grouping will equal approximately 100.

Key: PPD: permanent partial disability.

Table 8 Comparison of Nominal and Significant Defense Attorney Involvement in Kentucky Claims with More Than 7 Days of Lost Time, 2012/2015

	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[a]
Claims with defense attorneys (percentage of claims with more than 7 days of lost time)																			
Overall	24.9%	44.4%	41.0%	43.2%	28.0%	47.5%	22.0%	30.9%	37.7%	25.4%	19.6%	25.3%	43.5%	55.3%	32.1%	15.5%	35.1%	15.3%	31.5%
Nominal involvement (average payment per claim of $500 or less, indexed)[b]	2.8%	2.7%	1.5%	3.0%	3.0%	6.2%	5.3%	4.1%	2.0%	1.6%	0.6%	0.7%	3.4%	3.6%	1.1%	3.1%	3.8%	1.0%	2.9%
Significant involvement (average payment per claim greater than $500, indexed)[b]	22.1%	41.7%	39.5%	40.2%	25.0%	41.3%	16.7%	26.8%	35.7%	23.8%	19.0%	24.5%	40.1%	51.7%	31.0%	12.4%	31.3%	14.3%	28.9%
Average defense attorney payment per claim																			
Overall	$3,579	$6,323	$6,544	$6,762	$6,145	$3,567	$3,073	$4,799	$8,521	$3,716	$6,102	$7,184	$3,579	$2,468	$6,113	$4,680	$4,377	$4,772	$4,786
Nominal involvement (payments of $500 or less, indexed)[b]	$372	$402	$324	$333	$343	$348	$309	$337	$361	$341	$366	$318	$447	$385	$334	$325	$383	$344	$344
Significant involvement (payments greater than $500, indexed)[b]	$3,983	$6,709	$6,784	$7,240	$6,850	$4,048	$3,956	$5,488	$8,983	$3,938	$6,292	$7,392	$5,174	$2,613	$6,327	$5,775	$4,864	$5,089	$5,631
Percentage difference in mean (significant versus overall)	11.3%	6.1%	3.7%	7.1%	11.5%	13.5%	28.7%	14.3%	5.4%	6.0%	3.1%	2.9%	44.6%	5.9%	3.5%	23.4%	11.1%	6.6%	6.9%
Nominal attorney involvement as a percentage of overall	11.2%	6.1%	3.7%	6.9%	10.8%	13.0%	24.2%	13.4%	5.4%	6.2%	3.2%	2.9%	7.8%	6.5%	3.6%	20.1%	10.9%	6.7%	6.8%

Note: 2012/2015 refers to claims arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated.

[b] A $500 threshold was used in reporting the frequency of defense attorney involvement and the average payment made to defense attorneys to identify where defense attorneys were more likely to be involved in disputes, rather than involved in a more nominal way, such as drafting settlement agreements. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year. For more details, see *CompScope™ Benchmarks: Technical Appendix, 16th Edition* .

List of Common Abbreviations and Symbols[1]

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

7DLT: 7 days of lost time.

AAPC: Annual average percentage change.

ACOEM: American College of Occupational and Environmental Medicine.

ADR: Alternative dispute resolution.

ALAE: Allocated loss adjustment expenses.

AMA: American Medical Association.

APC: Ambulatory payment classification.

ASC: Ambulatory surgical center.

Avg.: Average.

AWP: Average wholesale price.

AWW: Average weekly wage.

BDE: Benefit delivery expenses.

CMS, CMMS: Centers for Medicare and Medicaid Services.

CPI-M: Consumer Price Index – Medical.

CPI-U: Consumer Price Index for All Urban Consumers.

CPT: Current Procedural Terminology codes, a system of coding used to identify procedures and services performed by physicians.

Cum.: Cumulative.

CY: Calendar year.

DA: Defense attorney.

Diff.: Difference.

DOI: Date of injury.

DR: Dispute resolution.

DRG: Diagnosis-related group.

E&M: Evaluation and management (office visits).

Eff.: Effective.

[1] The abbreviations and symbols on this list are frequently used in the CompScope™ Benchmarks report series.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Ep.: Episode.

Esp.: Especially.

Eval. & Mgmt.: Evaluation and management (office visits).

FEC: Future earning capacity.

Freq.: Frequency.

FS: Fee schedule.

FY: Fiscal year.

Geo zip: Geographical area defined by U.S. Postal Service zip codes.

GH: Group health.

HB: House bill.

HEA: House enrolled act.

HCPCS: Healthcare common procedure coding system.

Hosp.: Hospital.

ICD-9-CM: International Classification of Diseases, Ninth Revision, Clinical Modification.

IME: Independent medical examination.

IMR: Independent medical review.

Inpat.: Inpatient.

k: Thousands.

LS: Lump sum.

MAR: Maximum allowable reimbursement.

Max: Maximum.

MCC: Medical cost containment.

MD: Medical doctor. The physician category includes surgeons, general practitioners, radiologists, family practice physicians, psychiatrists, and other recognized medical doctors such as doctors of osteopathic medicine.

MDRx: Physician-dispensed prescriptions.

MEA: Morphine equivalent amount.

MEI: Medicare economic index.

Min: Minimum.

M-L: Medical-legal.

MMI: Maximum medical improvement.

MPI, MPI-WC: Medical Price Index for Workers' Compensation (annual WCRI report).

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

MPN: Medical provider network.

n/a: Not applicable.

NCCI: National Council on Compensation Insurance, Inc.

NDC: National Drug Code.

ODG: Official disability guidelines.

OPPS: Outpatient prospective payment.

PAF: Payment on account factor.

Pain Mgmt. Inj.: Pain management injections.

PD: Permanent disability.

PDRS: Permanent disability rating scale.

PDRx: Pharmacy-dispensed prescriptions.

PM: Physical medicine.

Pmt.: Payment.

PPD: Permanent partial disability.

PPD/LS: Permanent partial disability or lump sum.

PPO: Preferred provider organization.

PPP: Preferred provider program.

PPT or ppt: Percentage point(s).

PT/OT: Physical therapist and/or occupational therapist.

QCEW: Quarterly census of employment and wages, produced by the U.S. Bureau of Labor Statistics.

RBRVS: Resource-based relative value scale.

RTW: Return to work.

RVU: Relative value unit.

Rx: Prescriptions.

SAWW: Statewide average weekly wage.

SB: Senate bill.

SEA: Senate enrolled act.

SMSA: Standard metropolitan statistical area.

TD: Temporary disability.

TOR: Treatment/operating/recovery room services.

TPD: Temporary partial disability.

TTD: Temporary total disability.

U&C: Usual and customary.

UR: Utilization review.

VR: Vocational rehabilitation.

w/: With.

WC: Workers' compensation.

wks: Weeks.

%: Percent or percentage.

#: Number.

/: Per (as in cost/claim means cost per claim).

>: More than.

≤: Less than or equal to.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

GLOSSARY

access to medical care: The extent to which patients were able to obtain the medical care that they or their health care provider desired. In WCRI and many other surveys, access to medical care is evaluated in terms of the patients reporting that they encountered "no problems," "small problems," or "big problems" in this regard.

ancillary legal costs: Payments associated with the preparation and/or production of reports and transcripts, filing fees, performance of autopsies, conduct of surveillance and investigation, translator's fees, witnesses' fees, and costs associated with arbitration and alternate dispute resolution. Ancillary legal costs do not include attorney fees.

average weekly wage (AWW): The worker's average weekly preinjury earnings as determined by a jurisdiction-specific formula. This AWW typically serves to establish the worker's weekly indemnity benefit rate.

average price paid: Payments for a given medical service divided by the total number of services.

balance billing: A procedure under which providers of medical services can bill the injured worker for some or all of the difference between bills submitted for services on a claim and the amounts paid for those services by the employer or insurer.

benefit delivery expenses: The costs of delivering medical and indemnity benefits to injured workers that are allocated to individual claims: in this study, these include litigation-related expenses, such as defense attorney fees, medical-legal expenses, and ancillary legal expenses, as well as the costs associated with medical management of the claim and any administrative assessments.

benefit payments: Payments to an injured worker for time lost from work (indemnity benefits) as well as payments for the medical treatment of the injured worker.

bifurcated approach: A method used to determine unscheduled permanent partial disability (PPD) benefits that depends on the worker's employment status at the time of the rating. Under this approach, if a worker has returned to work and is earning at or close to his or her preinjury wage, the PPD benefit is typically based on the degree of medical impairment. If a worker has not returned to work, the PPD benefit is typically based on the loss of wage-earning capacity.

claim type: Claim types are organized into an escalating hierarchy, starting with medical-only and proceeding up through temporary partial disability, temporary total disability, permanent partial disability, permanent total disability, or death. Claim type is assigned based on the most severe type of benefit paid or incurred in each case.

claims with more than seven days of lost time: WCRI methodology in multistate benchmarking studies that applies a waiting period of seven days before counting or including indemnity benefits paid, if a state law allows earlier payments. This approach provides a more appropriate multistate comparison, because states that have a waiting period for benefits shorter than seven days will typically have lower average indemnity benefits per claim as a result.

compensability: The issue of whether an injury qualifies as a basis for a claim to benefits under the applicable workers' compensation statute.

cost-of-living adjustment (COLA): An inflation-based adjustment in benefits corresponding to a change in the cost of living. COLAs may be based on changes in various metrics such as the Consumer Price Index published by the Bureau of Labor Statistics or on changes in the statewide average weekly

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

wage, or they may be specifically enacted by state legislatures from time to time.

cost-to-charge ratio reimbursement: A ratio of the cost divided by the charges, generally used with acute inpatient or outpatient hospital services. Base cost-to-charge ratios are often calculated using the hospital's declared revenue and expenses on the Medicare Cost Reports. The base cost-to-charge ratios are multiplied by charges to determine the reimbursement amount.

Current Procedural Terminology (CPT) codes: A system of coding used to identify procedures and services performed by physicians.

date of disability: The date a worker first became disabled from work as the result of a workplace injury or occupational disease.

date of employer notice of injury: The date on which the employer first knew or was advised of an employee's workplace injury or occupational disease.

date of first indemnity payment: The earliest date in the transaction file on which an indemnity payment was made.

date of injury: The date on which a worker's injury occurred or his or her illness became manifest and was known to be associated with work-related causes.

date of payor notice of injury: The date on which the payor (insurer, third party administrator, etc.) first knew or was advised of an employee's workplace injury or occupational disease.

defense attorney payments: The expense to an insurer or employer of having an attorney defend a workers' compensation claim; includes payments for either or both in-house and outside defense counsel.

Detailed Benchmark/Evaluation (DBE) database: Created by WCRI, this is the compilation of data used as the basis for the measures in these reports.

development: The changes in loss payments made and/or reserves established over time as claims proceed from initiation to final resolution.

discovery: The pre-trial procedure requiring disclosure of requested information to the other party.

duration of temporary disability: The imputed length of time for which temporary disability benefits have been paid, estimated from amounts of benefits and average benefit rate.

duration of medical treatment: The number of weeks between the date of the first medical treatment and the date of the last medical treatment.

evaluation date: The date as of which payments have been summarized and reserves have been established for all claims from a particular injury year. In this study, selected evaluation dates falling 6, 18, 30, 42, and 54 months after the end of each injury year were used. Accordingly, claims with dates of injury in injury years 2009 through 2014 were evaluated as of March 31, 2015, and on March 31 of each previous year (2010 through 2014) as applicable. The evaluation date may also be referred to as the valuation date.

fee schedule: A set of prescribed reimbursement levels for medical procedures provided by a wide range of practitioners, generally within nonhospital and/or hospital settings, to workers' compensation claimants. Fee schedules may also apply to durable medical supplies or pharmaceuticals. Fee schedules may be subject to negotiation or adjustment by agreement of the parties in some systems. Fee schedules can be adjusted according to provisions in statute and rule.

formal dispute resolution: Typically, an administrative process for resolving workers' compensation disputes in which an adjudicator conducts at least one formal hearing where (1) sworn testimony is taken, (2) cross-examination of witnesses is permitted, (3) a record of the proceeding is kept, and (4) a written decision is issued if voluntary agreement is not reached beforehand. Formal dispute resolution may also occur in state courts, after completion of any administrative processes.

hospital inpatient payments: Payments made to the hospital for services rendered during an inpatient stay.

hospital outpatient payments: Payments made to the hospital for services that are delivered outside an inpatient stay.

impairment approach to unscheduled PPD benefits: Under this approach, the worker's PPD benefit is directly and entirely related to his or her degree of medical impairment. Medical impairment is the measure of physical loss of a body part or system or impairment of use thereof, as measured by a physician. Various formulas are applied to derive the impairment ratings and determine the benefits. In some jurisdictions, a supplemental benefit is also available under certain circumstances when the worker has exhausted the PPD benefits awarded.

impairment rating: A percentage that estimates how much a worker has lost the normal use of injured parts of the body. Typically, impairment ratings are determined using the American Medical Association *Guides*.

incurred benefits: The sum of benefits paid plus the amount of reserve estimated for future benefit payments on a claim. Incurred benefits, as presented in this report, are not adjusted by WCRI for inflation and do not include any actuarial factors or other adjustments to anticipate future development on paid or reserved amounts. For closed claims, incurred benefits are the benefits that have been paid.

indemnity benefits: Payments to a worker for time lost from work or other adverse effects of an occupational injury or illness. Indemnity benefits can include payments for loss of earning capacity or wages or permanent impairment or disability. Some states use the term *income benefits* to describe the full range of payments to the worker.

indemnity claim: A claim in which indemnity payments—payments for temporary disability, permanent disability, or death—have been made. Note that much of the report analysis focuses on claims with more than seven days of lost time and applies a waiting period of seven days before counting or including indemnity benefits paid, if a state law allows earlier payments.

indemnity payments: The amount of indemnity benefits paid to a worker.

independent medical evaluation: A physical examination by a medical doctor chosen by the injured worker and/or insurer for the purpose of providing a medical-legal report to help resolve a dispute.

informal dispute resolution: Informal administrative processes such as mediation and arbitration (either binding or nonbinding) used to resolve workers' compensation disputes. Informal dispute resolution is distinguished from *formal* dispute resolution by the following features of the former: (1) few or no procedural rules, (2) no rules governing admissibility of evidence, (3) no sworn testimony or cross-examination of witnesses, and (4) no transcript or other form of record of proceedings.

injury year: The 12-month period in which an injury occurred, also called accident year. We define an injury year to include the 12 months beginning October 1 of the previous calendar year through September 30 of the calendar year used to designate the injury year. For example, injury year 2014 includes claims with injuries arising from October 1, 2013, through September 30, 2014. Thus, the injury years used in this study do not align with specific calendar years.

litigation and claims-adjusting expenses: Defense attorney payments, ancillary legal costs, medical-legal costs, and other expenses related to adjusting a claim and allocated to individual claims.

loss-of-wage-earning-capacity approach to unscheduled PPD benefits: A system in which PPD benefits for unscheduled injuries are based on the impact that permanent impairment is expected to have on a worker's ability to earn or to compete in the labor market. The estimated earnings impact is based on a number of factors that may include the worker's age, education, and training and skills, as well

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

as the extent of the worker's physical impairment and existing labor market conditions.

lump-sum settlement: An agreement that typically closes out a workers' compensation claim and results in a single final payment to the worker. In some states, rights to future medical benefits or vocational rehabilitation benefits cannot be resolved by lump-sum settlements. Lump-sum settlements are also variously known as compromise-and-release agreements and commutations.

managed care: An approach to health care cost containment that enables the payor to influence the delivery of health services before the services are provided. As used in this report, *managed care* refers to the use of designated entities, referred to as managed-care organizations, to deliver health care to injured workers. Techniques common to managed-care organizations include case management, physician gatekeepers, provider networks, and components of utilization review (such as admission review, admission precertification, continued-stay review, discharge planning, mandatory second opinion programs, and quality assurance mechanisms).

mapping: One of the key methods we use to ensure the comparability of the benchmark measures across states. It involves categorizing different data source codes into a common structure based on the definitions of those codes.

maturity: The time between the date of injury and the evaluation date. In this study, we analyze claims with average maturities of 12, 24, 36, 48, and 60 months.

maximum medical improvement (MMI): The point at which the injured worker's medical condition has stabilized or is not expected to improve even with additional medical treatment.

median study state: The state that ranks in the middle of the group of states included for a particular measure when the states are sorted from high to low values. For example, the median of 18 study states is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being analyzed. In WCRI studies, we consider values within 10 percent of the median value or within 3 percentage points of the median percentage measure to be *typical*, that is, similar to the median state.

medical cost containment expenses: All payments related to medical cost containment, including fees for bill review, utilization review, case management, and preferred-provider networks. Note that medical cost containment expenses are not included in the average medical payments per claim that we report.

medical-legal expenses: Payments for medical-legal examinations and reports initiated by either party or an adjudicator, and testimony and depositions from medical providers and medical experts.

medical-only claim: An open or closed claim for which medical payments have been made but no indemnity payments have been made or no indemnity reserves have been established.

medical payments: Payments to medical providers for the medical treatment of workers' injuries. These include payments to physicians, chiropractors, and physical therapists, and for hospital, pharmacy, nursing home, and medical rehabilitation services. The average medical payment per claim is the sum of medical payments made to all types of providers and for all types of services, divided by the total number of claims receiving any such services.

medical service: A single medical treatment or procedure billed by a medical provider. Multiple medical services may be delivered at one visit.

network care: Health care rendered within a network of preferred medical providers who provide care under an agreement with the payor; such agreements may establish discounted reimbursement rates for services and require compliance with certain protocols for care.

nonhospital services: Services provided outside of a hospital setting. Providers of nonhospital services include physicians, chiropractors, and physical/occupational therapists. Other nonhospital providers

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

include nurses, clinical social workers, and other ancillary practitioners.

nonimpairment state: A state that does not base benefits for permanent partial disability solely on the worker's impairment. Such states typically apply an approach that bases PPD benefits on loss of earnings or wage-earning capacity or a dual (bifurcated) approach based on the worker's employment and earnings status at the time permanency benefits are determined.

non-wage-loss state (also termed a PPD state): A state that does not base payments for permanent partial disability solely on actual or imputed loss of wages.

paid benefits: The sum of medical and indemnity payments made.

paid claims: Medical-only and indemnity claims. Paid claims do not include incident reports and/or expense-only claims.

payor: The entity responsible for administering and making payments on a workers' compensation claim. Payors may be insurers, third-party administrators, or self-insured, self-administered employers.

permanent disability claim: A claim for either permanent partial disability or permanent total disability benefits.

permanent partial disability (PPD) payments: Payments and escalations (where applicable) for scheduled and unscheduled PPD benefits; the latter include disfigurement benefits, PPD life pensions and annuities, impairment compensation, economic recovery compensation, supplemental income compensation, loss of earning power or capacity, and all payments identified as lump-sum settlements, compromise-and-release agreements, settlements, and commutations, regardless of the type(s) of benefits for which the lump sum was paid. In most jurisdictions, PPD benefits may be paid weekly or at other set intervals, or they may be paid in a lump sum.

permanent total disability (PTD) payments: Payments and escalations (where applicable) for an injury that results in a permanent condition of total incapacity to work.

premium (above Medicare): Refers to the dollar amount or percentage by which a state workers' compensation fee schedule rate exceeds the corresponding Medicare reimbursement rate for that state. In very few circumstances, the workers' compensation fee schedule rate may be lower than the Medicare rate, in which case the premium is negative.

price index: The ratio of the price per service in an individual state to the median state, where price per service is constructed using a marketbasket approach to hold utilization of services constant.

provider type: One of six categories of medical providers (physician, chiropractor, physical/occupational therapist, hospital, other, unclassified) created in the DBE database. Provider type is one of the dimensions that form the detailed medical benchmark measures. Provider type is defined regardless of the type of service being provided.

PT/OT: Physical therapist and/or occupational therapist.

relative value unit (RVU): A measure of the relative costs required to provide different medical services, with more complex, time-consuming services, like a shoulder arthroscopy, having higher unit values than less complex, less time-consuming services, such as an office visit.

salary continuation program: An employer program under which the employer continues to pay an injured worker's salary after a workplace injury or illness occurs until compensability under workers' compensation is determined or for some prescribed period of time under a collective bargaining agreement.

satisfaction with medical care: Patients' perceptions of the quality, effectiveness, and efficiency of their medical care. Satisfaction with medical care is measured in WCRI and many surveys using questions that ask patients to rate their satisfaction as "very satisfied," "somewhat satisfied," "somewhat

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

dissatisfied," or "very dissatisfied."

scheduled injuries, payments: Payments made according to a schedule or list that defines PPD awards (usually in terms of number of weeks of benefits or total dollar amounts) for specific losses of function or use of different body parts (injuries).

service group: One of 20 categories of medical services. Service group is one of the dimensions that form the detailed medical benchmark measures. Service group applies to categories of services regardless of the provider type(s) delivering the services.

statewide average weekly wage (SAWW): The average weekly wage in a given state. The SAWW or some multiple thereof is often used to determine the maximum weekly indemnity compensation rates.

substantial return to work: An event in which an injured worker returned to work and remained at work for at least one month. Substantial return to work is used in WCRI studies to distinguish between returns to work that are relatively enduring from ones where the worker returns to work for only a very brief period of time and then is absent from work again due to the injury.

temporary disability claim: A claim on which either temporary partial disability or temporary total disability benefits have been paid.

temporary partial disability (TPD) benefits: TPD benefits are paid for those periods during which a worker has returned to work on a part-time basis or at reduced wages.

temporary total disability (TTD) benefits: TTD benefits are paid when a worker is temporarily unable to earn any wages.

temporary total disability (TTD) rate: The weekly amount payable for temporary total disability benefits.

total cost per claim: The sum of medical and indemnity payments, benefit delivery expense payments, and payments for vocational rehabilitation service/provider expenses made, divided by the number of claims on which such payments were rendered.

treatment guidelines: Specifications for ranges and/or levels of service and the methods of treatment (protocols) that should be considered accepted medical practice for certain diagnoses or patient conditions.

trend: Rate and direction of change over time.

unilateral termination: The ability of employers and insurers to terminate or suspend benefits without prior approval through a workers' compensation administrative or hearing process.

unscheduled injuries, payments: Payments made for injuries not included in the state's schedule that defines PPD awards for specific losses of function or use of different body parts. Compensation may be predicated on additional factors such as wage loss and/or wage-earning capacity.

utilization, utilization index: The ratio of the average number of services per claim in an individual state to those of the median state. The average number of services per claim was weighted by the relative value unit (RVU) to hold the intensity of resource use constant in these comparisons.

utilization review: The assessment of a patient's medical care to ensure that it is medically necessary and reasonable. This assessment typically considers the appropriateness of the place of care; the level of care; and the duration, frequency, and/or quantity of services provided based on the accepted condition(s).

visit: An event in which a patient receives a service, or services, from a particular medical provider on a specific date.

vocational rehabilitation maintenance payments: Indemnity benefits paid while a worker is receiving vocational rehabilitation services.

vocational rehabilitation service/provider expenses: Payments for vocational rehabilitation services

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

provided by outside vendors, including vocational evaluation, testing, training, education, books, and supplies.

wage differential benefits: Payments when a worker obtains a new job that pays less than the preinjury job(s).

wage-loss state: A state that bases compensation for permanent partial disability on the workers' earnings histories. Under this approach, compensation—a portion of the wages lost because of the work-related injury—is paid until the worker returns to work at or near his or her preinjury wage. Under a pure wage-loss system, a worker who has returned to work and is earning at the preinjury level, regardless of the extent of his or her injury, would not receive PPD benefits.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

REFERENCES

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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

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Back to Previous View

Table of Contents

Summary of Major Findings

Finding the Data You Want

How to Use This Analysis

Major Findings Slides

Data and Methods

Technical Appendix

Print Options

Back to Previous View

WORKERS' COMPENSATION STATUTE[1]

Kentucky Revised Statutes, Chapter 342.

[1] The citation provided is the basic workers' compensation statutes. Amendments are not listed, and other state statutes may relate to workers' compensation requirements and processes.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

CompScope™ Benchmarks: Technical Appendix, 16th Edition

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Karen Rothkin

April 2016

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Cambridge, Massachusetts

TABLE OF CONTENTS FOR THE TECHNICAL APPENDIX

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

List of Figures

Back to Previous View

Table of Contents

Summary of Major Findings

Finding the Data You Want

How to Use This Analysis

Major Findings Slides

Data and Methods

Technical Appendix

Print Options

Back to Previous View

List of Tables

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

TECHNICAL APPENDIX

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

In this *Technical Appendix*, the data and methods used to construct the benchmarking measures reported in the 16th edition CompScope™ individual state reports for California, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, New Jersey, North Carolina, Pennsylvania, Texas, Virginia, and Wisconsin and *The DataBook* (http://www.wcrinet.org/cs16/the_databook.pdf) are described in detail. Each of the reports contains a summary description of the data and methods used, but a detailed explanation, along with the conceptual framework for the CompScope™ approach, is also provided here.

ORGANIZATION OF THE TECHNICAL APPENDIX

The *Technical Appendix* includes seven sections. The first section provides a brief description of the analysis data and unit of analysis, as well as claims and claim maturity. The second section discusses the key performance measures and the conceptual framework used in the CompScope™ benchmarking reports. The third section describes the data sets constructed for the multistate analysis and reporting, the claim volume, the representativeness, and the validity of the Workers Compensation Research Institute (WCRI) sample data. The fourth section addresses the methods used to ensure the comparability, consistency, and accuracy of the data, such as analyzing the subset of claims with more than seven days of lost time; the case-mix adjustments for interstate differences in injury, industry, and wages; and the data capping. The fifth section discusses the methodology underlying the trend analyses for each state. The sixth section covers a few technical and methodological issues that are state specific. The last section provides a detailed explanation of the WCRI Detailed Benchmark/Evaluation (DBE) database, which is the foundation of the CompScope™ multistate benchmarking study, as well as of other WCRI studies.

THE ANALYSIS DATA

The analysis in the 16th edition of CompScope™ benchmark reports used data from 25 data sources, including national and regional insurers, claims administration organizations, state funds, and self-insured employers. The sample data were collected in the DBE database and included about 7.6 million claims that were reasonably representative of the entire system in each of the 18 study states, including all market segments: self-insurance, residual market, voluntary insurance, and state funds. The entire DBE database included 41.6 million claims from 27 data sources and across 34 states. The last section in this *Technical Appendix* discusses the details of the data collection, data preparation, and quality assurance as they pertain to the DBE database.

UNIT OF ANALYSIS

The unit of analysis in every CompScope™ benchmarking report is the individual workers' compensation claim. Because the reports focus on state workers' compensation systems, analysis of employers' liability claims and claims that fall under federal regulations (e.g., the Longshore and Harbor Workers' Compensation

Act, the Black Lung Act, and the Jones Act) are excluded.[1]

CLAIMS AND CLAIM MATURITY

Since workers' compensation claims typically develop over several years, researchers face a critical trade-off between seeking timely information and complete information. For instance, if only 2014 claims were examined in 2015 (relatively current claims), researchers would miss considerable information about long-term claims, which significantly affect total system costs. However, if researchers waited until complete data on all claims were available, system evaluation would be postponed for several years and results would omit information about recent claims.

To balance considerations of timeliness and completeness of information, the focus in this report is on claims with injuries arising from October 1, 2008, through September 30, 2014, evaluated as of March 31 of each year from 2010 to 2015 (Table TA.2).[2] For instance, the 2014/2015 claims refer to injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. The maturity of these claims ranges from 6 months to 18 months (an average of 12 months of experience).

KEY PERFORMANCE MEASURES AND CONCEPTUAL FRAMEWORK

COMPSCOPE™ KEY PERFORMANCE MEASURES

The series of reports that comprise the 16th edition of the CompScope™ benchmarking study contains the results of a set of key performance measures developed since the inception of this annual study. Performance measures are presented in several areas:

- Time from date of injury to date of employer notice of injury, date of injury to payor notice of injury, and date of injury to first payment of indemnity benefits
- Average total cost per claim, average payment per claim for medical benefits, and average payment per claim for indemnity benefits and components of indemnity benefits
- Vocational rehabilitation use and costs
- Benefit delivery expenses and defense attorney involvement
- Duration of disability and indemnity payments

Table TA.1 provides detailed definitions for each performance measure.

The results for the key performance measures presented are for all claims, for claims with more than seven days of lost time, and for claims with different types of benefits (i.e., temporary disability or permanent partial disability). Claims are classified according to the structure of paid benefits shown in Figure TA.1. The claim classification, from the least to the most severe, is as follows: medical-only, temporary partial disability (TPD), temporary total disability (TTD), permanent partial disability (PPD), permanent total disability (PTD), and death. A claim's overall classification reflects the benefits paid as of the evaluation date for the most severe claim type. This study focuses primarily on temporary disability claims (comprised of both TPD

[1] Claims from nonfederal public employees (municipal, county, city, etc.) were included in the study. However, state employees were not included in the analyses because of comparability issues.

[2] The letters *TA* in each figure and table title stand for *Technical Appendix*.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

and TTD claims) and on PPD claims.[3]

COMPSCOPE™ CONCEPTUAL FRAMEWORK

A basic question underlying a comparison of state workers' compensation systems is, How do the systems perform for similar workers for similar injuries? To answer this question, we first identified a sample of claims from each state that represented the state workers' compensation market. We then adjusted the claims so that the observed differences in the comparison would more likely be due to the differences in system features, not the differences in definition, injury severity, injured workers' characteristics, economic conditions, or other external factors.

Figure TA.2 shows the concept underlying our data comparability methodology. The data were standardized using uniform definitions across data sources and states. A subset of claims with more than seven days of lost time was analyzed. We controlled for injury and industry mix and wage levels (see subsequent sections for a detailed discussion of these methods). After these adjustments, the differences in performance measures across states should primarily reflect differences in system features, including, but not limited to, regulations governing notice and payment, pay-without-prejudice options, benefit rates, minimum and maximum benefit levels, safety programs, managed care and other medical cost containment tools, return-to-work programs, and dispute resolution procedures, as well as the history and culture relating to workers' compensation. Another factor influencing any potential difference in outcomes is the behavior of system participants.

The trend results (difference between current and previous time points) for individual states in the CompScope™ benchmarking reports were not adjusted for injury and industry mix or wage levels. We do this in order to provide trend information that is more consistent with the experience of system stakeholders in each state.

METHODS TO ENSURE REPRESENTATIVENESS AND VALIDITY OF THE ANALYSIS DATA

In this section, the methods used to ensure the representativeness and validity of the WCRI sample data are explained.

CLAIM EXCLUSIONS FOR MULTISTATE ANALYSIS

Certain data were excluded from the analysis as a result of the data quality protocol. The purpose of claim exclusion is to ensure the consistency and comparability of the analysis data, retaining as much of the data collected in the DBE database as possible while maintaining the representativeness of the data for individual states.

The CompScope™ performance measures were categorized into four groups: (1) paid and incurred benefit measures, (2) benefit delivery expense measures, (3) vocational rehabilitation provider measures, and (4) measures of time to reporting and first payment. Using the data quality reports, some data sources were identified where data for a particular group of measures were fundamentally different from the data from all

[3] Limitations of the data prevent reporting TTD and TPD claims statistics separately as well as reporting PTD and fatality claims statistics separately.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

the other data sources across most injury years. These identified data were excluded from the analysis data for that group of measures. For the benefit delivery expense and its component measures, only data where medical cost containment strategies were used and relevant expenses were allocated to the claim were included. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies to individual claims, that data source was excluded from the benefit delivery expense measures in this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to individual claims, that data source was excluded from the benefit delivery expense measures in this report as well.

About 507 indemnity claims in all injury years across all states were identified as *unlikely fatalities* or large-value claims that had inconsistencies in claim characteristics. They were excluded from the analysis. Also, 968,462 duplicate claims in all injury years across all states (11.3 percent of the total available data) were removed. These duplicate claims were the same claims with multiple occurrences recorded in different data systems of an insurance carrier and their third-party administrators, as well as claims with multiple occurrences within a single-source data system.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

REPRESENTATIVENESS OF THE WCRI SAMPLE

The sample data included nearly 1.2 million claims across the study states for injury year 2014. These claims covered 52 percent of the claims in the population in all study states for that year. The percentage of the population of claims represented by the WCRI sample varied by state, ranging from 40 percent in Wisconsin to 76 percent in Texas (Table TA.3).

Samples of claims were collected from 25 data sources across the 18 states that included all segments of the insurance market: private voluntary, private residual, state fund, and self-insurance markets. The proportion of claims in each market segment in the sample for a state may not necessarily reflect the proportion of claims in each market segment in the population of that state. To ensure that the sample claims from each state were representative of the full insurance market in the state, the sample claims were weighted to reflect the population proportions of the insurance market segment of the claims in each state. The market segment weights for each state were calculated as a ratio of the market segment proportion in the claims population to that in the claims sample. Since the claim volume changes over time, market segment weights were calculated by injury year for each state.[4] Table TA.4 shows the distribution of claims by market segment in the population for injury years 2009 through 2014 in each of the 18 states.

VALIDITY OF THE WCRI SAMPLE

To ensure the representativeness of the sample data, a few key measures were validated against external data. The data were also validated internally by comparing the key measures between the 16th and the 15th editions of the CompScope™ reports.

[4] Population data for the private insured market reflect incurred claims based on data provided by the National Council on Compensation Insurance, Inc. (NCCI) and independent rating bureaus. The percentage of the self-insured market segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013*, published by the National Academy of Social Insurance (NASI) in 2015. Data for the state fund market segment were based on data from the state funds. Since population data in the residual market were not readily available, the claim counts were estimated based on premium and claim frequency data using NCCI's *Residual Market Management Summary, 2014* (NCCI, 2015), residual market premium information by independent rating bureaus, and NCCI's *Workers Compensation Claim Frequency—2014 Update* (Davis and Stern, 2014).

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

VALIDATING THE DATA WITH EXTERNAL SOURCES

To assess whether the sample was sufficiently representative of the state as a whole, a number of measures from the sample data were compared with published data from external sources, including the state workers' compensation agency, the rating bureau, and other sources. Specifically, two types of validation were performed: (1) the average incurred benefits for indemnity claims in each state from the external data were compared with the average incurred benefits (including incurred medical and incurred indemnity benefits) per indemnity claim based on the sample; (2) data on injury and industry composition and workers' age, gender, and marital status from the sample were compared to the data on the same characteristics from external sources. These comparisons led to the conclusion that the data used for the CompScope™ reports are sufficiently representative of each state. Thus, the results of the comparisons reported can be generalized to the claim population of each state.

COMPARING THE PROPORTION OF INDEMNITY CLAIMS AND THE AVERAGE INCURRED BENEFITS PER INDEMNITY CLAIM. The comparisons of the proportion of indemnity claims and the average incurred benefits per indemnity claim for each state focused on three questions: (1) Are the measures from the sample similar in magnitude to the other published measures? (2) Are the trends of the measures similar? (3) Are the development patterns similar? To answer these questions, the most recent statistical plan data available from rating bureaus were gathered and compared with a comparable subset of the WCRI data using the insured market segment only (excluding self-insured data) for the appropriate evaluation years.

Comparison results in Table TA.5 show that WCRI measures are fairly consistent with those from external sources. For most study states, the WCRI data were compared with the external data for 2012 claims with an average of 12 months of maturity and for 2011 claims with an average of 24 months of maturity. For one state (Massachusetts), the comparison was based on 2013 and 2012 claims with an average of 12 and 24 months of maturity, respectively, as more recent external data were available at the time of comparison. Rating bureaus use policy years to report their data, whereas WCRI uses injury years (October 1 through September 30). Therefore, additional adjustments were necessary to ensure valid comparisons of measures from WCRI and external data. The notes for Table TA.5 define the policy year for each state. To allow for the most direct comparisons with the data from rating bureaus and state agencies, the WCRI data used for external validation were not adjusted for differences in injury, industry, or wages or for differences in the waiting period among study states. Based on the information shown in the table, the differences between the WCRI data and the data from rating bureaus were within a 14 percent margin for all three incurred measures in all study states.

Most discrepancies resulted from differences in definitions, reporting periods (calendar year, injury year, fiscal year, policy year), maturities and/or evaluation dates, and the application of development factors (actuarial estimates of how claims grow over time). One such definitional difference is that the rating bureau data categorize some types of costs as medical or indemnity benefits, whereas the WCRI data categorize those costs as expenses for purposes of consistent comparisons across states. For example, rating bureaus require that medical-legal examinations be reported as a medical cost in some states, whereas WCRI records payments for medical-legal examinations as expenses.

COMPARING WORKER CHARACTERISTICS. Research has shown that a worker's age, gender, and marital status can have an impact on the duration and severity of disability, timeliness and success of return to work, and attachment to the labor force, and as a result, on the average cost per claim (Fenn, 1981; Johnson, Butler, and

Baldwin, 1994; Galizzi and Boden, 1996). Table TA.6 compares the age and gender of injured workers in the WCRI sample with the data published by the Bureau of Labor Statistics (BLS) by state for injury year 2014. The table also compares injury and industry classifications of the WCRI data sample to the external data published by the BLS.[5, 6]

There was very little discrepancy in the age and gender of injured workers between the WCRI sample data and the external data. The typical worker in the WCRI sample was a 44-year-old male who was working in the services industry when he suffered a sprain, strain, or other nonspecific pain. This typical injured worker was similar to the typical injured worker other organizations describe.[7] These comparisons led to the conclusion that the characteristics of injured workers in the WCRI sample were similar to the characteristics of injured workers in the population.[8]

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

VALIDATING THE DATA INTERNALLY BY COMPARING THE KEY MEASURES BETWEEN THE 16TH AND 15TH EDITION OF COMPSCOPE™

The sample data were also internally validated by comparing the results of the 16th edition with the results of the 15th edition of the annual CompScope™ study. Table TA.7 shows the comparisons for the key cost measures and percentage of claims with more than seven days of lost time between these reports. The differences between the two editions were within 5 percent for these key cost measures across all study states for 2013/2014 and 2011/2014 claims. The differences in the average benefit delivery expenses per claim with more than seven days of lost time and benefit delivery expenses were within 11 percent for 2011/2014 claims and within 14 percent for 2013/2014 claims. The differences in the percentages of claims with more than seven days of lost time were within one percentage point across all states in both years. These relatively small differences between the data of the two editions resulted from several factors, such as the different mix of data sources, the different claims submitted from the same data sources for the same injury years, and the revisions for the same claims submitted by the same data sources (even though these replacement claims were largely similar in most cases). The data also reflect shifts in insurance business portfolios from year to year, particularly for third-party administrators of self-insured employers. Therefore, in some cases, the data may

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[5] The BLS industry data for 2014 that were used for external validation were classified based on the North American Industry Classification System. The BLS data were regrouped to better match the WCRI classifications. In areas where it was not possible to separate subcategories in the BLS data, the data in the WCRI sample were regrouped. For example, the BLS data show the services sector as including trade, transportation, and utilities; information; financial activities; education and health; and leisure and hospitality. These subcategories were categorized into one of the following three industry groups in the WCRI data: high-risk services, low-risk services, and trade. To match the external data, these three industry groups were included in the services industry group. See Table TA.6.

[6] The BLS injury data for 2014 that were used for external validation were provided by the Injuries, Illnesses, and Fatalities program. The methodology used by WCRI to generate injury groups, which is discussed later in the "Mapping Injury Groups" section of this appendix, is fundamentally different from the one underlying the BLS injury grouping. Thus, to make a better match between the WCRI data and BLS data, both the 12 WCRI injury classifications and the BLS injury subgroups were regrouped into five broader injury categories. These five injury categories, for the purpose of external validation, are sprains, strains, and nonspecific pain; fractures; inflammations, lacerations, and contusions; carpal tunnel; and other injuries. Footnotes in Table TA.6 describe the regrouping into these five categories in detail.

[7] The sample characteristics were also compared to available information from state workers' compensation agencies and rating bureaus. Over time, the age of a typical worker has increased, and the percentage of injured workers who are male has declined. These trends are consistent with the general demographic increase in workers' age and the greater percentage of females in the workforce.

[8] Note that external data were unavailable for comparisons of average weekly wages of injured workers. It was not possible to compare size of employers since complete payroll data were not consistently available in the sample. It was possible to infer, however, that if any particular type of employer was underrepresented, it was likely to be the small-business employer. Research has shown that firm size can affect return to work. Holding all else constant, the duration of payments to workers with small-business employers tends to be longer (Galizzi and Boden, 1996).

reflect the addition and/or deletion of claims resulting from transferred business.

METHODS TO ENSURE COMPARABILITY, CONSISTENCY, AND ACCURACY OF THE PERFORMANCE MEASURES ACROSS STATES

This section discusses the adjustments implemented to make the data meaningful for interstate comparisons. The methods include standardizing the data by using common classification terms, analyzing a subset of claims with more than seven days of lost time, and controlling for injury and industry mix and wages. The effects of these adjustments are also summarized in this section.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

CONSTRUCTING COMMON VARIABLES

To ensure valid comparisons across states and over time, variables were constructed to reflect definitions common to the data sources and across states as much as possible. To do so, definitions from data sources or states were mapped to the WCRI standard definitions for payment transactions, injury groups, and industry categories. Lump-sum settlement cases were also identified, and the amount of lump-sum settlements was calculated using the WCRI definition.

MAPPING PAYMENT TRANSACTIONS

Each data source uses its own set of payment-level transaction codes to designate benefit or expense payments of particular types, such as payments for TTD benefits, claimant or defense attorney fees, medical-legal exams, or bill review. Payments under the codes of individual data sources were assigned to the standard benefit and expense variables that are defined uniformly across companies and across states.

Generally, the variables were defined based on the following broad categories of benefit and expense payments:

- **Indemnity benefits:** Payments to a worker for time lost from work because of an occupational injury or illness. These can include payments for the loss of earning capacity or wages or for permanent impairment or disability. Some states use the term *income benefits* to describe the full range of payments to the worker.
- **Medical payments:** Payments to medical providers for the medical treatment of a worker's occupational injury or illness.
- **Benefit delivery expenses:** Payments for litigation, adjusting, and other administrative expenses associated with claims handling allocated to an individual claim. This category also includes expenses for medical cost containment and all other payments not defined here as medical or indemnity benefits or vocational rehabilitation provider expenses.
- **Vocational rehabilitation costs:** Vocational rehabilitation maintenance payments (indemnity benefits paid while a worker is receiving vocational rehabilitation services) and vocational rehabilitation service provider expenses (payments for vocational rehabilitation services provided by outside vendors).

The DBE database allows the breakdown of indemnity benefits and benefit delivery expenses into more detailed categories, as illustrated in Figure TA.1 and Table TA.8.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

IDENTIFYING LUMP-SUM SETTLEMENT PAYMENTS

In most states, workers' compensation claims can be settled through an agreement between the payor and the worker.[9] The lump-sum settlement payment to the worker generally terminates the payor's responsibility for pending or future medical and/or indemnity benefits and vocational rehabilitation expenses. There is some variation in how data sources treat lump-sum settlement payments in their transaction systems. A data source may use specific codes to identify a payment as a lump-sum settlement or compromise-and-release payment, or it can simply follow the reporting conventions of rating bureaus to code lump-sum payments as PPD benefits or some other type of indemnity benefit, such as TTD payments. To ensure the accuracy and comparability of the frequency and average costs of lump-sum settlements and other types of indemnity benefits in the CompScope™ Benchmarking reports, and also to report the data in a way that is consistent with the insurance industry's standard of counting lump-sum settlements with PPD benefits, lump-sum settlement payments were identified in the study that were not explicitly coded as such.

According to the WCRI definition, benefit payments in a lump sum are different from lump-sum settlement payments. For example, a payor may pay a lump-sum amount as it starts benefit payments to catch up with payments due from the waiting period or from some other delay. That payment might show up in the transaction data as an initial TTD benefit payment, which is considerably larger than subsequent TTD benefit payments. A lump-sum payment of a past obligation, where the obligation for payment is not in dispute, does not constitute a lump-sum settlement payment according to the WCRI definition. Also excluded from this definition of lump-sum settlements is a death benefit paid to dependents in a lump sum.

To identify lump-sum settlement payments, a lump-sum algorithm was applied that examined the payment data by

- identifying any indemnity payment that the data source coded as a lump-sum settlement in the transaction data and
- identifying the last indemnity payment for each of the individual claims through the transaction data. For the last payment that was on or before the March 31 evaluation date in each year, the algorithm identified any indemnity payments that occurred in the 14 days before the last payment.[10] The algorithm then identified any of those indemnity payments with an amount paid equal to or greater than 4.34 times the worker's TTD rate and equal to or greater than $5,000.[11]

Although theoretically there can only be one lump-sum settlement for a single claim, it is recognized that an accounting system might process the payment differently, and the algorithm described above does account for this possibility. Also, the indemnity payments to the worker and the payments to the worker's attorney that were made within 14 days of the lump-sum payment were combined to get a more accurate total lump-sum settlement.

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[9] Statutes generally spell out the conditions under which lump-sum settlements can be made. In many jurisdictions, the workers' compensation agency or a designated fact finder must approve the actual settlement.

[10] This window of indemnity payments was used to capture the full settlement amount. It is common for a payor to issue more than one check to make up the balance of the settlement.

[11] The $5,000 threshold is applied because, quite often, the smaller amounts actually reflect some catch-up payments for other periodic benefits rather than lump-sum settlements for future benefits. The 4.34 multiplier of weekly rate is to approximate a monthly payment, as it is observed that smaller amounts are often catch-up payments of a weekly TTD benefit.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

TREATMENT OF MEDICAL LUMP-SUM SETTLEMENTS

Lump-sum payments to close out future obligations are rarely separated into medical or indemnity components. However, Florida is a state where this practice can be observed following the 1993 reforms. To achieve consistency in the classification of lump-sum payments among the data sources and to develop measures that were more comparable among the states, the lump-sum medical payments were grouped with other lump-sum payments and reported as parts of indemnity benefits. For 2012/2015 claims with more than seven days of lost time, for example, this different treatment of medical lump sums had a large impact in Florida only, where medical payments per claim were 11 percent lower and indemnity benefits per claim were 22 percent higher when medical lump sums were regrouped into indemnity benefits. In addition, the evolving requirements of Medicare Set-Aside Arrangements may result in payors' improved ability to separate the medical component of settlements. Changes in data reporting that may affect the way the lump-sum settlements measure is constructed will be continually monitored.

MAPPING INJURY GROUPS

The nature of injury has an impact on how a claim is handled, the type and intensity of medical treatment provided, and the return-to-work outcome. To enhance comparability across states, claims data from different data sources and states were categorized into 12 common injury classifications: (1) spine (back and neck) sprains, strains, and non-specific pain; (2) other sprains and strains; (3) carpal tunnel; (4) fractures, lower extremity; (5) fractures, upper extremity; (6) inflammations; (7) lacerations and contusions; (8) hand laceration; (9) knee derangement; (10) neurological spine pain; (11) skin; and (12) other injuries.

The 12 injury categories are based on two sources: primary International Classification of Diseases (ICD-9) codes from medical bills and a combination of nature of injury/part of body reported by the insurance claims adjuster.[12] The ICD-9 codes provided the primary source of information in injury mapping.[13] In the event that ICD-9 codes were not populated or ambiguous about the medical condition or part of body, the nature of injury and part of body were used instead.[14]

MAPPING INDUSTRY GROUPS

Frequency and severity of injuries in a state are related to its mix of industries. To make the mix of industries as homogeneous as possible in terms of risk, while maintaining large enough cell sizes for reliable measures, claims were categorized into seven industry groups based on four-digit, industry-standard worker and

[12] ICD-9 codes are published in Medicode's *International Classification of Diseases* (1998). The codes, which identify a patient's specific medical condition, are used for reimbursement purposes, so accuracy is critical. The primary ICD-9 is defined as the one that receives the most payments. Often a single ICD-9 code adequately identifies the need for care. When necessary, codes are listed in the order of importance.

[13] Note that beginning on October 1, 2015, many medical providers began using ICD-10 codes in lieu of ICD-9 codes. This transition to ICD-10 codes is not reflected in the data for this 16th edition of CompScope™ Benchmarks, as our data for this edition capture claim transactions and medical services rendered through March 31, 2015. Beginning with the next edition of CompScope™ Benchmarks, our injury classification will be based on both ICD-9 and ICD-10 codes from medical bills (depending largely on the timing of the service provided and the billing practice of the provider) as well as the nature of injury/part of body reported by the insurance claims adjuster.

[14] This method was not as precise as ICD-9 classifications, as WCRI research has shown that defining injury groups solely on the basis of part-of-body and nature-of-injury codes listed on first reports of injury underestimates the actual proportion of sprains, strains, and certain types of other injuries (Johnson, Baldwin, and Marcus, 1999). However, when ICD-9 codes are not available, this method is the best alternative to determine the injury category.

governing-class codes and standard industrial classification (SIC) codes.[15] For certain industries, incidence rates, published by the BLS, were also used to further classify occupations that are in the same industry but bear very different risk factors.

Table TA.9 shows the major components of each of the seven industry groups—clerical and professional, construction, manufacturing, trade, high-risk services, low-risk services, and other industries. Note that the clerical and professional category includes only clerical and educational professionals, while health professionals are split into either high-risk or low-risk services. For instance, physicians and dentists were grouped in the low-risk services category, while other health workers, such as nurses and home health care aides, fell into the high-risk services group, based on the injury incidence rates associated with the codes. The *other industries* category includes agriculture, mining, quarrying, and miscellaneous occupations.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

OTHER COMPUTATION METHODS

EXTREME-VALUE CLAIMS

A small proportion of claims in the data had unusually large dollar values. While these were legitimate claims, the extreme values contributed disproportionately to the means because of the skewed distribution. To make the data more consistent and comparable over time, a data-capping algorithm was developed to prevent a few outlier observations present only in some years from affecting the overall results of the trend analysis. Data capping was applied to the medical and indemnity variables (both paid and incurred), as well as to the benefit delivery expense variable and its components for both trend analysis and interstate comparisons.

The data cap was established based on claims with more than seven days of lost time, by state and by injury/evaluation years. For medical and indemnity costs, the upper bound for a variable was set as the median of the dollar amounts at the 99th percentile of the variable across claims with the same maturity multiplied by a factor of five. For the benefit delivery expense and its components, the upper bound for a variable was set as the median of the dollar amounts at the 95th percentile of the variable across claims with the same maturity multiplied by a factor of five. Instead of excluding the claims that have values beyond the thresholds, the dollar amount was capped at the threshold if the original value was greater than the threshold.

Table TA.10 shows the percentage of claims that were subject to data capping and how sensitive the average cost measures were to the data caps for 2014/2015 and 2012/2015 claims. The data caps were applied to less than 1 percent of claims in the 2014 injury year and to no more than 2 percent of claims in the 2012 injury year across all states. The effects of capping on the key measures were 16 percent or less across most states in both years[16]. Note that, rather than capping total costs directly, the total cost for each claim was recalculated after capping was applied to the underlying variables.

COMPUTING TOTAL COSTS

In the report, the average total cost per claim was calculated as the sum of the average medical benefit, average

[15] A workers' compensation claim is assigned a classification code based on the injured worker's occupation and the payroll exposure reports of the employer. Classification codes in most states are defined using a common set of basic classifications published by NCCI subject to individual state exceptions, although some states use independently established sets of basic classifications. In Pennsylvania, for example, classification codes are set out in the Pennsylvania Compensation Rating Bureau's *Pennsylvania Workers Compensation Manual.* To convert the Pennsylvania codes to industry-standard codes, a classification comparison provided to us by the rating bureau was used.

[16] One exception was Virginia, where the incurred medical benefits for 2014/2015 claims were 21 percent lower after capping was applied, due to outliers with exceptionally large amounts.

indemnity benefit, average benefit delivery expense, and average vocational rehabilitation expense per claim. This approach was chosen rather than a direct computation of total costs per claim because data quality screening was applied to each of the four key components. If a component failed the data quality checks for claims from a data source, the data source was excluded from the analysis of that component. It is quite possible for claims from a data source to pass the data quality checks for benefit payments but fail the data quality checks for benefit delivery expenses and/or vocational rehabilitation expenses. If this happens, the measures in each component can be generated from a somewhat different mix of data sources. Because the sample means are the best estimates of the population means for each of the four key components, the best estimate of the average total cost per claim should be the sum of the best estimates of average medical payments, indemnity benefits, benefit delivery expenses, and vocational rehabilitation service provider expenses per claim.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

RESERVES AND INCURRED VARIABLES

CompScope™ benchmarking measures of claim costs are based on both paid and incurred benefits. Incurred benefits are the sum of all benefits paid to date plus outstanding reserves (estimated amounts set by the data source to cover benefits that are expected to be paid in the future on open claims). Periodically, claims adjusters review each claim and adjust the reserves based on an evaluation of the claim's progress. These reviews are tracked and annotated in the reserve history files. Because incurred benefits include an estimated component, the actual cost of a closed claim will be different in almost all cases from the reserve established initially on the claim. The incurred benefit variables were derived from the reserve history file. The variables in the DBE database do not include reserves that are incurred but not reported or other bulk reserves. Both the reserve and the incurred amounts were established as of each evaluation date. If a claim was closed as of the specific evaluation date, the outstanding reserve variables were set equal to zero and the amount of incurred benefits would equal the amount paid. When analyzing performance measures on an incurred basis, it is important to note that individual claim reserves reflect the experience of each claims adjuster. Adjusters need to consider several factors when setting claim reserves, including the anticipated cost of medical care, the severity and duration of the disability, and the services the worker may need to recover and return to work. The aggregated incurred values per claim were not developed to their ultimate value.

ESTIMATING THE WORKER'S WEEKLY TTD RATE

The worker's weekly benefit rate was used in the benchmarking analyses to derive estimates of claim duration and to determine whether a lump-sum settlement had been made. To ensure the accuracy of the worker's weekly benefit rate, data on the worker's average weekly wage and the state's formula for calculating the TTD rate were used to derive the WCRI worker's weekly benefit rate. When the completeness and validity of the wage data were questionable, the worker's weekly benefit rate, as reported by the data source, was used to supplement it if the result of the quality assurance process indicated that the data were adequate. Table TA.11 shows the benefit rates in effect in each state in 2009 through 2015.

ESTIMATING THE DURATION OF BENEFITS

Ideally, the duration of a claim is calculated as the number of days from the first date of the disability to the date the worker returns to work (given that the claim was closed). Unfortunately, those data were not consistently available. To mitigate the limitations of the data, two duration variables were created: the paid

and the incurred/expected duration of temporary disability. The paid temporary disability duration was calculated as total TTD payments plus TPD payments for a claim divided by the WCRI-derived weekly TTD rate for the claim. The incurred/expected indemnity duration was calculated as total incurred indemnity benefits (less death benefit) for a claim divided by the WCRI-derived weekly TTD benefit rate for the claim.[17] Adjustments for the statutory waiting and retroactive period were made. These adjustments added the number of days under each state's statutory waiting period to the duration of temporary disability when temporary disability benefits were ended before the state's statutory retroactive period.[18]

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

DEFENSE ATTORNEY PAYMENTS

Defense attorneys may routinely be retained for minor tasks and assignments, such as drafting lump-sum settlement agreements. Therefore, a $500 threshold was applied to the definition of defense attorney involvement to enable a focus on substantial defense attorney involvement. The $500 threshold was adjusted annually by the annual change in the Consumer Price Index, using 2008 as the base year.[19]

ANALYZING A SUBSET OF CLAIMS WITH MORE THAN SEVEN DAYS OF LOST TIME

The waiting period is three days in California, Illinois, Iowa, Minnesota, and Wisconsin; five days in Massachusetts; and seven days in Arkansas, Florida, Georgia, Indiana, Kentucky, Louisiana, Michigan, New Jersey, North Carolina, Pennsylvania, Texas, and Virginia. The different waiting periods for indemnity benefits across states directly affect the ratio of medical-only to indemnity claims, measures of claim frequency, and average indemnity payments per claim, thus affecting the comparability of the measures. To increase the validity of interstate comparisons, the analysis was focused on the subset of indemnity claims with more than seven days of lost time.

Table TA.12 contrasts the percentage of indemnity claims based on each state's statutory waiting period with the percentage of claims with more than seven days of lost time, with the latter percentage being lower than the former for states where the waiting period is less than seven days. Table TA.13 further shows the impact of selecting a subset of claims with more than seven days of lost time on several key measures in the six states where the waiting period is less than seven days. In California, Illinois, Iowa, Minnesota, and Wisconsin (states with three-day waiting periods), the selection of claims with more than seven days of lost time resulted in the exclusion of 7–17 percent of indemnity claims that had four to seven days of lost time. This exclusion increased the average duration of temporary disability (by 7–19 percent), the average medical payment per claim (by 7–18 percent), and the average indemnity payment per claim (by 8–21 percent). In Massachusetts (a state with a five-day waiting period), 7 percent of indemnity claims (those with six to seven days of lost time) were excluded, which resulted in the average duration of temporary disability increasing by 7 percent, the average medical payment per claim increasing by 6 percent, and the average indemnity payment per claim increasing by 7 percent. The selection of this subset of claims has no effect on measures in

[17] Note that this approach compresses the duration of claims by assuming that all indemnity benefits are paid at precisely 100 percent of the claimant's weekly TTD rate. Also, note that the duration is expanded for claims with indemnity payments in excess of the weekly TTD rate (for example, claims with simultaneous specific-loss benefit payments and TTD payments).

[18] If the estimated duration exceeded the retroactive period, there was no need to add the waiting period because the numerator in the calculation included the retroactive payments associated with the waiting period.

[19] The Consumer Price Index for all U.S. urban consumers and for all items published by the Bureau of Labor Statistics was used.

states with a seven-day waiting period. In the 16th edition reports, the phrase, "claims with more than seven days of lost time," is used wherever performance measures based on this subset of claims are compared.

CASE-MIX ADJUSTMENTS: INDUSTRY, INJURY, AND WAGES

The comparability of the performance measures was enhanced for interstate comparisons by controlling for differences in injury and industry mix and wage levels across the states.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

ADJUSTING FOR INJURY AND INDUSTRY CASE MIX

Injury and industry case-mix adjustment is a critical step in ensuring data comparability. Workers in different industries have different risks of injury and different severities of injury when accidents occur. To the extent that two states have very different mixes of injuries and industries, all else being equal, one would also expect the frequency, costs, and duration of workers' compensation claims to be different. The goal of the injury and industry mix adjustment is to adjust the sample claims in each state given the injury and industry mix and thus minimize the differences across states due to different injury/industry mixes.

To ensure equal representation of states in the WCRI sample (i.e., that no state is over- or under-represented in the sample due to its size), we weighted each state to have an equal share in the pooled sample.[20] The next step determined the distribution of claims by injury type and industry category for the pooled sample of 18 states and for the claims sample of each individual state for all claims with more than seven days of lost time. Then, a unique set of injury and industry weights for each state was calculated as the ratio of two proportions: the proportion of claims in each injury/industry category for the pooled sample of claims for all 18 states in the numerator and the proportion of claims in each injury/industry category for the sample of claims in each state in the denominator. Finally, in calculating the performance measures, the injury/industry weights were used to adjust the sample of claims in each state. After the adjustment, the measures were based on an injury and industry mix that is constant across the states. Table TA.14 shows the distribution of claims with more than seven days of lost time across injury and industry categories for the 18 pooled states.

It is important to note that the industry groups cover a broad spectrum of risk. This is especially true of manufacturing. The risk of injury inherent in a company that builds computer chips, for example, is substantially smaller than that risk in a steel manufacturing plant. A further disaggregation within each industry group could potentially increase the accuracy of the case-mix adjustment. However, despite the large number of claims in the DBE database, adjusting for industry at a finer level of detail than the current 84 injury/industry categories would make the cell sizes too small to allow for reliable analysis.

ADJUSTING FOR WAGES

Wages are related to both worker and employer characteristics and can affect the cost and duration of claims. Higher-wage workers tend to be older, more experienced, better educated, and more skilled. Furthermore, higher-wage workers tend to work for larger employers engaged in capital-intensive production in hazardous industries and are more likely to be unionized. Wage-level adjustments can be used to control, at least in part,

[20] The distribution of claims across states in our sample was also weighted using sampling weights (see the prior section on the DBE database for details) and market segment weights (discussed earlier) to make the sample distribution representative of the state market.

for differences in the characteristics of workers, employers, and the industry sub-groups within the industry categories (e.g., textiles versus vehicles sub-groups in the manufacturing industry category).

Adjustments for interstate differences in wages were made using a methodology similar to that underlying the injury and industry case-mix adjustment. First, the average weekly wage for claims in each injury/industry category in the pooled sample and in each state was calculated. Then, the ratio of the average weekly wage between the pooled sample and a state was calculated. The wage-adjustment factors are conditional on the state and the injury/industry category of the claims. For example, the pooled-state wage for workers with spine sprains and strains in manufacturing was $637 per week for 2014/2015 claims with more than seven days of lost time (Table TA.15). For a similar set of claims in Florida, the average wage was $593 per week, so the wage-adjustment factor for manufacturing workers with spine sprains and strains in Florida was set to 1.07 ($637 divided by $593). In Michigan, the average wage of manufacturing workers with spine sprains and strains was $782 per week, and thus, the wage-adjustment factor for that group of claims in Michigan was 0.82 ($637 divided by $782). Adjustments were made for wage differences in the indemnity benefit and total cost per claim measures in this report.

ESTIMATING THE EFFECTS OF THE ADJUSTMENTS

Table TA.16 illustrates the cumulative effects of selecting a subset of claims with more than seven days of lost time and applying the injury/industry case-mix adjustment and the wage adjustment to the average indemnity benefit per claim. Selection of a subset of claims with more than seven days of lost time had an effect on the average payment per claim in the states with waiting periods of less than seven days—California, Illinois, Iowa, Massachusetts, Minnesota, and Wisconsin—raising the average indemnity payment per claim by 7–21 percent and the average medical payment per claim by 6–18 percent for 2014/2015 claims. Similar effects were seen for claims with 36 months of maturity (2012 injury year). Claim subset selection had no impact on the average benefit per claim in states with seven-day waiting periods.

The effect of the injury/industry case-mix adjustment on both average indemnity benefit and the average medical benefit was 9 percent or less for all reported states regardless of claim maturity. The effect of the wage adjustment on the average indemnity benefit per claim was 15 percent or less across all states for claims with either maturity. Note that the wage adjustment had a relatively larger upward effect in states with lower average weekly wages. For example, the indemnity benefits per claim increased at least 11 percent in Florida, Georgia, and North Carolina for claims with both 12 and 36 months of experience. The average weekly wages of injured workers in these states were relatively lower among the 18 states. On the other hand, the wage adjustment had a relatively larger downward effect in states with higher average weekly wages, such as Massachusetts and New Jersey.

REPORTING TRENDS OF PERFORMANCE MEASURES

The trends reported in the CompScope™ studies were based on the data weighted to represent the full workers' compensation insurance market in each state. Adjustments for the interstate differences in injury and industry mix and wages were not made, since the unadjusted performance measures provide the most relevant information on how the system performed in each state over time.

Furthermore, two-tailed t-tests for differences in the means of key performance measures between two samples of select injury/evaluation years were conducted to test if the changes over time were statistically

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

significant. The null hypothesis was that there is no difference between the two means. The hypothesis was tested at the 80 percent confidence level. Similar tests were performed on changes in the proportions of claims. In Table 3 in each state report, changes in the values between two years appear in italics if no statistically significant change occurred. Note that for some numbers, the percentage change was large but not statistically significant, usually because of the large variance and/or small sample size associated with the means.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

OTHER TECHNICAL AND METHODOLOGICAL ISSUES

PAID-TO-INCURRED RATIO

In this study, claims from each state were examined as of the common evaluation date of March 31 of each study year. It is possible that two states could have exactly the same number of claims with more than seven days of lost time, but one might have a higher average total cost per claim because it made larger amounts of payments on those claims within the evaluation period. Table TA.17 shows the paid-to-incurred ratio for medical and indemnity benefits for each of the 18 study states. The interstate differences may have resulted from several factors, including the benefit structure, the process for paying and determining PPD benefits, litigation rates, the dispute resolution process, and different payor practices.

NONSUBSCRIBERS IN TEXAS

Texas is the only state included in this report where workers' compensation coverage is elective. Employers in Texas can choose not to subscribe to workers' compensation insurance, assuming responsibility for providing medical and indemnity benefits to injured workers through other mechanisms. According to the most recently available estimates published by the Texas Department of Insurance (TDI), about 33 percent of employers in the state, employing 20 percent of the state's workforce, do not carry workers' compensation coverage. A survey conducted by the TDI shows that 33 percent of nonsubscribers pay occupational benefits to injured workers. Of those that pay occupational benefits, 86 percent cover medical costs and 72 percent pay wage-replacement benefits to workers to compensate for lost wages.

Do the CompScope™ results represent the whole market in Texas, including all subscribers and nonsubscribers? Because no reliable data are available to compare the average benefit paid to injured workers by subscribers and nonsubscribers, the average benefits per claim were simulated, under certain assumptions, as were the data for both subscribers and nonsubscribers. Table TA.18 shows the results of the simulation for the 2014/2015 and 2012/2015 claims. The comparison was based on one of four assumptions made for simulating the nonsubscribers' data—namely, that the results of the Texas nonsubscribers were similar to the average result of the 18 states, similar to the results in the lowest-cost state, similar to the results in the median study state, and fairly similar to the median results of Texas subscribers. As the table shows, for 2014/2015 claims, if the average paid benefit per claim for the nonsubscribers is similar to that in the lowest-cost state or the median of the Texas subscribers, the overall state average paid benefit per claim, based on Texas subscribers only, will be higher than that based on the data for both subscribers and nonsubscribers by 4 or 9 percent. If, however, the average paid benefit per claim for the nonsubscribers is similar to the average or median of all 18 states, the overall state average paid benefit per claim, based on Texas subscribers only, will be lower than that based on the data for both subscribers and nonsubscribers by 3 or 5 percent.

THE DETAILED BENCHMARK/EVALUATION DATABASE: DATA COLLECTION, PREPARATION, AND QUALITY ASSURANCE

The CompScope™ benchmarking study uses data from the DBE database. To help readers understand the underlying data for the benchmarking reports, this section discusses in detail the processes used to collect the data from data sources, the methods used to make the data suitable for research and analysis purposes, and the actions taken to ensure the quality of the data.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

SCOPE OF THE DATA COLLECTION

To benchmark the performance of workers' compensation systems, WCRI collected data that give a reasonably timely and accurate basis for measuring the costs, the duration of payments, percentage of claims with different types of payments and/or expenses, and timeliness of indemnity payments, among other measures. Also collected was the information needed to adjust the data for variations in injury and industry mix across data sources and states. Data were gathered from a wide array of sources, including national and regional insurers, third-party administrators, and state funds. This diversity ensures that the analysis measures were substantially representative of the entire workers' compensation system in each state.

Data for claims with injuries between October 1, 1995, and September 30, 2014, evaluated as of March 31 of each year from 1996 to 2015, were collected. The DBE database included 41.6 million open and closed claims from 27 data sources and 34 states. The data represented 40–76 percent of the total claims in each reported state for each injury year during the study period, making the database a very powerful tool for answering research questions that, until now, have been difficult to investigate because of data limitations.

Although each data source has a unique system for collecting information on workers' compensation claims, WCRI collected the following information from each source:

- **Basic claim data:** information about the status of the claim, worker and injury characteristics, and the dates on which certain events occur over the life of the claim (the date of injury, the date of disability, the date of insurer notice of injury)
- **Policy (or employer) data:** information about the policyholder (payroll, standard industrial code, governing-class code, and other exposure details)
- **Detailed payment transactions:** the record of the benefit payments, allocated loss adjusting expenses, and credits made on the claim
- **Detailed reserve history:** information about the various reserves that have been set on the claim
- **Medical bills:** information on each medical bill for each claim, including the details on medical services provided

WCRI used all of this information to create the variables needed for the benchmarking analyses.

PRIVACY AND CONFIDENTIALITY

The DBE is devoid of individual identifiers to ensure the confidentiality of personal records. WCRI takes all required steps to protect the privacy of injured workers and employers in this database.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

CONSTRUCTING THE WCRI ANALYTIC DATA SETS

Each data source gave WCRI raw data from its automated files. WCRI converted each company's raw data files to a SAS-readable format and segmented the files into state-specific files.[21] These files contain all the data elements necessary to create the analytic data sets. Using company-specific programs, these elements were converted into analytic data sets by state and by injury year and evaluation date combination.

DATA QUALITY CHECKS

WCRI designed a multistage process for reviewing the quality of the data underlying the variables used in the CompScope™ reports. The data quality was routinely validated by identifying missing observations and errors in claims submitted by data sources that might have affected the key benchmarking measures. The method for validating the data quality involved running automated checks for logical inconsistencies, verifying replacement values, and producing exception reports that identified outliers falling outside the statistically determined tolerance range. Then WCRI researchers reviewed the exception reports and investigated data anomalies. Depending on the results of the investigation, error codes were generated in the database to identify and exclude a variable for a specific data source in the calculation of an affected measure for a specific injury/evaluation year and state.

The data submitted to WCRI underwent the following quality checks:

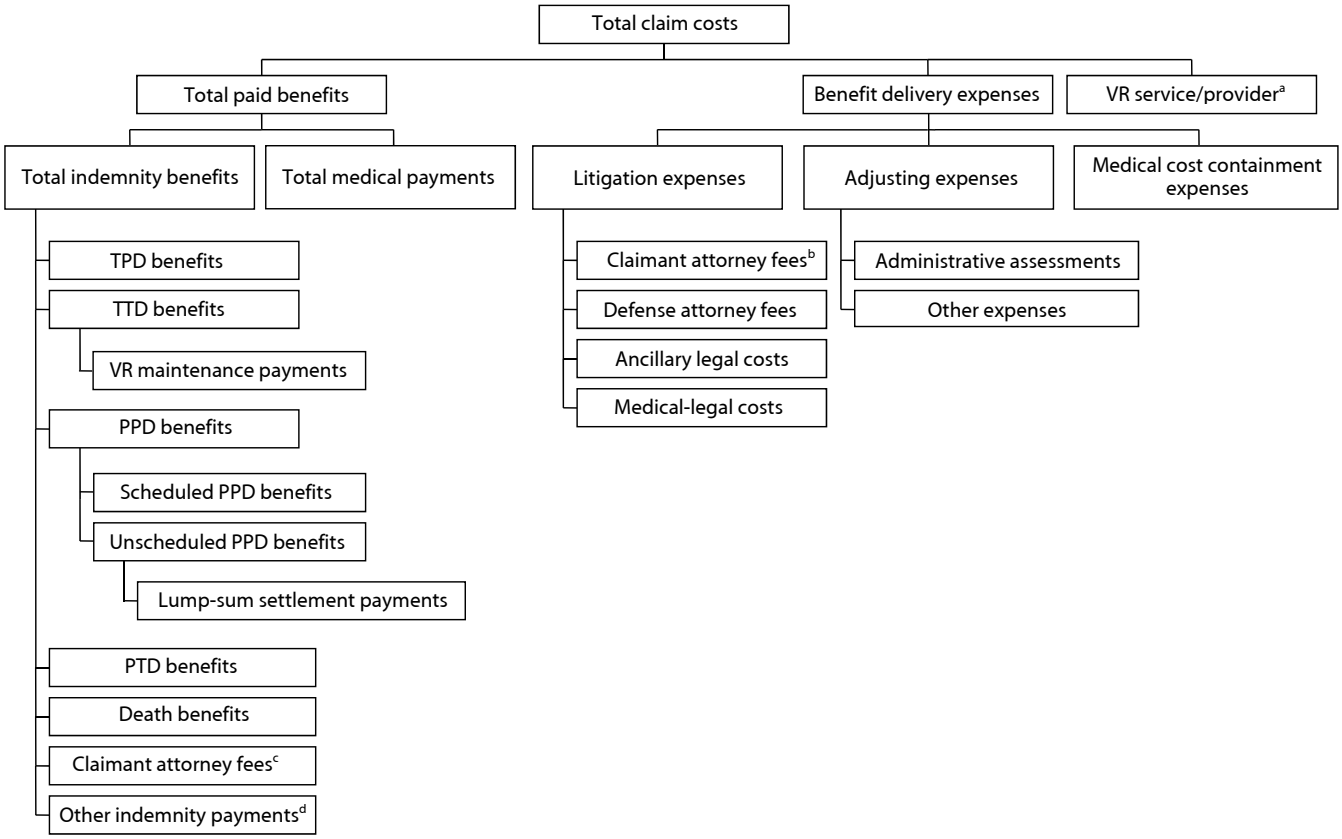
- Automated quality and logic checks: to identify inconsistencies in the key data fields
- Replacement checks: to compare the data submitted in the current data collection round with the data previously submitted and identify and investigate any major differences in the volume of claims, the value of payments, and other claim characteristics
- Exception reports
  - Fatal and large-value claims validation: to identify unlikely fatal and large-value claims in a state by injury year and data provider
  - Missing and bias tests: the missing test examines variables for missing observations from a data provider in each state. The bias test evaluates the material impact of including or excluding claims from a data provider with partially missing observations for a variable on the mean benefit payment in a market segment
  - Intercompany comparisons: to identify variables from a data source where the mean values are statistically inconsistent with the mean values for the same variable from other data sources
- Company data profiles: to give each data source an opportunity to review their own data for each state and point out any general inconsistencies found between WCRI's measures and the data source's own measures
- External validity checks[22]
- Duplicate claims[23]

[21] SAS is the statistical analysis software package WCRI uses to analyze data.

[22] See the "Validating the Data with External Sources" section for a more detailed discussion.

[23] See the "Claim Exclusions for Multistate Analysis" section for a more detailed discussion.

Figure TA.1 WCRI Benefit and Expense Variables



[a] We treat vocational rehabilitation provider expenses as a separate category; some readers might regard them as benefits, others as expenses.

[b] Claimant attorney fees that are the worker's responsibility.

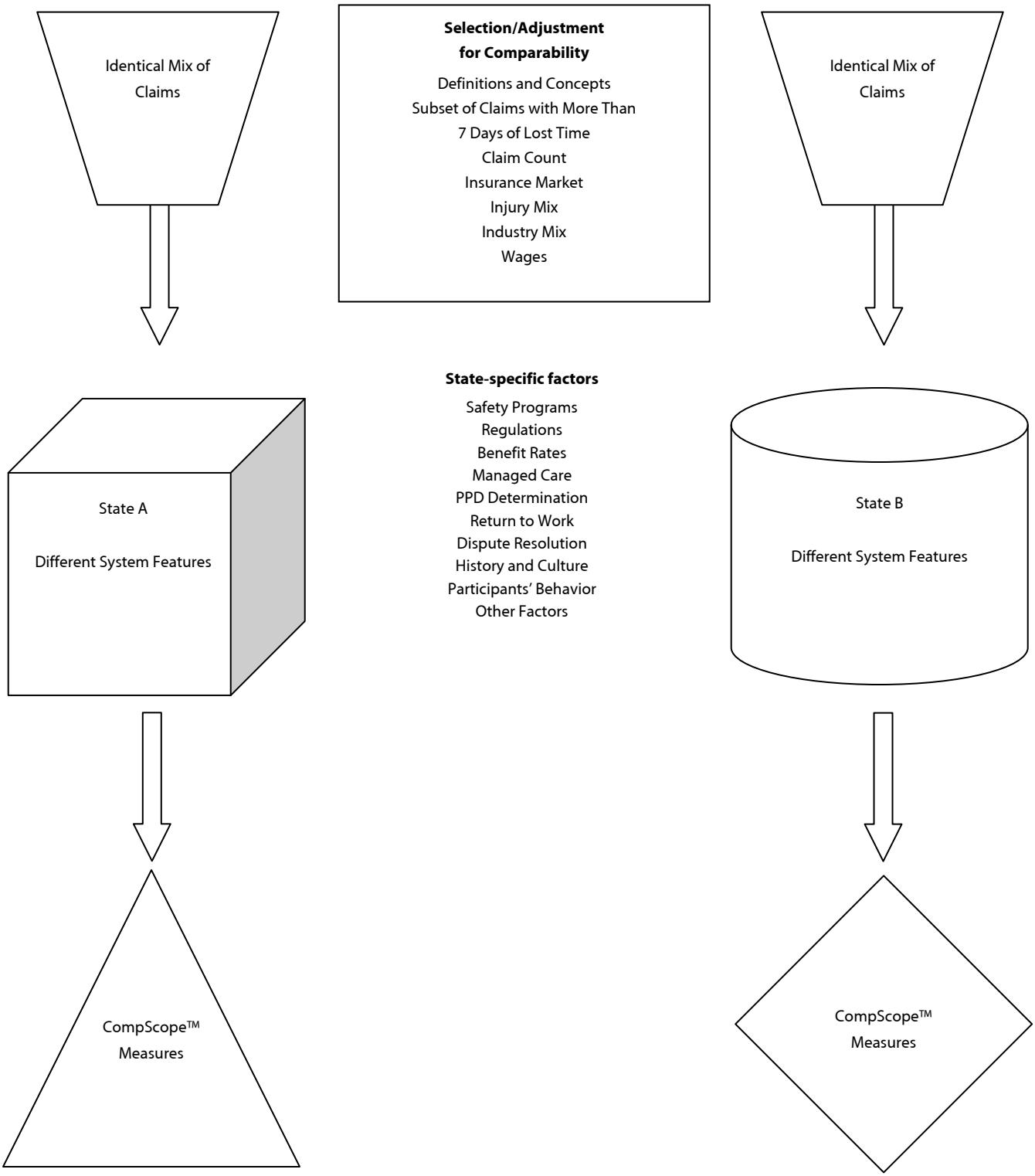
[c] Claimant attorney fees that are the payor's responsibility.

[d] Indemnity payments that are not elsewhere classified, including penalties and awards.

Key: PPD: permanent partial disability; PTD: permanent total disability; TPD: temporary partial disability; TTD: temporary total disability; VR: vocational rehabilitation.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Figure TA.2 CompScope™ Multistate Methodology: The Concept



Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.1 Defining the Performance Measures

Performance Measure	Definition
Time to notice of injury and first indemnity payment	
Date of injury to payor notice of injury	Cumulative percentage of lost-time claims by period based on the number of days from the date of injury to the date of payor notification of injury.
Date of employer notice to payor notice of injury	Cumulative percentage of lost-time claims by period based on the number of days from the date of employer notification to the date of payor notification of injury.
Date of injury to first indemnity payment	Cumulative percentage of lost-time claims by period based on the number of days from the date of injury to the date of the first indemnity payment.
Date of payor notice of injury to first indemnity payment	Cumulative percentage of lost-time claims by period based on the number of days from the date of payor notification of injury to the date of the first indemnity payment.
Average benefit payments and claim costs	
All paid claims	
Total cost per claim	The sum of the average medical benefit, average indemnity benefit, average benefit delivery expense, and average vocational rehabilitation provider expense per claim for all paid claims.
Benefit payment per claim	The sum of medical payments and indemnity benefits for all paid claims, divided by the total number of all paid claims.
Medical payment per claim	The sum of medical payments for all paid claims, divided by the total number of all paid claims.
Indemnity benefit per claim[a]	The sum of indemnity benefits for all paid claims, divided by the total number of all paid claims.
Benefit delivery expense per claim[b]	The sum of benefit delivery expenses for all paid claims, divided by the total number of all paid claims.
Total incurred cost per claim	The sum of paid and reserved average medical benefit, average indemnity benefit and average expense per claim for all claims.
Incurred medical benefit per claim	The sum of paid and reserved medical benefits for all claims, divided by the total number of all claims.
Incurred indemnity benefit per claim	The sum of paid and reserved indemnity benefits for all claims, divided by the total number of all claims.
Percentage of claims with more than 7 days of lost time	The number of claims with more than 7 days of lost time, divided by the total number of all paid claims.
Claims with more than 7 days of lost time	
Total cost per claim	The sum of the average medical benefit, average indemnity benefit, average benefit delivery expense, and average vocational rehabilitation provider expense per claim for lost-time claims.
Benefit payment per claim	The sum of medical payments and indemnity benefits for lost-time claims, divided by the total number of lost-time claims.
Medical payment per claim	The sum of medical payments for lost-time claims, divided by the total number of lost-time claims.
Indemnity benefit per claim	The sum of indemnity benefits for lost-time claims, divided by the total number of lost-time claims.
Benefit delivery expense per claim[b]	The sum of benefit delivery expenses for lost-time claims, divided by the total number of lost-time claims.
Total incurred cost per claim	The sum of paid and reserved average medical benefit, average indemnity benefit and average expense per claim for lost-time claims.
Incurred medical benefit per claim	The sum of paid and reserved medical benefits for lost-time claims, divided by the total number of lost-time claims.
Incurred indemnity benefit per claim	The sum of paid and reserved indemnity benefits for lost-time claims, divided by the total number of lost-time claims.

continued

Table TA.1 Defining the Performance Measures (continued)

Performance Measure	Definition
Average benefit payments and claim costs	
Temporary disability claims [c]	
Temporary disability claims as a percentage of all lost-time claims	The number of temporary disability claims, divided by the total number of lost-time claims.
Total cost per claim	The sum of average medical benefit, average indemnity benefit, average benefit delivery expense, and average vocational rehabilitation provider expense per claim for claims classified as temporary disability claims.
Benefit payment per claim	The sum of medical payments and indemnity benefits for claims classified as temporary disability claims, divided by the total number of temporary disability claims.
Medical payment per claim	The sum of medical payments for claims classified as temporary disability claims, divided by the total number of temporary disability claims.
Indemnity benefit per claim	The sum of indemnity benefits for claims classified as temporary disability claims, divided by the total number of temporary disability claims.
Temporary disability payment per temporary disability claim	The sum of temporary disability payments, divided by the total number of lost-time claims classified as temporary disability claims.
Permanent partial disability (PPD) claims	
PPD claims as a percentage of all lost-time claims	The number of PPD claims, divided by the total number of lost-time claims.
Total cost per claim	The sum of average medical benefit, average indemnity benefit, average benefit delivery expense, and average vocational rehabilitation provider expense per claim for claims classified as PPD claims.
Benefit payment per claim	The sum of medical payments and indemnity benefits for claims classified as PPD claims, divided by the total number of PPD claims.
Medical payment per claim	The sum of medical payments for claims classified as PPD claims, divided by the total number of PPD claims.
Indemnity benefit per claim	The sum of indemnity benefits for claims classified as PPD claims, divided by the total number of PPD claims.
PPD payment per PPD claim	The sum of PPD payments, divided by the total number of lost-time claims classified as PPD claims.
Temporary disability payment per PPD claim	The sum of temporary total disability and temporary partial disability payments for lost-time claims classified as PPD claims, divided by the total number of PPD claims.
Claims with lump-sum settlements as a percentage of lost-time claims	The number of claims with lump-sum settlements, divided by the total number of lost-time claims (see Table TA.8 for how lump-sum settlements are defined).
Lump-sum settlement payment per claim with lump-sum settlements	The sum of lump-sum settlement payments, divided by the total number of claims with lump-sum settlements.
Three categories of PPD/lump-sum claims	
Claims with lump-sum settlements but no periodic PPD payments as a percentage of lost-time claims	The number of claims with lump-sum settlements but no periodic PPD payments, divided by the total number of lost-time claims (see Table TA.8 for how lump-sum settlements are defined).
Lump-sum settlement payment per claim with lump-sum settlement but no periodic PPD payments	The sum of lump-sum settlement payments for claims with lump-sum settlements but no PPD payments, divided by the total number of claims with lump-sum settlements but no periodic PPD payments.
Claims with periodic PPD payments as a percentage of lost-time claims	The number of claims with periodic PPD payments, divided by the total number of lost-time claims.
PPD payment per claim with periodic PPD payments	The sum of PPD payments for claims with periodic PPD payments (only), divided by the total number of claims with periodic PPD payments (only).
Claims with both lump-sum settlements and periodic PPD payments as a percentage of lost-time claims	The number of claims with both lump-sum settlements and periodic PPD payments, divided by the total number of lost-time claims.
PPD and lump-sum payment per claim with both lump-sum settlement and periodic PPD payments	The sum of lump-sum settlements and PPD payments for claims with both lump-sum settlements and periodic PPD payments, divided by the total number of claims with both lump-sum settlements and periodic PPD payments.

continued

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.1 Defining the Performance Measures (continued)

Performance Measure	Definition
Average benefit payments and claim costs	
Permanent total disability claims [d]	
Permanent total disability claims as a percentage of all lost-time claims	The number of permanent total disability claims, divided by the total number of lost-time claims.
Total cost per claim	The sum of average medical benefit, average indemnity benefit, average benefit delivery expense, and average vocational rehabilitation provider expense per claim for claims classified as permanent total disability claims.
Benefit payment per claim	The sum of medical payments and indemnity benefits for claims classified as permanent total disability claims, divided by the total number of permanent total disability claims.
Medical payment per claim	The sum of medical payments for claims classified as permanent total disability claims, divided by the total number of permanent total disability claims.
Indemnity benefit per claim	The sum of indemnity benefits for claims classified as permanent total disability claims, divided by the total number of permanent total disability claims.
Permanent total disability payment per permanent total disability claim	The sum of permanent total disability payments for lost-time claims classified as permanent total disability claims, divided by the total number of permanent total disability claims.
Fatality claims [d]	
Fatality claims as a percentage of all lost-time claims	The number of fatality claims, divided by the total number of lost-time claims.
Total cost per claim	The sum of average medical benefit, average indemnity benefit, average benefit delivery expense, and average vocational rehabilitation provider expense per claim for claims classified as fatality claims.
Benefit payment per claim	The sum of medical payments and indemnity benefits for claims classified as fatality claims, divided by the total number of fatality claims.
Medical payment per claim	The sum of medical payments for claims classified as fatality claims, divided by the total number of fatality claims.
Indemnity benefit per claim	The sum of indemnity benefits for claims classified as fatality claims, divided by the total number of fatality claims.
Fatality payment per fatality claim	The sum of fatality payments, divided by the total number of lost-time claims classified as fatality claims.
Vocational rehabilitation provider costs and frequency [e]	
Percentage of lost-time claims with vocational rehabilitation provider expenses	The number of lost-time claims with vocational rehabilitation provider expenses, divided by the total number of lost-time claims.
Average vocational rehabilitation provider expense per lost-time claim with vocational rehabilitation provider expenses	The sum of payments for vocational rehabilitation provider expenses, divided by the total number of lost-time claims with vocational rehabilitation provider expenses.
Attorney involvement and benefit delivery expenses [b]	
Percentage of lost-time claims with defense attorney payments	The number of lost-time claims with defense attorney payments greater than $500, divided by the total number of lost-time claims.
Average defense attorney payment per lost-time claim with defense attorney payments	The sum of payments to defense attorneys of more than $500, divided by the total number of lost-time claims with defense attorney payments greater than $500.
Percentage of lost-time claims with medical cost containment expenses	The number of lost-time claims with medical cost containment expenses, divided by the total number of lost-time claims.
Average medical cost containment expense per lost-time claim with medical cost containment expenses	The sum of payments for medical cost containment expenses, divided by the total number of lost-time claims with medical cost containment expenses.
Percentage of lost-time claims with medical-legal expenses	The number of lost-time claims with medical-legal expenses, divided by the total number of lost-time claims.
Average medical-legal expense per lost-time claim with medical-legal expenses	The sum of payments for medical-legal expenses, divided by the total number of lost-time claims with medical-legal expenses.
Duration of temporary disability	
Duration of temporary disability (weeks)	The sum of temporary disability payments (temporary total disability plus temporary partial disability), divided by the weekly benefit rate of the injured worker.
Percentage of lost-time claims by duration	The cumulative percentage of lost-time claims with equivalent weeks of temporary disability payments (temporary total disability plus temporary partial disability) within each specified period.

continued

Table TA.1 Defining the Performance Measures (continued)

[a] This table shows the conceptual logic of measures from the CompScope™ report. The report includes measures of (paid and incurred) total costs per all paid claims and total benefits per all paid claims, and both of those measures include indemnity benefits. Indemnity benefits per all paid claims is included in this table to show the logic, even though the measure is not included separately in the report. As explained in this technical appendix, indemnity benefits are only reported for claims with more than seven days of lost time. This measure is more meaningful than for all paid claims, because the vast majority of those claims have no indemnity component.

[b] For benefit delivery expense and its component measures, we included data where the medical cost containment strategies were used and the relevant expenses were allocated to the claim. In other words, if a data source did not allocate some or all of the expenses related to its medical cost containment strategies, we excluded it from this report. Similarly, if a data source did not allocate some or all of the litigation-related expenses to the claim, we excluded it from this report as well.

[c] Limitations of the data prevent us from reporting statistics for temporary total disability and temporary partial disability claims separately.

[d] Limitations of the data prevent us from reporting statistics for permanent total disability claims and fatality claims.

[e] Vocational rehabilitation maintenance benefits paid to injured workers are captured as part of indemnity benefits in this report.

Key: PPD: permanent partial disability.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.2 Average Claim Maturities of CompScope™ Performance Measures

Injury Date	Valuation Date					
	12-Month Maturity	24-Month Maturity	36-Month Maturity	48-Month Maturity	60-Month Maturity	72-Month Maturity
October 1, 2008–September 30, 2009	March 31, 2010	March 31, 2011	March 31, 2012	March 31, 2013	March 31, 2014	March 31, 2015
October 1, 2009–September 30, 2010	March 31, 2011	March 31, 2012	March 31, 2013	March 31, 2014	March 31, 2015	
October 1, 2010–September 30, 2011	March 31, 2012	March 31, 2013	March 31, 2014	March 31, 2015		
October 1, 2011–September 30, 2012	March 31, 2013	March 31, 2014	March 31, 2015			
October 1, 2012–September 30, 2013	March 31, 2014	March 31, 2015				
October 1, 2013–September 30, 2014	March 31, 2015					

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.3 Claim Volume by State, Total Population Versus WCRI Sample, 2014/2015

State	Number of Paid and Reserved Claims		Population Represented by WCRI Sample (percentage)
	Total Population[a]	WCRI Sample[b]	
Arkansas	24,941	11,174	45%
California	489,096	231,639	47%
Florida	245,972	110,564	45%
Georgia	94,935	46,890	49%
Illinois	140,638	80,762	57%
Indiana	90,462	49,832	55%
Iowa	57,365	25,116	44%
Kentucky	60,310	32,757	54%
Louisiana	39,209	16,880	43%
Massachusetts	73,899	40,419	55%
Michigan	116,536	60,985	52%
Minnesota	87,146	45,817	53%
New Jersey	102,807	66,197	64%
North Carolina	97,278	45,717	47%
Pennsylvania	199,335	95,059	48%
Texas	189,207	143,083	76%
Virginia	68,655	45,454	66%
Wisconsin	110,246	44,202	40%
Total	**2,288,039**	**1,192,547**	**52%**

Note: 2014/2015 refers to the claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

[a] Data on the total population of claims in each state are generally based on the reported number of insured claims, weighted to account for self-insured claims, or estimated as noted in Table TA.4.

[b] Data on the total population of paid claims were not available in all states. For the purpose of comparing the volume of claims in the sample to the volume of claims in the population, we defined the number of claims in the WCRI sample as claims with payments or reserves greater than zero. That allowed for more consistent comparison with the population data.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.4 Estimated Distribution of Claims in the Population by Insurance Market Segment, 2009/2010 to 2014/2015

a. First 9 of 18 study states

Market Segment	AR		CA		FL		GA		IA		IL		IN		KY		LA	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2009/2010 claims																		
Private voluntary	20,797	69	274,936	58	170,756	70	75,512	73	45,027	76	113,714	74	84,936	88	40,381	62	26,749	60
Private residual	404	1	0	0	114	0	681	1	1,257	2	1,530	1	2,363	2	0	0	0	0
State fund	0	0	56,198	12	0	0	0	0	0	0	0	0	0	0	4,326	7	3,295	7
Self-insured	9,156	30	142,408	30	73,578	30	27,948	27	12,661	21	38,924	25	9,674	10	20,319	31	14,465	32
Total	**30,357**	**100**	**473,542**	**100**	**244,448**	**100**	**104,141**	**100**	**58,945**	**100**	**154,168**	**100**	**96,973**	**100**	**65,026**	**100**	**44,509**	**100**
2010/2011 claims																		
Private voluntary	21,438	69	288,373	60	169,737	74	74,867	74	45,649	78	113,462	74	85,045	87	40,310	63	25,712	60
Private residual	380	1	0	0	74	0	453	0	886	2	1,162	1	2,493	3	0	0	0	0
State fund	0	0	47,539	10	0	0	0	0	0	0	0	0	0	0	4,231	7	3,242	8
Self-insured	9,039	29	140,776	30	61,073	26	26,125	26	11,838	20	37,694	25	10,127	10	19,579	31	14,082	33
Total	**30,857**	**100**	**476,688**	**100**	**230,884**	**100**	**101,445**	**100**	**58,373**	**100**	**152,318**	**100**	**97,665**	**100**	**64,120**	**100**	**43,036**	**100**
2011/2012 claims																		
Private voluntary	20,970	68	295,667	60	171,731	72	74,147	73	46,080	77	109,639	73	82,056	85	39,175	61	25,425	60
Private residual	467	2	0	0	76	0	263	0	685	1	1,018	1	2,885	3	0	0	0	0
State fund	0	0	40,067	8	0	0	0	0	0	0	0	0	0	0	4,883	8	3,154	7
Self-insured	9,246	30	153,379	31	65,560	28	27,289	27	13,054	22	38,658	26	12,116	12	20,037	31	14,140	33
Total	**30,683**	**100**	**489,113**	**100**	**237,367**	**100**	**101,699**	**100**	**59,819**	**100**	**149,315**	**100**	**97,057**	**100**	**64,095**	**100**	**42,719**	**100**
2012/2013 claims																		
Private voluntary	19,282	74	306,733	63	171,858	69	73,583	73	45,190	77	106,734	74	79,058	86	36,444	59	24,883	60
Private residual	588	2	0	0	174	0	317	0	771	1	1,298	1	4,266	5	0	0	0	0
State fund	0	0	36,838	8	0	0	0	0	0	0	0	0	0	0	5,915	10	2,984	7
Self-insured	6,080	23	142,100	29	77,767	31	26,605	26	12,712	22	36,421	25	9,088	10	19,296	31	13,522	33
Total	**25,950**	**100**	**485,671**	**100**	**249,799**	**100**	**100,505**	**100**	**58,673**	**100**	**144,453**	**100**	**92,412**	**100**	**61,655**	**100**	**41,389**	**100**
2013/2014 claims																		
Private voluntary	18,271	73	313,481	65	174,303	72	76,917	73	44,339	77	105,623	75	76,634	84	35,283	58	25,582	65
Private residual	693	3	0	0	394	0	386	0	953	2	1,629	1	5,243	6	0	0	0	0
State fund	0	0	35,266	7	0	0	0	0	0	0	0	0	0	0	6,647	11	2,704	7
Self-insured	6,227	25	136,433	28	68,479	28	27,439	26	12,491	22	34,340	24	9,068	10	18,634	31	11,079	28
Total	**25,191**	**100**	**485,180**	**100**	**243,176**	**100**	**104,742**	**100**	**57,783**	**100**	**141,592**	**100**	**90,945**	**100**	**60,564**	**100**	**39,365**	**100**
2014/2015 claims																		
Private voluntary	18,065	72	311,982	64	176,299	72	69,665	73	43,901	77	104,917	75	75,732	84	34,029	56	25,307	65
Private residual	691	3	0	0	407	0	400	0	1,063	2	1,613	1	4,779	5	0	0	0	0
State fund	0	0	39,580	8	0	0	0	0	0	0	0	0	0	0	7,725	13	2,867	7
Self-insured	6,185	25	137,534	28	69,266	28	24,870	26	12,401	22	34,109	24	9,951	11	18,556	31	11,035	28
Total	**24,941**	**100**	**489,096**	**100**	**245,972**	**100**	**94,935**	**100**	**57,365**	**100**	**140,639**	**100**	**90,462**	**100**	**60,310**	**100**	**39,209**	**100**

continued

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.4 Estimated Distribution of Claims in the Population by Insurance Market Segment, 2009/2010 to 2014/2015 (continued)

b. Remaining 9 study states

Market Segment	MA		MI		MN		NC		NJ		PA		TX		VA		WI	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2009/2010 claims																		
Private voluntary	52,908	69	78,198	62	64,619	74	74,453	75	81,225	73	170,240	75	111,886	60	56,772	75	94,891	84
Private residual	5,172	7	1,366	1	1,380	2	1,128	1	5,488	5	0	0	0	0	1,086	1	1,922	2
State fund	0	0	0	0	0	0	0	0	0	0	9,303	4	28,311	15	0	0	0	0
Self-insured	19,038	25	45,811	37	20,851	24	23,983	24	24,295	22	48,320	21	47,485	25	18,270	24	15,837	14
Total	**77,118**	**100**	**125,375**	**100**	**86,850**	**100**	**99,564**	**100**	**111,008**	**100**	**227,863**	**100**	**187,682**	**100**	**76,128**	**100**	**112,650**	**100**
2010/2011 claims																		
Private voluntary	54,018	69	81,253	66	65,829	74	77,177	75	84,674	75	175,458	76	116,145	65	56,808	77	97,534	85
Private residual	4,602	6	1,419	1	1,143	1	1,123	1	3,130	3	0	0	0	0	919	1	1,797	2
State fund	0	0	0	0	0	0	0	0	0	0	6,775	3	28,944	16	0	0	0	0
Self-insured	19,318	25	39,898	33	21,407	24	24,540	24	24,652	22	47,811	21	34,926	19	15,840	22	15,133	13
Total	**77,938**	**100**	**122,570**	**100**	**88,379**	**100**	**102,840**	**100**	**112,456**	**100**	**230,044**	**100**	**180,015**	**100**	**73,567**	**100**	**114,464**	**100**
2011/2012 claims																		
Private voluntary	52,927	74	79,099	60	66,707	75	76,568	74	82,001	76	174,289	77	118,516	63	57,025	76	96,091	85
Private residual	4,520	6	1,647	1	1,108	1	1,086	1	2,767	3	0	0	0	0	995	1	2,241	2
State fund	0	0	0	0	0	0	0	0	0	0	5,306	2	32,962	17	0	0	0	0
Self-insured	14,141	20	51,543	39	21,560	24	25,776	25	23,091	21	48,019	21	37,539	20	16,841	22	14,907	13
Total	**71,588**	**100**	**132,289**	**100**	**89,375**	**100**	**103,430**	**100**	**107,859**	**100**	**227,614**	**100**	**189,017**	**100**	**74,861**	**100**	**113,239**	**100**
2012/2013 claims																		
Private voluntary	49,977	72	75,236	61	65,562	74	73,398	75	80,435	76	165,050	76	113,810	61	54,397	76	95,711	85
Private residual	6,134	9	1,737	1	1,622	2	1,055	1	3,116	3	0	0	0	0	1,239	2	2,562	2
State fund	0	0	0	0	0	0	0	0	0	0	5,149	2	36,120	19	0	0	0	0
Self-insured	13,368	19	46,973	38	21,467	24	23,900	24	22,357	21	47,856	22	37,216	20	15,678	22	14,890	13
Total	**69,479**	**100**	**123,946**	**100**	**88,651**	**100**	**98,353**	**100**	**105,908**	**100**	**218,055**	**100**	**187,146**	**100**	**71,314**	**100**	**113,163**	**100**
2013/2014 claims																		
Private voluntary	49,043	66	74,837	62	64,459	74	72,708	75	77,837	75	156,160	75	112,982	60	52,846	76	97,713	88
Private residual	7,378	10	1,901	2	1,987	2	957	1	4,084	4	0	0	0	0	1,438	2	3,148	3
State fund	0	0	0	0	0	0	0	0	0	0	5,974	3	37,238	20	0	0	0	0
Self-insured	17,510	24	44,386	37	21,210	24	23,537	24	22,168	21	45,841	22	36,788	20	15,405	22	10,130	9
Total	**73,931**	**100**	**121,124**	**100**	**87,656**	**100**	**97,202**	**100**	**104,089**	**100**	**207,975**	**100**	**187,008**	**100**	**69,689**	**100**	**110,991**	**100**
2014/2015 claims																		
Private voluntary	49,166	67	71,105	61	64,006	73	72,799	75	76,596	75	149,368	75	114,214	60	51,996	76	96,895	88
Private residual	7,034	10	2,726	2	2,053	2	924	1	4,316	4	0	0	0	0	1,482	2	3,289	3
State fund	0	0	0	0	0	0	0	0	0	0	6,031	3	37,773	20	0	0	0	0
Self-insured	17,700	24	42,705	37	21,087	24	23,556	24	21,895	21	43,936	22	37,220	20	15,177	22	10,062	9
Total	**73,900**	**100**	**116,536**	**100**	**87,146**	**100**	**97,279**	**100**	**102,807**	**100**	**199,335**	**100**	**189,207**	**100**	**68,655**	**100**	**110,246**	**100**

continued

Table TA.4 Estimated Distribution of Claims in the Population by Insurance Market Segment, 2009/2010 to 2014/2015 (continued)

Notes: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. Column totals in tables may not add to 100 due to rounding.

AR: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Arkansas Workers' Compensation Commission Biennial Report,* published by the Arkansas Workers' Compensation Commission in 2010, 2012, and 2014, and also on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

CA: Data for the voluntary and state fund segments in California reflect incurred claims based on data provided by the Workers' Compensation Inspection and Rating Bureau (WCIRB) and the State Compensation Insurance Fund (SCIF). The WCIRB claim counts include both voluntary and state fund claims. The number of state fund claims was provided by the SCIF and was subtracted from the WCIRB data to arrive at the number of claims in the voluntary market. The percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

FL: Data for the voluntary segment reflect the incurred claims based on data provided by NCCI. The number of self-insured claims is based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015, as well as information provided by the Division of Workers' Compensation. The number of residual market claims is based on information provided by the Joint Underwriting Association.

GA: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

IA: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

IL: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

IN: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015 and other sources.

KY: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015 and other sources.

LA: Data for the voluntary and state fund segments reflect incurred claims based on data provided by NCCI. The number of state fund claims was provided by the Louisiana Workers' Compensation Corporation. The percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

MA: Data for the voluntary and residual segments reflect incurred claims based on data provided by the Workers' Compensation Rating and Inspection Bureau of Massachusetts. The percentage of the self-insured segment was based on data in *Fiscal Year 2014 Annual Report: The State of the Massachusetts Workers' Compensation System,* published by the Massachusetts Workers' Compensation Advisory Council in 2015.

MI: Data for the voluntary and residual segments reflect incurred claims based on data provided by the Compensation Advisory Organization of Michigan. The percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

MN: Data for the voluntary and residual segments reflect incurred claims based on data provided by the Minnesota Workers' Compensation Insurers Association. The percentages of the self-insured, voluntary, and residual segments were based on data in *Minnesota Ratemaking Report,* published each year by the Minnesota Workers' Compensation Insurers Association, Inc. (MWCIA), as well as data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

NC: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

NJ: Data for the voluntary and residual segments reflect incurred claims based on data provided by the New Jersey Compensation Rating and Inspection Bureau. The percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

PA: Data for the voluntary and state-fund segments reflect incurred claims based on data provided by the Pennsylvania Compensation Rating Bureau (PCRB) and the State Workers' Insurance Fund (SWIF). The PCRB claim counts include both voluntary and state-fund claims. The number of state-fund claims was provided by the SWIF and was subtracted from the PCRB data to arrive at the number of claims in the voluntary market. The percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage and Costs, 2013,* published by NASI in 2015.

TX: Data for the voluntary and state fund segments reflect incurred claims based on data provided by NCCI and Texas Mutual Insurance Company. The number of state-fund claims from Texas Mutual was subtracted from the NCCI data to arrive at the number of claims in the voluntary market. The percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

VA: Data for the voluntary and residual segments reflect incurred claims based on data provided by NCCI; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

WI: Data for the voluntary and residual segments reflect incurred claims based on data provided by the Wisconsin Compensation Rating Bureau; the percentage of the self-insured segment was based on data in *Workers' Compensation: Benefits, Coverage, and Costs, 2013,* published by NASI in 2015.

Key: NASI: National Academy of Social Insurance; NCCI: National Council on Compensation Insurance, Inc.

Source: Workers' Compensation: Benefits, Coverage, and Costs, 2013 (NASI, 2015).

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.5 External Validity Checks for Selected CompScope™ Measures (WCRI data versus rating bureau data for insured market only), Indemnity Claims

Arkansas	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	17.9%	18.7%	18.4%	18.7%
Average incurred benefit per indemnity claim	$29,490	$30,002	$28,930	$30,909
Average incurred medical payment per indemnity claim	$19,849	$19,920	$17,775	$19,500
Average incurred indemnity payment per indemnity claim	$9,641	$10,081	$11,155	$11,408
California	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	31.8%	35.2%	32.5%	35.4%
Average incurred benefit per indemnity claim	$29,959	$28,558	$39,234	$37,635
Average incurred medical payment per indemnity claim	$17,701	$16,815	$22,490	$21,358
Average incurred indemnity payment per indemnity claim	$12,258	$11,744	$16,744	$16,277
Florida	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	22.9%	23.5%	23.8%	24.3%
Average incurred benefit per indemnity claim	$24,423	$26,828	$26,721	$28,726
Average incurred medical payment per indemnity claim	$16,670	$18,484	$17,320	$18,813
Average incurred indemnity payment per indemnity claim	$7,753	$8,344	$9,401	$9,913
Georgia	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	21.8%	23.5%	22.1%	22.7%
Average incurred benefit per indemnity claim	$35,406	$38,384	$41,669	$43,002
Average incurred medical payment per indemnity claim	$19,157	$20,974	$19,315	$20,530
Average incurred indemnity payment per indemnity claim	$16,249	$17,410	$22,354	$22,472
Illinois	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	31.7%	31.8%	32.7%	32.1%
Average incurred benefit per indemnity claim	$39,398	$40,122	$46,205	$47,628
Average incurred medical payment per indemnity claim	$20,714	$21,422	$21,763	$23,456
Average incurred indemnity payment per indemnity claim	$18,684	$18,701	$24,442	$24,173
Indiana	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	16.5%	16.1%	16.3%	16.4%
Average incurred benefit per indemnity claim	$32,084	$35,983	$33,165	$36,285
Average incurred medical payment per indemnity claim	$23,585	$26,739	$23,622	$25,953
Average incurred indemnity payment per indemnity claim	$8,499	$9,244	$9,543	$10,332
Iowa	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	22.8%	23.1%	23.2%	23.1%
Average incurred benefit per indemnity claim	$34,580	$36,683	$38,758	$38,551
Average incurred medical payment per indemnity claim	$20,387	$21,438	$20,127	$20,692
Average incurred indemnity payment per indemnity claim	$14,193	$15,245	$18,631	$17,859
Kentucky	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	18.0%	18.9%	18.4%	19.2%
Average incurred benefit per indemnity claim	$29,591	$30,844	$32,875	$33,647
Average incurred medical payment per indemnity claim	$17,353	$17,940	$16,813	$16,808
Average incurred indemnity payment per indemnity claim	$12,238	$12,903	$16,062	$16,839
Louisiana	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	**Rating Bureau**	**WCRI**	**Rating Bureau**
Indemnity claims as a percentage of all paid/reserved claims	24.7%	26.7%	25.1%	26.8%
Average incurred benefit per indemnity claim	$43,666	$42,447	$58,156	$52,176
Average incurred medical payment per indemnity claim	$25,810	$25,658	$30,117	$27,433
Average incurred indemnity payment per indemnity claim	$17,856	$16,790	$28,039	$24,743

continued

Table TA.5 External Validity Checks for Selected CompScope™ Measures (WCRI data versus rating bureau data for insured market only), Indemnity Claims (continued)

Massachusetts	2013 Claims at 12 Months' Maturity		2012 Claims at 24 Months' Maturity	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	32.9%	32.4%	32.2%	32.0%
Average incurred benefit per indemnity claim	$25,432	$25,356	$31,596	$30,366
Average incurred medical payment per indemnity claim	$10,583	$10,917	$10,894	$11,245
Average incurred indemnity payment per indemnity claim	$14,849	$14,438	$20,702	$19,122
Michigan	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	17.9%	19.1%	18.3%	19.4%
Average incurred benefit per indemnity claim	$24,617	$26,288	$27,690	$29,841
Average incurred medical payment per indemnity claim	$14,278	$15,500	$13,187	$15,296
Average incurred indemnity payment per indemnity claim	$10,339	$10,788	$14,503	$14,545
Minnesota	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	22.5%	22.5%	22.9%	22.3%
Average incurred benefit per indemnity claim	$24,117	$27,500	$28,304	$30,895
Average incurred medical payment per indemnity claim	$15,399	$17,728	$15,951	$17,553
Average incurred indemnity payment per indemnity claim	$8,718	$9,772	$12,353	$13,341
New Jersey	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	30.0%	31.7%	30.5%	32.2%
Average incurred benefit per indemnity claim	$36,750	$35,887	$41,168	$40,233
Average incurred medical payment per indemnity claim	$19,208	$18,965	$20,553	$20,195
Average incurred indemnity payment per indemnity claim	$17,542	$16,922	$20,615	$20,038
North Carolina	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	21.8%	22.7%	22.8%	23.3%
Average incurred benefit per indemnity claim	$36,719	$39,855	$45,203	$45,866
Average incurred medical payment per indemnity claim	$19,231	$21,609	$20,257	$21,621
Average incurred indemnity payment per indemnity claim	$17,489	$18,246	$24,945	$24,244
Pennsylvania	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	19.3%	19.2%	20.0%	19.6%
Average incurred benefit per indemnity claim	$37,903	$37,274	$46,556	$44,749
Average incurred medical payment per indemnity claim	$18,579	$19,465	$19,420	$20,265
Average incurred indemnity payment per indemnity claim	$19,324	$17,809	$27,136	$24,484
Texas	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	24.5%	25.2%	25.5%	26.1%
Average incurred benefit per indemnity claim	$26,146	$27,697	$26,508	$29,086
Average incurred medical payment per indemnity claim	$15,632	$16,501	$15,472	$17,205
Average incurred indemnity payment per indemnity claim	$10,515	$11,196	$11,036	$11,881
Virginia	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	18.2%	18.4%	18.1%	18.7%
Average incurred benefit per indemnity claim	$37,442	$39,569	$44,426	$44,268
Average incurred medical payment per indemnity claim	$23,620	$25,516	$25,040	$25,903
Average incurred indemnity payment per indemnity claim	$13,822	$14,053	$19,386	$18,365
Wisconsin	**2012 Claims at 12 Months' Maturity**		**2011 Claims at 24 Months' Maturity**	
	WCRI	Rating Bureau	WCRI	Rating Bureau
Indemnity claims as a percentage of all paid/reserved claims	23.5%	22.5%	23.6%	22.3%
Average incurred benefit per indemnity claim	$27,832	$30,567	$30,175	$32,383
Average incurred medical payment per indemnity claim	$19,656	$21,247	$20,214	$21,394
Average incurred indemnity payment per indemnity claim	$8,176	$9,320	$9,961	$10,989

continued

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.5 External Validity Checks for Selected CompScope™ Measures (WCRI data versus rating bureau data for insured market only), Indemnity Claims (continued)

Notes: Rating bureau data are used to make approximate comparisons with WCRI data. However, there are a number of differences that limit the precision of the comparisons. For example, rating bureau data are based on a policy year, whereas WCRI data are based on an injury year from October 1 to September 30, so the maturity of the data may be somewhat different. Also, WCRI data reflect our payment mappings to enhance meaningful interstate comparisons, whereas rating bureau data are based on reported payment types. This may mean that payments reported to the rating bureau as medical benefits, for example, may be captured in WCRI data as expenses and, therefore, not included in the WCRI number that is being compared. Per claim values for incurred measures for WCRI data are not developed to ultimate values. Instead, incurred values reflect what claim handlers believed the cost of a claim would be based on information they had as of the evaluation date (e.g., March 31, 2013). The data are shown for indemnity claims, as defined by the waiting period for income benefits in each of the states.

AR: Rating bureau data were provided by NCCI. The policy year runs from February 1 through January 31.

CA: Rating bureau data were provided by the Workers' Compensation Insurance Rating Bureau. The policy year runs from January 1 through December 31.

FL: Rating bureau data were provided by NCCI. The policy year ran from October 1 through September 30 until 2001, when it was changed to January 1 through December 31.

GA: Rating bureau data were provided by NCCI. The policy year runs from July 1 through June 30.

IA: Rating bureau data were provided by NCCI. The policy year runs from March 1 through February 28 (or 29).

IL: Rating bureau data were provided by NCCI. The policy year runs from April 1 through March 31.

IN: Rating bureau data were provided by NCCI. The policy year ran from January 1 through December 31 until 1999, when it was changed to July 1 through June 30.

KY: Rating bureau data were provided by NCCI. The policy year runs from May 1 through April 30.

LA: Rating bureau data were provided by NCCI. The policy year ran from April 1 through March 31 until 2000, when it was changed to September 1 through August 31.

MA: Rating bureau data were provided by the Workers' Compensation Rating and Inspection Bureau of Massachusetts. The policy year runs from January 1 through December 31.

MI: Rating bureau data were provided by the Compensation Advisory Organization of Michigan. The policy year runs from April 1 through March 31.

MN: Rating bureau data were provided by the Minnesota Workers' Compensation Insurers Association. The policy year runs from January 1 through December 31.

NC: Rating bureau data were provided by the North Carolina Rate Bureau through NCCI. The policy year runs from January 1 through December 31.

NJ: Rating bureau data were provided by the New Jersey Compensation Rating and Inspection Bureau. The policy year runs from January 1 through December 31.

PA: Rating bureau data were provided by the Pennsylvania Compensation Rating Bureau. The policy year runs from January 1 through December 31.

TX: Rating bureau data were provided by NCCI. The policy year runs from January 1 through December 31.

VA: Rating bureau data were provided by NCCI. The policy year runs from February 1 through January 31.

WI: Rating bureau data were provided by the Wisconsin Compensation Rating Bureau. The policy year runs from January 1 through December 31.

Key: NCCI: National Council on Compensation Insurance, Inc.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.6 Characteristics of Claims with More Than 7 Days of Lost Time, WCRI Data Versus External Data, 2014/2015

Comparison	AR	CA	FL[a]	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI	18-State Median[b]
Workers' characteristics																			
Average age (years)																			
WCRI data	43	42	45	43	45	44	44	44	43	44	44	44	44	44	44	43	44	45	**44**
External data	41	41	43	43	42	43	43	41	41	42	42	42	42	42	44	41	41	42	**42**
Gender (percentage male)																			
WCRI data	72	61	61	59	64	63	65	62	67	67	59	60	64	67	66	72	62	64	**64**
External data	60	61	61	64	67	63	62	61	58	56	63	61	64	62	63	67	57	64	**62**
Industry classification (percentage)																			
Clerical and professional																			
WCRI data	4	8	7	5	10	7	5	5	5	7	6	7	5	7	7	6	7	5	**7**
External data	2	12	9	12	6	7	6	6	10	8	5	7	10	10	7	7	12	7	**7**
Construction																			
WCRI data	10	11	6	5	7	6	6	5	15	12	4	6	8	9	7	16	11	6	**7**
External data	10	9	11	8	8	6	7	7	7	7	7	9	11	8	6	8	9	8	**8**
Services[c]																			
WCRI data	53	56	64	59	47	57	53	53	56	57	57	57	55	58	55	48	59	45	**56**
External data	64	63	69	68	60	71	60	59	71	75	61	65	61	73	68	67	65	55	**65**
Manufacturing																			
WCRI data	24	12	7	16	27	18	30	24	12	13	24	21	19	12	21	16	13	38	**19**
External data	20	10	8	12	23	15	26	23	11	10	25	18	17	9	17	12	12	26	**16**
Other industries																			
WCRI data	5	10	10	6	6	11	4	7	8	5	5	5	9	7	7	10	8	4	**7**
External data	4	5	3	1	3	1	1	5	2	0	2	2	1	1	3	6	1	4	**2**
Unknown																			
WCRI data	5	4	5	8	3	2	3	6	4	6	4	3	5	7	3	4	2	2	**4**
External data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Injury classification (percentage)																			
Sprains, strains, and non-specific pain[d]																			
WCRI data	36	51	47	46	38	46	39	48	44	49	45	46	41	43	46	43	42	44	**44**
External data	36	36	49	38	29	37	36	33	33	42	38	36	31	32	39	35	33	38	**36**
Fractures[e]																			
WCRI data	18	8	11	11	16	12	18	13	15	12	14	11	16	13	12	14	16	13	**13**
External data	15	5	11	8	10	10	14	10	12	7	11	10	11	9	9	10	7	8	**10**
Inflammations, lacerations, and contusions[f]																			
WCRI data	20	19	21	21	17	18	17	17	19	20	17	16	20	21	19	20	20	15	**19**
External data	17	17	20	16	14	16	17	16	13	19	17	14	20	18	17	21	19	17	**17**
Carpal tunnel[g]																			
WCRI data	1	1	1	1	3	1	2	1	0	1	2	3	1	1	1	0	0	2	**1**
External data	1	1	1	1	1	1	1	1	0	0	1	2	0	0	1	0	0	1	**1**
Other injuries[h]																			
WCRI data	25	21	21	21	27	22	24	21	22	19	22	24	22	23	21	22	22	26	**22**
External data	32	41	19	38	46	35	32	40	42	32	34	38	37	40	34	34	40	36	**36**

Notes: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. WCRI claims have been adjusted for insurance market segment. External data for age, gender, industry, and injury were reported by the Bureau of Labor Statistics (BLS) State Occupational Injuries, Illnesses, and Fatalities program for 2014. The BLS defines a lost-time workday as any day away from work with or without restricted work activity.

[a] External data shown for FL for age and gender are from the 2010 BLS tables for Florida, because Florida ceased participation in the BLS Survey of Occupational Injuries and Illnesses starting in 2011. Since the changes in the characteristics of claims in the WCRI data between 2010 and 2014 were very small, we used the 2010 external data as a reasonable proxy for comparisons in Florida in this 16th edition of the CompScope™ report. Industry data shown for FL are 2013 numbers from the Florida Department of Financial Services, Division of Workers' Compensation, 2014 Results and Accomplishments report. Injury data shown for Florida are from the Florida Department of Financial Services, Division of Workers' Compensation, Workers' Compensation Claims Statistics database (2014).

[b] The 18-state median is the average of the states ranked 9th and 10th on a given measure; these states change depending on the measure being evaluated.

[c] The WCRI data for the services industry are based on data for the high-risk services, low-risk services, and trade industry categories. The BLS data for the services industry include transportation and public utilities; finance, insurance, and real estate; wholesale; retail; and other services.

[d] The WCRI data for the sprains, strains, and non-specific pain injury classification are based on data for the spine (back and neck) sprains, strains, and non-specific pain, and other sprains and strains injury categories. The BLS data for this injury classification include strains and sprains.

[e] The WCRI data for the fractures injury classification are based on data for the fractures (at lower extremity) and fractures (at upper extremity) injury categories. The BLS data for this injury classification include fractures.

[f] The WCRI data for the inflammations, lacerations, and contusions injury classification are based on data for the inflammation, lacerations, and contusions, and hand laceration injury categories. The BLS data for this injury classification include cuts, lacerations, and punctures; bruises and contusions; and tendonitis.

[g] The WCRI data for the carpal tunnel injury classification are based on data for the carpal tunnel injury category. The BLS data for this injury classification include carpal tunnel syndrome.

[h] The WCRI data for the other injuries classification are based on data for the knee derangement, neurological spine pain, skin, and other injury categories. The BLS data for this injury classification include heat burns, chemical burns, soreness, multiple injuries, amputation, and all other injuries.

Key: n/a: not available.

Sources: U.S. Department of Labor, Bureau of Labor Statistics (BLS), 2014; Florida Department of Financial Services, Division of Workers' Compensation, 2014 Results and Accomplishments report; and Florida Department of Financial Services, Division of Workers' Compensation, Workers' Compensation Claims Statistics database (2014).

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.7 Comparison of Key Performance Measures Reported in CompScope™ 15 and CompScope™ 16, 2011/2014 and 2013/2014

a. Claims from injury year 2011, at 36 months' average maturity

Performance Measure	AR	CA	FL	GA	IA	IL	IN	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI
Average total cost per claim with more than 7 days of lost time																	
CompScope™ 15	$32,347	$43,658	$35,639	$48,781	$45,531	$49,458	$35,366	$55,457	$31,126	$28,513	$35,616	$52,231	$39,220	$47,169	$29,477	$44,772	$35,911
CompScope™ 16	$33,252	$43,569	$35,300	$48,211	$45,364	$49,393	$35,277	$54,635	$30,609	$28,627	$35,019	$52,765	$38,902	$46,499	$29,352	$44,412	$35,576
Average medical payment per claim with more than 7 days of lost time																	
CompScope™ 15	$14,134	$15,209	$15,362	$16,277	$19,119	$21,626	$21,097	$21,428	$8,944	$10,707	$15,361	$16,927	$18,975	$16,289	$13,733	$21,659	$21,384
CompScope™ 16	$14,908	$15,138	$15,471	$16,226	$19,135	$21,736	$21,013	$21,279	$8,978	$10,603	$15,096	$17,265	$18,912	$16,313	$13,739	$21,370	$21,233
Average indemnity benefit per claim with more than 7 days of lost time																	
CompScope™ 15	$13,641	$19,422	$13,609	$25,605	$21,750	$21,588	$10,284	$24,421	$17,700	$13,726	$14,238	$28,548	$13,349	$24,042	$10,615	$17,670	$10,847
CompScope™ 16	$13,667	$19,123	$13,540	$24,938	$21,478	$21,396	$10,294	$24,191	$17,220	$13,586	$13,931	$28,829	$13,212	$23,510	$10,570	$17,734	$10,776
Average benefit delivery expense per claim with more than 7 days of lost time and expenses																	
CompScope™ 15	$4,609	$8,957	$6,911	$6,928	$4,674	$6,216	$4,029	$9,278	$4,433	$4,140	$4,732	$6,658	$6,950	$6,822	$5,194	$5,230	$3,668
CompScope™ 16	$4,724	$9,250	$6,440	$7,100	$4,760	$6,237	$4,013	$8,889	$4,368	$4,575	$4,763	$6,578	$6,848	$6,680	$5,113	$5,090	$3,570
Claims with more than 7 days of lost time (percentage)																	
CompScope™ 15	16.7%	28.4%	24.0%	21.2%	19.7%	30.7%	15.4%	22.9%	29.9%	18.1%	19.3%	21.9%	29.7%	19.0%	25.6%	16.8%	17.7%
CompScope™ 16	16.8%	28.2%	24.3%	21.5%	19.8%	30.8%	15.4%	23.5%	29.8%	18.3%	19.7%	22.2%	30.0%	19.2%	26.2%	17.0%	17.9%

b. Claims from injury year 2013, at 12 months' average maturity

Performance Measure	AR	CA	FL	GA	IA	IL	IN	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI
Average total cost per claim with more than 7 days of lost time																	
CompScope™ 15	$21,640	$20,023	$23,582	$27,606	$26,606	$27,485	$28,377	$27,800	$16,677	$17,396	$20,882	$27,520	$26,589	$27,234	$21,571	$28,165	$25,995
CompScope™ 16	$21,724	$20,065	$23,177	$27,554	$26,721	$27,790	$27,912	$27,663	$16,624	$17,640	$20,861	$27,689	$26,498	$27,166	$21,635	$28,067	$26,016
Average medical payment per claim with more than 7 days of lost time																	
CompScope™ 15	$12,005	$7,439	$11,945	$11,813	$16,051	$14,513	$18,863	$13,887	$6,354	$9,076	$11,519	$12,165	$15,102	$12,820	$10,565	$16,337	$17,787
CompScope™ 16	$12,045	$7,471	$11,894	$11,889	$16,114	$14,747	$18,409	$13,790	$6,422	$9,049	$11,575	$12,337	$15,160	$13,045	$10,585	$16,462	$17,867
Average indemnity benefit per claim with more than 7 days of lost time																	
CompScope™ 15	$6,609	$8,911	$7,459	$11,776	$7,909	$8,943	$6,466	$9,714	$7,691	$5,952	$6,230	$11,351	$6,352	$10,344	$7,486	$8,306	$5,756
CompScope™ 16	$6,633	$8,752	$7,411	$11,596	$7,875	$8,956	$6,400	$9,707	$7,566	$5,921	$6,246	$11,324	$6,305	$10,170	$7,474	$8,194	$5,724
Average benefit delivery expense per claim with more than 7 days of lost time and expenses																	
CompScope™ 15	$3,045	$3,673	$4,337	$4,038	$2,666	$4,064	$3,066	$4,179	$2,674	$2,389	$2,489	$4,031	$5,179	$4,080	$3,556	$3,528	$2,468
CompScope™ 16	$3,049	$3,843	$3,983	$4,086	$2,754	$4,127	$3,108	$4,152	$2,679	$2,720	$2,431	$4,056	$5,083	$3,968	$3,615	$3,414	$2,446
Claims with more than 7 days of lost time (percentage)																	
CompScope™ 15	15.5%	26.5%	21.7%	19.4%	17.4%	26.7%	14.9%	21.6%	29.8%	16.7%	19.0%	19.6%	25.9%	17.7%	23.3%	16.6%	17.5%
CompScope™ 16	15.4%	26.1%	21.9%	19.6%	18.0%	27.0%	14.9%	20.9%	30.2%	16.6%	19.3%	19.8%	26.3%	17.6%	23.7%	16.8%	17.3%

Notes: 2011/2014 refers to claims with injuries arising from October 1, 2010, through September 30, 2011, evaluated as of March 31, 2014. 2013/2014 refers to claims with injuries arising from October 1, 2012, through September 30, 2013, evaluated as of March 31, 2014. CompScope™ 15 refers to the 15th edition of the CompScope™ benchmarking reports that include Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, New Jersey, North Carolina, Pennsylvania, Texas, Virginia, and Wisconsin. CompScope™ 16 refers to the current 16th edition of the CompScope™ benchmarking reports that include Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, New Jersey, North Carolina, Pennsylvania, Texas, Virginia, and Wisconsin. Kentucky is not shown in the above table as it was not included in the 15th edition of the CompScope™ benchmarking reports.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.8 WCRI Benefit and Expense Variables

WCRI Variable	Definition
Adjusting expenses	The sum of administrative assessments and other allocated loss adjusting expenses.
Administrative assessments	All payments to a second injury fund or for other administrative assessments.
Ancillary legal costs	Payments for all other legal services, including copies, transcripts, testimony, filing fees, translators' fees, autopsies, surveillance, investigation, witnesses' fees, arbitration, and alternative dispute resolution fees that are allocated to claims.
Benefit delivery expenses	The sum of litigation expenses, adjusting expenses, and medical cost containment expenses; often called allocated loss adjusted expenses.
Claimant attorney payments (insurer's or self-insurer's responsibility)	Payments to the worker's attorney that are made by the defense.
Claimant attorney payments (worker's responsibility)	Payments to a worker's attorney as part of the indemnity benefits paid to the worker.
Death payments	Death benefits; payments and escalations (where applicable) to dependents, fatality dowries and remarriage payments, trusteeships established for dependents, and funeral/burial expenses.
Defense attorney payments	Payments to defense attorneys for their services.
Litigation expenses	The sum of claimant attorney payments (insurer's or self-insurer's responsibility), defense attorney payments, and payments for medical-legal and ancillary legal services that are allocated to the individual claims.
Lump-sum settlement payments	Derived from a WCRI algorithm; the last indemnity payment that is equal to or greater than 4.34 times the worker's weekly TTD rate. According to our definition, there can be only one lump-sum settlement per claim. However, we recognize that there could be separate payments to attorneys so we check the indemnity payments within the 14 days prior to the last payment against the same criteria. The data source coded lump-sum settlements were also identified, if applicable. Starting with the 8th edition, we further refined our algorithm to identify lump-sum settlements of $5,000 and greater, recognizing that quite often the smaller amounts reflect some catch-up payments for other periodic benefits rather than lump-sum settlements for future benefits.
Medical cost containment expenses	All payments related to medical cost containment. Includes fees for bill review, utilization review, and case management, and for preferred provider networks.
Medical-legal expenses	All payments for medical-legal examinations, medical reports, and depositions regardless of the source of the request for those examinations, medical reports, and depositions.
Other adjusting expenses	All other adjusting expenses not categorized elsewhere but allocated to individual claims.
Other indemnity payments	Other indemnity payments that cannot be captured by a specific benefit or payment type. Can include penalties paid directly to the worker, findings and awards, and court awards.
PPD payments	PPD benefits; the sum of scheduled and unscheduled PPD payments.
PTD payments	PTD benefits; payments for PTD and escalations (where applicable).
Scheduled PPD payments	Payments for scheduled permanent partial disabilities or specific losses, and escalations (where applicable).
Total claim costs	The sum of total paid benefits, benefit delivery expenses, and vocational rehabilitation service/provider expenses.
Total indemnity benefits	The sum of TPD, TTD, PPD, PTD, and death benefits; claimant attorney fees (worker's responsibility); and other indemnity benefits. (Note: the total includes lump-sum settlements, which are part of PPD.)
Total medical payments	All payments for the medical treatment of the injured worker. Includes payments to physicians, chiropractors, and physical therapists; to hospitals, pharmacies, and nursing homes; and for medical rehabilitation services.
Total paid benefits	The sum of total indemnity benefits and total medical payments.
TPD payments	TPD benefits; indemnity benefits and escalations (where applicable) paid to a worker who has returned to part-time work or has returned to work at reduced wages.
TTD payments	TTD benefits; indemnity benefits and escalations (where applicable) paid to a worker who is unable to return to work; includes vocational rehabilitation maintenance payments.

continued

Table TA.8 WCRI Benefit and Expense Variables (continued)

WCRI Variable	Definition
Unscheduled PPD payments	Payments for all unscheduled permanent partial disabilities, disfigurement, and escalations (where applicable). Includes all benefits identified as PPD life pension, impairment compensation, economic recovery compensation, supplemental-income compensation, and loss of earning power or capacity; and all benefits identified as lump-sum settlements, compromise-and-release agreements, settlements, and commutations, regardless of the type of benefit for which the lump sum was paid.
VR maintenance payments	VR maintenance benefits; indemnity benefits paid to a worker who is participating in a VR program. Includes all VR maintenance payments regardless of whether the data source classifies them as medical payments, indemnity payments, or expenses.
VR service/provider expenses	All payments for VR services provided by outside vendors, including vocational evaluation, testing, training, education, occupational training, and books and supplies.

Key: PPD: permanent partial disability; PTD: permanent total disability; TPD: temporary partial disability; TTD: temporary total disability; VR: vocational rehabilitation.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.9 Industry Categories

Clerical and professional
Clerical
Instructional professions
Construction
Erection
Shipbuilding
Miscellaneous construction
Manufacturing
Food and tobacco
Textiles
Cloth products
Leather
Rubber/bone products
Paper/pulp products, printing
Wood
Metallurgy
Metal forming
Machine shops/fine machines
Vehicles
Stone products
Clay products
Glass products
Chemicals
Miscellaneous manufacturing
Trade
Retail trade
Wholesale trade
High-risk services
Laundering, cleaning, and dyeing
Stevedoring and freight handling; explosives or ammunition shipping; refrigerator car loading or unloading
Railroad operations
Package delivery; hauling (long-distance or local)
Electric light or power; steam light or power; waterworks operation; sewage disposal plant operation; recycling and garbage collection
Automobile hauling; automobile sales and services
Warehousing and storage
Health care facility-related services, nursing home, home care (excluding physician and dentist services)
Building maintenance; janitorial services; elevator services; sign installation; window cleaning
Hotels, restaurants, clubs
Low-risk services
Telephone, telegraph, Internet access providers; computer data processing; radio and television broadcasting; cable television; motion picture productions; recording studios
Automobile parking and garage
Physicians and dentists
Insurance; real estate; travel agencies; addressing; mailing; mail packaging; advertising
Schools, museums, day care centers
Commercial service and repair; architect or engineer consulting
Property management; leasing services
Dinner theater; theater operations
Amusement park or exhibition operations; dog shows; horse shows; racetrack operations
Personal service, such as beauty salons and hair styling
Other industries
Agriculture
Mining; oil and gas production
Quarrying: stone, sand, clay
Miscellaneous occupations

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.10 Effect of Data Caps, Claims with More Than 7 Days of Lost Time, 2014/2015 and 2012/2015

	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI
Claims with more than 7 days of lost time in 2014/2015																		
Percentage of claims with data caps applied																		
Total costs	0.60	0.64	0.44	0.35	0.41	0.45	0.46	0.24	0.43	0.29	0.28	0.67	0.34	0.57	0.88	0.81	0.42	0.31
Benefit payments	0.05	0.12	0.12	0.08	0.16	0.04	0.09	0.07	0.08	0.07	0.09	0.09	0.06	0.07	0.07	0.17	0.18	0.10
Medical payments	0.05	0.11	0.11	0.08	0.10	0.03	0.07	0.07	0.04	0.06	0.04	0.09	0.06	0.06	0.06	0.15	0.09	0.06
Indemnity benefits	0.00	0.01	0.02	0.00	0.07	0.01	0.02	0.00	0.04	0.01	0.04	0.01	0.00	0.01	0.01	0.02	0.09	0.04
Benefit delivery expenses[a]	0.54	0.54	0.37	0.29	0.30	0.44	0.41	0.18	0.35	0.25	0.22	0.59	0.28	0.53	0.85	0.71	0.28	0.26
Total incurred costs	0.11	0.12	0.10	0.12	0.07	0.08	0.18	0.09	0.15	0.11	0.06	0.08	0.04	0.10	0.10	0.52	0.13	0.11
Incurred benefits	0.11	0.11	0.10	0.12	0.07	0.07	0.16	0.09	0.15	0.11	0.06	0.08	0.04	0.08	0.07	0.52	0.09	0.10
Incurred medical benefits	0.11	0.10	0.08	0.12	0.05	0.04	0.13	0.05	0.10	0.10	0.06	0.04	0.04	0.08	0.07	0.20	0.09	0.08
Incurred indemnity benefits	0.00	0.04	0.03	0.01	0.02	0.04	0.04	0.04	0.05	0.04	0.00	0.07	0.00	0.01	0.01	0.37	0.06	0.04
Percentage difference before and after data caps applied																		
Total costs	-0.3	-2.4	-2.4	-1.9	-0.8	-1.1	-2.2	-1.4	-1.6	-1.3	-1.6	-1.0	-0.3	-1.4	-1.7	-3.2	-1.9	-1.8
Benefit payments	0.0	-2.7	-2.7	-1.1	-0.7	-0.9	-1.3	-1.5	-1.8	-1.3	-1.8	-0.5	-0.3	-1.1	-1.8	-3.3	-1.9	-1.4
Medical payments	0.0	-5.9	-3.8	-2.0	-0.8	-1.2	-1.5	-2.4	-3.0	-3.0	-2.8	-0.7	-0.6	-1.5	-3.3	-5.4	-2.7	-1.4
Indemnity benefits	0.0	0.0	-0.6	0.0	-0.7	-0.4	-0.3	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.2	0.0	-0.2	-0.3	-1.3
Benefit delivery expenses	-1.8	-1.3	-0.9	-7.1	-1.1	-2.5	-1.9	-0.8	-0.2	-0.7	-0.6	-0.7	-0.2	-3.0	-1.1	-2.6	-0.9	-2.4
Total incurred costs	-1.2	-3.5	-5.2	-4.2	-2.3	-1.3	-6.5	-7.1	-3.1	-4.7	-1.5	-5.0	-0.3	-1.9	-3.7	-11.3	-14.4	-4.0
Incurred benefits	-1.3	-3.9	-6.1	-4.2	-2.5	-1.3	-6.5	-7.8	-3.5	-5.2	-1.6	-5.2	-0.3	-1.9	-3.8	-12.4	-15.8	-3.9
Incurred medical benefits	-2.0	-6.2	-8.5	-7.7	-2.2	-1.8	-8.7	-12.4	-5.4	-11.2	-2.8	-7.4	-0.6	-3.5	-7.3	-9.1	-21.3	-5.0
Incurred indemnity benefits	0.0	-1.1	-1.0	0.0	-2.9	-0.8	-0.1	-0.5	-1.0	-0.5	0.0	-1.7	0.0	-0.1	-0.3	-16.4	-4.4	-1.3
Claims with more than 7 days of lost time in 2012/2015																		
Percentage of claims with data caps applied																		
Total costs	0.82	1.58	0.48	0.35	0.32	0.50	0.39	0.29	0.55	0.51	0.38	1.74	0.36	2.30	1.65	0.79	0.58	0.43
Benefit payments	0.12	0.07	0.06	0.05	0.02	0.02	0.06	0.04	0.07	0.03	0.06	0.03	0.03	0.04	0.11	0.10	0.05	0.03
Medical payments	0.04	0.05	0.05	0.04	0.02	0.02	0.06	0.02	0.07	0.03	0.06	0.03	0.03	0.04	0.11	0.08	0.03	0.02
Indemnity benefits	0.08	0.02	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01
Benefit delivery expenses[a]	0.78	1.52	0.46	0.31	0.32	0.52	0.40	0.27	0.49	0.49	0.33	1.74	0.35	2.32	1.60	0.75	0.55	0.40
Total incurred costs	0.12	0.08	0.07	0.07	0.05	0.02	0.09	0.05	0.01	0.05	0.07	0.10	0.06	0.07	0.22	0.37	0.08	0.03
Incurred benefits	0.12	0.08	0.07	0.07	0.05	0.02	0.09	0.05	0.01	0.05	0.06	0.10	0.06	0.07	0.14	0.36	0.08	0.03
Incurred medical benefits	0.04	0.06	0.07	0.06	0.05	0.02	0.09	0.04	0.01	0.05	0.06	0.04	0.06	0.06	0.14	0.14	0.07	0.03
Incurred indemnity benefits	0.08	0.04	0.03	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.00	0.01	0.01	0.26	0.01	0.01
Percentage difference before and after data caps applied																		
Total costs	-1.4	-1.4	-1.4	-0.5	-0.3	-0.4	-0.9	-0.6	-0.2	-0.4	-0.6	-0.4	-0.4	-1.9	-1.1	-2.0	-0.8	-0.5
Benefit payments	-1.4	-1.4	-1.2	-0.4	-0.3	-0.3	-0.7	-0.6	-0.1	-0.3	-0.4	-0.1	-0.2	-1.5	-1.0	-1.8	-0.6	-0.2
Medical payments	-0.2	-2.7	-1.7	-0.8	-0.5	-0.7	-1.1	-0.8	-0.3	-1.0	-1.0	-0.1	-0.5	-2.5	-2.4	-2.8	-0.8	-0.3
Indemnity benefits	-2.8	-0.4	-0.7	-0.1	0.0	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	-0.5	-0.2
Benefit delivery expenses	-1.1	-1.2	-2.1	-0.4	-0.5	-0.7	-2.5	-0.1	-0.6	-0.9	-0.5	-1.1	-1.1	-2.3	-0.8	-3.0	-1.1	-1.1
Total incurred costs	-0.6	-3.5	-1.9	-0.6	-0.5	-0.6	-2.3	-0.5	-0.9	-2.5	-1.7	-1.6	-0.9	-2.6	-3.3	-9.9	-0.9	-0.7
Incurred benefits	-0.7	-4.1	-2.0	-0.7	-0.5	-0.7	-2.6	-0.6	-1.0	-2.8	-1.9	-1.8	-1.0	-2.9	-2.5	-11.1	-1.0	-0.7
Incurred medical benefits	0.0	-6.5	-3.0	-1.6	-1.1	-1.6	-3.7	-1.1	-2.2	-8.0	-4.1	-3.0	-2.5	-5.5	-6.1	-11.3	-1.7	-1.0
Incurred indemnity benefits	-1.6	-1.4	-0.8	-0.1	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	-0.4	0.0	-0.2	0.0	-10.8	-0.2	-0.2

Note: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. 2012/2015 refers to claims with injuries arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The percentage of claims with benefit delivery expenses capped is calculated based on claims with more than seven days of lost time that have benefit delivery expenses. The percentages of claims capped for the benefit variables and for the benefit delivery expenses do not add up to the percentage of claims capped for total costs because different modules were used for benefits and benefit delivery expenses. See the section titled, "Other Computation Methods," in this technical appendix for a discussion of computation modules.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.11 Maximum and Minimum Temporary Total Disability Benefits, 2009–2015

Effective Date	TTD Benefit Rate	Maximum Benefit	Minimum Benefit (not to exceed AWW or percentage of AWW, as noted)
AR (see note)			
1/1/08–12/31/08	66⅔% of AWW	$522.00	$20.00
1/1/09–12/31/09	66⅔% of AWW	$550.00	$20.00
1/1/10–12/31/10	66⅔% of AWW	$562.00	$20.00
1/1/11–12/31/11	66⅔% of AWW	$575.00	$20.00
1/1/12–12/31/12	66⅔% of AWW	$584.00	$20.00
1/1/13–12/31/13	66⅔% of AWW	$602.00	$20.00
1/1/14–12/31/14	66⅔% of AWW	$617.00	$20.00
1/1/15–12/31/15	66⅔% of AWW	$629.00	$20.00
CA (see note)			
1/1/08–12/31/08	66⅔% of AWW	$916.33	$137.45
1/1/09–12/31/09	66⅔% of AWW	$958.01	$143.70
1/1/10–12/31/10	66⅔% of AWW	$986.69	$148.00
1/1/11–12/31/11	66⅔% of AWW	$986.69	$148.00
1/1/12–12/31/12	66⅔% of AWW	$1,010.50	$151.57
1/1/13–12/31/13	66⅔% of AWW	$1,066.72	$160.00
1/1/14–12/31/14	66⅔% of AWW	$1,074.64	$161.19
1/1/15–12/31/15	66⅔% of AWW	$1,103.29	$165.49
FL (see note)			
1/1/08–12/31/08	66⅔% of AWW	$746.00	$20.00 or worker's AWW, whichever is less
1/1/09–12/31/09	66⅔% of AWW	$765.00	$20.00 or worker's AWW, whichever is less
1/1/10–12/31/10	66⅔% of AWW	$772.00	$20.00 or worker's AWW, whichever is less
1/1/11–12/31/11	66⅔% of AWW	$782.00	$20.00 or worker's AWW, whichever is less
1/1/12–12/31/12	66⅔% of AWW	$803.00	$20.00 or worker's AWW, whichever is less
1/1/13–12/31/13	66⅔% of AWW	$816.00	$20.00 or worker's AWW, whichever is less
1/1/14–12/31/14	66⅔% of AWW	$827.00	$20.00 or worker's AWW, whichever is less
1/1/15–12/31/15	66⅔% of AWW	$842.00	$20.00 or worker's AWW, whichever is less
GA (see note)			
7/1/08–6/30/09	66⅔% of AWW	$500.00	$50.00 or worker's AWW, whichever is less
7/1/09–6/30/10	66⅔% of AWW	$500.00	$50.00 or worker's AWW, whichever is less
7/1/10–6/30/11	66⅔% of AWW	$500.00	$50.00 or worker's AWW, whichever is less
7/1/11–6/30/12	66⅔% of AWW	$500.00	$50.00 or worker's AWW, whichever is less
7/1/12–6/30/13	66⅔% of AWW	$500.00	$50.00 or worker's AWW, whichever is less
7/1/13–6/30/14	66⅔% of AWW	$525.00	$50.00 or worker's AWW, whichever is less
7/1/14–6/30/15	66⅔% of AWW	$525.00	$50.00 or worker's AWW, whichever is less
IA (see note)			
7/1/08–6/30/09	80% of spendable (after-tax) income	$1,366.00	Based on AWW of $239 or worker's spendable earnings, whichever is less
7/1/09–6/30/10	80% of spendable (after-tax) income	$1,413.00	Based on AWW of $247 or worker's spendable earnings, whichever is less
7/1/10–6/30/11	80% of spendable (after-tax) income	$1,420.00	Based on AWW of $249 or worker's spendable earnings, whichever is less
7/1/11–6/30/12	80% of spendable (after-tax) income	$1,457.00	Based on AWW of $255 or worker's spendable earnings, whichever is less
7/1/12–6/30/13	80% of spendable (after-tax) income	$1,498.00	Based on AWW of $262 or worker's spendable earnings, whichever is less
7/1/13–6/30/14	80% of spendable (after-tax) income	$1,543.00	Based on AWW of $270 or worker's spendable earnings, whichever is less
7/1/14–6/30/15	80% of spendable (after-tax) income	$1,572.00	Based on AWW of $275 or worker's spendable earnings, whichever is less
IL (see note)			
1/15/08–7/14/08	66⅔% of AWW	$1,178.48	$200.00 or worker's AWW, whichever is less
7/15/08–1/14/09	66⅔% of AWW	$1,216.75	$206.67 or worker's AWW, whichever is less
1/15/09–7/14/09	66⅔% of AWW	$1,231.41	$206.67 or worker's AWW, whichever is less
7/15/09–1/14/10	66⅔% of AWW	$1,243.00	$213.33 or worker's AWW, whichever is less
1/15/10–7/14/10	66⅔% of AWW	$1,243.00	$213.33 or worker's AWW, whichever is less
7/15/10–7/14/11	66⅔% of AWW	$1,243.00	$220.00 or worker's AWW, whichever is less
7/15/11–1/14/12	66⅔% of AWW	$1,261.41	$220.00 or worker's AWW, whichever is less
1/15/12–7/14/12	66⅔% of AWW	$1,288.96	$220.00 or worker's AWW, whichever is less
7/15/12–1/14/13	66⅔% of AWW	$1,295.47	$220.00 or worker's AWW, whichever is less
1/15/13–7/14/13	66⅔% of AWW	$1,320.03	$220.00 or worker's AWW, whichever is less
7/15/13–1/14/14	66⅔% of AWW	$1,331.20	$220.00 or worker's AWW, whichever is less
1/15/14–7/14/14	66⅔% of AWW	$1,336.91	$220.00 or worker's AWW, whichever is less
7/15/14–1/14/15	66⅔% of AWW	$1,341.07	$220.00 or worker's AWW, whichever is less
1/15/15–7/14/15	66⅔% of AWW	$1,361.79	$220.00 or worker's AWW, whichever is less

continued

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.11 Maximum and Minimum Temporary Total Disability Benefits, 2009–2015 (continued)

Effective Date	TTD Benefit Rate	Maximum Benefit	Minimum Benefit (not to exceed AWW or percentage of AWW, as noted)
IN (see note)			
7/1/08–6/30/09	66⅔% of AWW	$636.00	$50.00
7/1/09–6/30/10	66⅔% of AWW	$650.00	$50.00
7/1/10–6/30/11	66⅔% of AWW	$650.00	$50.00
7/1/11–6/30/12	66⅔% of AWW	$650.00	$50.00
7/1/12–6/30/13	66⅔% of AWW	$650.00	$50.00
7/1/13–6/30/14	66⅔% of AWW	$650.00	$50.00
7/1/14–6/30/15	66⅔% of AWW	$693.33	$75.00
KY (see note)			
1/1/08-12/31/08	66⅔% of AWW	$670.02	$134.00
1/1/09-12/31/09	66⅔% of AWW	$694.30	$138.86
1/1/10-12/31/10	66⅔% of AWW	$711.79	$142.36
1/1/11-12/31/11	66⅔% of AWW	$721.97	$144.40
1/1/12-12/31/12	66⅔% of AWW	$736.19	$147.24
1/1/13-12/31/13	66⅔% of AWW	$752.69	$150.54
1/1/14-12/31/14	66⅔% of AWW	$769.06	$153.81
1/1/15-12/31/15	66⅔% of AWW	$773.61	$154.72
LA (see note)			
9/1/08–8/31/09	66⅔% of AWW	$546.00	$146.00 or worker's AWW, whichever is less
9/1/09–8/31/10	66⅔% of AWW	$577.00	$154.00 or worker's AWW, whichever is less
9/1/10–8/31/11	66⅔% of AWW	$579.00	$154.00 or worker's AWW, whichever is less
9/1/11–8/31/12	66⅔% of AWW	$592.00	$158.00 or worker's AWW, whichever is less
9/1/12–8/31/13	66⅔% of AWW	$605.00	$161.00 or worker's AWW, whichever is less
9/1/13–8/31/14	66⅔% of AWW	$619.00	$165.00 or worker's AWW, whichever is less
9/1/14–8/31/15	66⅔% of AWW	$630.00	$168.00 or worker's AWW, whichever is less
MA (see note)			
10/1/08–9/30/09	60% of AWW	$1,093.27	$218.65 or worker's AWW, whichever is less
10/1/09–9/30/10	60% of AWW	$1,094.70	$218.94 or worker's AWW, whichever is less
10/1/10–9/30/11	60% of AWW	$1,088.06	$217.61 or worker's AWW, whichever is less
10/1/11–9/30/12	60% of AWW	$1,135.82	$227.16 or worker's AWW, whichever is less
10/1/12–9/30/13	60% of AWW	$1,173.06	$234.61 or worker's AWW, whichever is less
10/1/13–9/30/14	60% of AWW	$1,181.28	$236.26 or worker's AWW, whichever is less
10/1/14–9/30/15	60% of AWW	$1,214.99	$243.00 or worker's AWW, whichever is less
MI (see note)			
1/1/08–12/31/08	80% of spendable (after-tax) income	$739.00	n/a
1/1/09–12/31/09	80% of spendable (after-tax) income	$752.00	n/a
1/1/10–12/31/10	80% of spendable (after-tax) income	$746.00	n/a
1/1/11–12/31/11	80% of spendable (after-tax) income	$742.00	n/a
1/1/12–6/29/12	80% of spendable (after-tax) income	$775.00	n/a
6/30/12–12/31/12	80% of spendable (after-tax) income	$798.00	n/a
1/1/13–12/31/13	80% of spendable (after-tax) income	$798.00	n/a
1/1/14–12/31/14	80% of spendable (after-tax) income	$805.00	n/a
1/1/15–12/31/15	80% of spendable (after-tax) income	$820.00	n/a
MN (see note)			
10/1/00–9/30/08	66⅔% of AWW	$750.00	$130.00 or worker's AWW, whichever is less
10/1/08–9/30/13	66⅔% of AWW	$850.00	$130.00 or worker's AWW, whichever is less
10/1/13–9/30/14	66⅔% of AWW	$963.90	$130.00 or worker's AWW, whichever is less
10/1/14–9/30/15	66⅔% of AWW	$980.22	$130.00 or worker's AWW, whichever is less
NC (see note)			
1/1/08–12/31/08	66⅔% of AWW	$786.00	$30.00
1/1/09–12/31/09	66⅔% of AWW	$816.00	$30.00
1/1/10–12/31/10	66⅔% of AWW	$834.00	$30.00
1/1/11–12/31/11	66⅔% of AWW	$836.00	$30.00
1/1/12–12/31/12	66⅔% of AWW	$862.00	$30.00
1/1/13–12/31/13	66⅔% of AWW	$884.00	$30.00
1/1/14–12/31/14	66⅔% of AWW	$904.00	$30.00
1/1/15–12/31/15	66⅔% of AWW	$920.00	$30.00
NJ (see note)			
1/1/08–12/31/08	70% of AWW	$742.00	$198.00
1/1/09–12/31/09	70% of AWW	$773.00	$206.00
1/1/10–12/31/10	70% of AWW	$794.00	$212.00
1/1/11–12/31/11	70% of AWW	$792.00	$211.00
1/1/12–12/31/12	70% of AWW	$810.00	$216.00
1/1/13–12/31/13	70% of AWW	$826.00	$220.00
1/1/14–12/31/14	70% of AWW	$843.00	$225.00
1/1/15–12/31/15	70% of AWW	$855.00	$228.00

continued

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.11 Maximum and Minimum Temporary Total Disability Benefits, 2009–2015 (continued)

Effective Date	TTD Benefit Rate	Maximum Benefit	Minimum Benefit (not to exceed AWW or percentage of AWW, as noted)
PA (see note)			
1/1/08–12/31/08	66⅔% of AWW	$807.00	$403.50 or 90% of worker's AWW, whichever is less
1/1/09–12/31/09	66⅔% of AWW	$836.00	$418.00 or 90% of worker's AWW, whichever is less
1/1/10–12/31/10	66⅔% of AWW	$845.00	$422.50 or 90% of worker's AWW, whichever is less
1/1/11–12/31/11	66⅔% of AWW	$858.00	$429.00 or 90% of worker's AWW, whichever is less
1/1/12–12/31/12	66⅔% of AWW	$888.00	$444.00 or 90% of worker's AWW, whichever is less
1/1/13–12/31/13	66⅔% of AWW	$917.00	$458.50 or 90% of worker's AWW, whichever is less
1/1/14–12/31/14	66⅔% of AWW	$932.00	$466.00 or 90% of worker's AWW, whichever is less
1/1/15–12/31/15	66⅔% of AWW	$951.00	$475.50 or 90% of worker's AWW, whichever is less
TX (see note)			
10/1/08–9/30/09	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$750.00	$112.00
10/1/09–9/30/10	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$773.00	$116.00
10/1/10–9/30/11	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$766.00	$115.00
10/1/11–9/30/12	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$787.00	$118.00
10/1/12–9/30/13	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$818.00	$123.00
10/1/13–9/30/14	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$850.00	$127.00
10/1/14–9/30/15	70%; if hourly wage less than $8.50 per hour, then 75% of AWW (for 26 weeks)	$861.00	$129.00
VA (see note)			
7/1/08–6/30/09	66⅔% of AWW	$841.00	$210.25 or worker's AWW, whichever is less
7/1/09–6/30/10	66⅔% of AWW	$895.00	$223.75 or worker's AWW, whichever is less
7/1/10–6/30/11	66⅔% of AWW	$885.00	$221.25 or worker's AWW, whichever is less
7/1/11–6/30/12	66⅔% of AWW	$905.00	$226.25 or worker's AWW, whichever is less
7/1/12–6/30/13	66⅔% of AWW	$935.00	$233.75 or worker's AWW, whichever is less
7/1/13–6/30/14	66⅔% of AWW	$955.00	$238.75 or worker's AWW, whichever is less
7/1/14–6/30/15	66⅔% of AWW	$967.00	$241.75 or worker's AWW, whichever is less
WI (see note)			
1/1/08–12/31/08	66⅔% of AWW	$805.00	$20.00
1/1/09–12/31/09	66⅔% of AWW	$808.00	$20.00
1/1/10–12/31/10	66⅔% of AWW	$815.00	$20.00
1/1/11–12/31/11	66⅔% of AWW	$820.00	$20.00
1/1/12–12/31/12	66⅔% of AWW	$854.00	$20.00
1/1/13–12/31/13	66⅔% of AWW	$879.00	$20.00
1/1/14–12/31/14	66⅔% of AWW	$892.00	$20.00
1/1/15–12/31/15	66⅔% of AWW	$911.00	$20.00

Notes:

AR: Annual increases in maximum and minimum benefits go into effect on January 1.

CA: Under legislation signed into law February 15, 2002, maximum temporary disability benefits were increased to $602 per week effective January 2003 and to $840 per week by 2005. Beginning in 2006, the maximum weekly benefit is indexed to the SAWW.

FL: The annual increase in the maximum benefit takes effect on January 1. Florida pays temporary total catastrophic benefits to workers who suffer the loss of a hand, arm, leg, or foot, or the loss of sight in both eyes, or are rendered paraplegic or quadriplegic. Benefits are set at 80 percent of the worker's preinjury AWW, subject to a weekly maximum of $700, and are payable for up to six months.

GA: Annual increases in maximum and minimum benefits go into effect on July 1.

IA: Annual increases in maximum and minimum benefits go into effect on July 1. Minimum benefit is "the amount to which a worker who earns 35% of SAWW is entitled," not 35% of SAWW as reported in some publications. "80% of spendable earnings" works out to between 60–70% of AWW and varies by tax status (married/number of exemptions). The state publishes a full benefit table.

IL: Increases in maximum benefits go into effect on January 15 and July 15 of each year.

IN: Maximum and minimum benefits are changed by legislation and go into effect on July 1.

KY: Annual increases in maximum and minimum benefits go into effect on January 1.

LA: Annual increases in maximum and minimum benefits go into effect on September 1.

MA: Annual increases in maximum and minimum benefits go into effect on October 1.

MI: The agency publishes tables that determine 80 percent of the after-tax value of a given wage. Factors included in this calculation include the tax filing status, the number of dependents, and the state and federal tax rates. Annual increases in maximum benefits go into effect on January 1. The value of most discontinued fringe benefits, including the cost of health insurance, pension benefits, and holiday and vacation pay, are included in the calculation of the AWW, provided they do not raise the AWW above two-thirds of the SAWW for the year of injury.

MN: Maximum and minimum benefits are changed by legislation and go into effect on October 1.

NC: Annual increases in maximum and minimum benefits go into effect on January 1.

NJ: Annual increases in maximum and minimum benefits go into effect on January 1.

continued

Table TA.11 Maximum and Minimum Temporary Total Disability Benefits, 2009–2015 (continued)

PA: If the statutory benefit rate is less than 50 percent of the SAWW, the benefit must be calculated using the lower of 50 percent of the SAWW or 90 percent of the worker's AWW. The minimum benefit is the point at which benefits computed using the statutory rate are subject to recalculation. Annual increases in benefits go into effect on January 1.

TX: Temporary total disability benefits are called temporary income benefits in Texas. For workers who earn less than $8.50 an hour, the benefit rate is 75 percent of their AWW for the first 26 weeks; the benefit rate reverts to 70 percent after 26 weeks. The minimum weekly benefit for temporary disability is 15 percent of the SAWW for manufacturing production workers. The SAWW was set by legislation for fiscal years beginning from September 1, 2003, through September 1, 2005. The SAWW, used to calculate the maximum weekly compensation income benefits, was set at 88 percent of the AWW in covered employment as computed by the Texas Workforce Commission (TWC) effective on or after October 1, 2006. House Bill 7 allows the Commissioner to raise the SAWW to no more than 100 percent of the TWC rate.

VA: Annual increases in maximum and minimum benefits go into effect on July 1.

WI: Annual increases in maximum and minimum benefits go into effect on January 1.

Key: AWW: average weekly wage; n/a: not applicable; SAWW: statewide average weekly wage; TTD: temporary total disability.

Sources: State statutes; Arkansas Workers' Compensation Commission; California Division of Workers' Compensation; Florida Division of Workers' Compensation; Georgia State Board of Workers' Compensation; Illinois Workers' Compensation Commission; Workers' Compensation Board of Indiana; Iowa Workforce Development, Division of Workers' Compensation; Kentucky Department of Workers' Claims; Louisiana Office of Workers' Compensation Administration; Massachusetts Department of Industrial Accidents; Michigan Workers' Compensation Agency; Minnesota Department of Labor and Industry, Workers' Compensation Division; New Jersey Department of Labor and Workforce Development; North Carolina Industrial Commission; Pennsylvania Bureau of Workers' Compensation; Texas Division of Workers' Compensation; Virginia Workers' Compensation Commission; and Wisconsin Division of Worker's Compensation.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.12 Effect of Selecting a Subset of Claims with More Than 7 Days of Lost Time, 2014/2015

	AR	CA	FL	GA	IA	IL	IN	KY	LA	MA	MI	MN	NC	NJ	PA	TX	VA	WI
Statutory waiting period for indemnity benefits (days)	7	3	7	7	3	3	7	7	7	5	7	3	7	7	7	7	7	3
Before selection																		
Classification																		
Medical-only claims (percentage)	83%	71%	79%	78%	78%	70%	84%	83%	76%	67%	83%	77%	80%	74%	81%	76%	84%	76%
Indemnity claims (percentage)	17%	29%	21%	22%	22%	30%	16%	17%	24%	33%	17%	23%	20%	26%	19%	24%	16%	24%
After selection																		
Classification																		
Claims with less than or equal to 7 days of lost time (percentage)	83%	74%	79%	78%	81%	72%	84%	83%	76%	69%	83%	80%	80%	74%	81%	76%	84%	80%
Claims with more than 7 days of lost time (percentage)	17%	26%	21%	22%	19%	28%	16%	17%	24%	31%	17%	20%	20%	26%	19%	24%	16%	20%

Notes: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. Notice the effects of the subset selection on the states with waiting periods of less than seven days: California, Illinois, Iowa, Massachusetts, Minnesota, and Wisconsin.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.13 Effect of Selecting a Subset of Claims with More Than 7 Days of Lost Time in States with Waiting Periods of Less Than 7 Days, 2014/2015

Performance Measure	Length of Waiting Period					
	3 Days					5 Days
	CA	IA	IL	MN	WI	MA
Total number of paid and reserved indemnity claims						
Before subset selection	71,316	5,513	25,008	10,414	10,591	12,910
After subset selection	65,234	4,892	23,320	9,202	8,748	12,046
Percentage difference	-9%	-11%	-7%	-12%	-17%	-7%
Average duration of temporary disability (weeks)						
Before subset selection	14.0	8.2	13.0	8.4	7.3	13.4
After subset selection	15.4	9.2	13.9	9.4	8.7	14.3
Percentage difference	10%	12%	7%	12%	19%	7%
Average medical payment per indemnity claim						
Before subset selection	$6,500	$15,008	$13,799	$10,061	$16,474	$6,090
After subset selection	$7,051	$16,631	$14,705	$11,175	$19,468	$6,465
Percentage difference	8%	11%	7%	11%	18%	6%
Average indemnity payment per indemnity claim						
Before subset selection	$8,391	$7,117	$9,068	$5,700	$5,094	$8,505
After subset selection	$9,277	$8,062	$9,790	$6,474	$6,164	$9,111
Percentage difference	11%	13%	8%	14%	21%	7%

Note: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.14 Distribution of Claims by Injury and Industry, Claims with More Than 7 Days of Lost Time, 2014/2015

Industry Classification	Injury Classification											
	Spine (back and neck) Sprains, Strains, and Non-Specific Pain	Other Sprains and Strains	Carpal Tunnel	Neurological Spine Pain	Fractures, Lower Extremity	Fractures, Upper Extremity	Hand Laceration	Inflammations	Lacerations and Contusions	Knee Derangement	Skin	Other Injuries
Clerical and professional	1.1%	2.0%	0.1%	0.2%	0.2%	0.2%	0.4%	0.4%	1.6%	0.1%	0.2%	1.5%
Construction	0.8%	1.1%	0.0%	0.2%	0.2%	0.3%	0.6%	0.2%	1.1%	0.1%	0.2%	1.3%
High-risk services	4.3%	5.6%	0.1%	0.6%	0.4%	0.5%	2.9%	0.9%	4.4%	0.3%	1.1%	4.1%
Low-risk services	2.1%	2.9%	0.1%	0.4%	0.2%	0.3%	1.2%	0.6%	2.1%	0.2%	0.3%	2.3%
Manufacturing	2.5%	4.5%	0.3%	0.4%	0.3%	0.7%	2.3%	1.2%	3.7%	0.2%	0.8%	3.7%
Trade	2.8%	4.0%	0.1%	0.4%	0.3%	0.4%	1.7%	0.7%	3.4%	0.2%	0.4%	2.5%
Other industries or missing	1.4%	2.3%	0.1%	0.3%	0.2%	0.3%	0.9%	0.5%	1.9%	0.1%	0.3%	2.0%

Note: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

Table TA.15 Distribution of Average Weekly Wage by Injury and Industry, Claims with More Than 7 Days of Lost Time, 2014/2015

Industry Classification	Injury Classification											
	Spine (back and neck) Sprains, Strains, and Non-Specific Pain	Other Sprains and Strains	Carpal Tunnel	Neurological Spine Pain	Fractures, Lower Extremity	Fractures, Upper Extremity	Hand Laceration	Inflammations	Lacerations and Contusions	Knee Derangement	Skin	Other Injuries
Clerical and professional	$691	$749	$745	$858	$897	$901	$623	$849	$674	$910	$677	$747
Construction	$806	$869	$984	$976	$901	$864	$732	$933	$735	$1,066	$785	$821
High-risk services	$584	$603	$714	$708	$679	$644	$410	$699	$503	$831	$416	$581
Low-risk services	$712	$743	$813	$850	$833	$794	$609	$826	$644	$929	$662	$721
Manufacturing	$637	$683	$739	$771	$803	$723	$597	$717	$614	$910	$632	$672
Trade	$505	$513	$584	$590	$549	$562	$488	$564	$462	$677	$461	$518
Other industries or missing	$633	$663	$757	$793	$754	$681	$454	$744	$532	$900	$531	$621

Note: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.16 Measures before and after Subset Selection and Adjustment, 2014/2015 and 2012/2015

Payment Type	Measure before Subset Selection/ Adjustment	Measure after						Overall Effect (percentage)
		Subset Selection[a]		Injury/Industry Adjustment		Wage Adjustment[b]		
		Measure	Effect (percentage)	Measure	Effect (percentage)	Measure	Effect (percentage)	
Claims from injury year 2014, at 12 months' average maturity								
Average indemnity benefit								
Arkansas	$6,521	$6,521	0%	$6,278	-4%	$6,807	8%	4%
California	$8,391	$9,277	11%	$9,287	0%	$9,341	1%	11%
Florida	$6,723	$6,723	0%	$6,875	2%	$7,705	12%	15%
Georgia	$10,334	$10,334	0%	$10,455	1%	$12,057	15%	17%
Illinois	$9,068	$9,790	8%	$9,796	0%	$9,287	-5%	2%
Indiana	$5,671	$5,671	0%	$5,622	-1%	$6,151	9%	8%
Iowa	$7,117	$8,062	13%	$8,065	0%	$8,225	2%	16%
Kentucky	$7,030	$7,030	0%	$7,263	3%	$7,874	8%	12%
Louisiana	$10,475	$10,475	0%	$9,959	-5%	$10,299	3%	-2%
Massachusetts	$8,505	$9,111	7%	$9,041	-1%	$7,814	-14%	-8%
Michigan	$6,072	$6,072	0%	$6,197	2%	$6,101	-2%	0%
Minnesota	$5,700	$6,474	14%	$6,618	2%	$6,632	0%	16%
New Jersey	$7,229	$7,229	0%	$7,201	0%	$6,687	-7%	-7%
North Carolina	$10,663	$10,663	0%	$10,839	2%	$11,994	11%	12%
Pennsylvania	$11,394	$11,394	0%	$11,417	0%	$10,804	-5%	-5%
Texas	$8,022	$8,022	0%	$7,940	-1%	$7,717	-3%	-4%
Virginia	$8,233	$8,233	0%	$8,275	1%	$8,567	4%	4%
Wisconsin	$5,094	$6,164	21%	$6,180	0%	$5,896	-5%	16%
Average medical payment								
Arkansas	$12,716	$12,716	0%	$11,902	-6%	n/a	n/a	-6%
California	$6,500	$7,051	8%	$7,328	4%	n/a	n/a	13%
Florida	$12,038	$12,038	0%	$12,514	4%	n/a	n/a	4%
Georgia	$11,411	$11,411	0%	$11,890	4%	n/a	n/a	4%
Illinois	$13,799	$14,705	7%	$14,828	1%	n/a	n/a	7%
Indiana	$18,899	$18,899	0%	$18,803	-1%	n/a	n/a	-1%
Iowa	$15,008	$16,631	11%	$15,942	-4%	n/a	n/a	6%
Kentucky	$10,797	$10,797	0%	$10,655	-1%	n/a	n/a	-1%
Louisiana	$15,128	$15,128	0%	$14,993	-1%	n/a	n/a	-1%
Massachusetts	$6,090	$6,465	6%	$6,566	2%	n/a	n/a	8%
Michigan	$9,063	$9,063	0%	$9,237	2%	n/a	n/a	2%
Minnesota	$10,061	$11,175	11%	$11,463	3%	n/a	n/a	14%
New Jersey	$15,541	$15,541	0%	$15,378	-1%	n/a	n/a	-1%
North Carolina	$11,599	$11,599	0%	$11,590	0%	n/a	n/a	0%
Pennsylvania	$13,134	$13,134	0%	$13,201	1%	n/a	n/a	1%
Texas	$10,659	$10,659	0%	$10,407	-2%	n/a	n/a	-2%
Virginia	$17,286	$17,286	0%	$17,271	0%	n/a	n/a	0%
Wisconsin	$16,474	$19,468	18%	$19,503	0%	n/a	n/a	18%
Claims from injury year 2012, at 36 months' average maturity								
Average indemnity benefit								
Arkansas	$11,911	$11,911	0%	$11,618	-2%	$13,280	14%	11%
California	$18,665	$20,306	9%	$19,757	-3%	$19,734	0%	6%
Florida	$11,889	$11,889	0%	$12,367	4%	$13,792	12%	16%
Georgia	$22,157	$22,157	0%	$22,071	0%	$25,208	14%	14%
Illinois	$20,724	$22,091	7%	$22,653	3%	$21,187	-6%	2%
Indiana	$9,338	$9,338	0%	$9,625	3%	$10,438	8%	12%
Iowa	$19,540	$21,507	10%	$22,685	5%	$23,576	4%	21%
Kentucky	$16,650	$16,650	0%	$16,744	1%	$18,332	9%	10%
Louisiana	$24,966	$24,966	0%	$22,821	-9%	$24,167	6%	-3%
Massachusetts	$18,830	$20,198	7%	$20,330	1%	$17,707	-13%	-6%
Michigan	$12,423	$12,423	0%	$13,081	5%	$12,648	-3%	2%
Minnesota	$12,626	$14,090	12%	$14,400	2%	$14,054	-2%	11%
New Jersey	$14,588	$14,588	0%	$14,706	1%	$13,563	-8%	-7%
North Carolina	$25,053	$25,053	0%	$25,499	2%	$28,319	11%	13%
Pennsylvania	$25,950	$25,950	0%	$26,092	1%	$24,404	-6%	-6%
Texas	$11,156	$11,156	0%	$11,072	-1%	$10,792	-3%	-3%
Virginia	$18,659	$18,659	0%	$18,738	0%	$18,960	1%	2%
Wisconsin	$10,241	$12,136	19%	$12,510	3%	$11,792	-6%	15%

continued

Table TA.16 Measures before and after Subset Selection and Adjustment, 2014/2015 and 2012/2015 (continued)

Payment Type	Measure before Subset Selection/ Adjustment	Measure after						Overall Effect (percentage)
		Subset Selection[a]		Injury/Industry Adjustment		Wage Adjustment[b]		
		Measure	Effect (percentage)	Measure	Effect (percentage)	Measure	Effect (percentage)	
Average medical payment								
Arkansas	$15,305	$15,305	0%	$14,717	-4%	n/a	n/a	-4%
California	$13,619	$14,695	8%	$14,741	0%	n/a	n/a	8%
Florida	$14,663	$14,663	0%	$15,351	5%	n/a	n/a	5%
Georgia	$15,778	$15,778	0%	$15,755	0%	n/a	n/a	0%
Illinois	$18,345	$19,437	6%	$19,794	2%	n/a	n/a	8%
Indiana	$21,966	$21,966	0%	$22,164	1%	n/a	n/a	1%
Iowa	$17,809	$19,327	9%	$19,407	0%	n/a	n/a	9%
Kentucky	$14,063	$14,063	0%	$14,050	0%	n/a	n/a	0%
Louisiana	$22,012	$22,012	0%	$20,501	-7%	n/a	n/a	-7%
Massachusetts	$8,595	$9,149	6%	$9,353	2%	n/a	n/a	9%
Michigan	$10,384	$10,384	0%	$10,816	4%	n/a	n/a	4%
Minnesota	$13,819	$15,173	10%	$15,434	2%	n/a	n/a	12%
New Jersey	$19,610	$19,610	0%	$19,405	-1%	n/a	n/a	-1%
North Carolina	$16,629	$16,629	0%	$16,778	1%	n/a	n/a	1%
Pennsylvania	$17,457	$17,457	0%	$17,527	0%	n/a	n/a	0%
Texas	$14,027	$14,027	0%	$14,108	1%	n/a	n/a	1%
Virginia	$22,987	$22,987	0%	$23,240	1%	n/a	n/a	1%
Wisconsin	$19,471	$22,653	16%	$22,551	0%	n/a	n/a	16%

Note: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015; 2012/2015 refers to claims with injuries arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] Selection of a subset of claims with more than seven days of lost time.

[b] Wage adjustments were not applied to average medical payments.

Key: n/a: not applicable.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.17 Rate of Payment, Claims with More Than 7 Days of Lost Time, 2014/2015 and 2012/2015

State	Ratio of Paid to Incurred	
	Medical Payments (percentage)	Indemnity Benefits (percentage)
Claims from injury year 2014, at 12 months' average maturity		
Arkansas	64%	58%
California	40%	64%
Florida	70%	76%
Georgia	64%	65%
Illinois	65%	45%
Indiana	76%	61%
Iowa	72%	46%
Kentucky	60%	56%
Louisiana	63%	57%
Massachusetts	58%	58%
Michigan	67%	62%
Minnesota	67%	61%
New Jersey	77%	39%
North Carolina	62%	59%
Pennsylvania	71%	57%
Texas	65%	66%
Virginia	69%	56%
Wisconsin	78%	56%
Claims from injury year 2012, at 36 months' average maturity		
Arkansas	86%	88%
California	60%	84%
Florida	89%	91%
Georgia	87%	88%
Illinois	83%	72%
Indiana	93%	86%
Iowa	90%	85%
Kentucky	77%	77%
Louisiana	81%	78%
Massachusetts	77%	82%
Michigan	87%	81%
Minnesota	85%	84%
New Jersey	90%	64%
North Carolina	85%	85%
Pennsylvania	85%	84%
Texas	85%	86%
Virginia	84%	80%
Wisconsin	90%	81%

Notes: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. 2012/2015 refers to claims with injuries arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015. The numbers in the table reflect the percentage of payments expected to be paid on a claim that had been paid as of the evaluation date. For example, in Texas, for 2014/2015 claims, 65 percent of medical payments and 66 percent of indemnity benefits expected to be made on those claims had been made by March 31, 2015. In California, just 40 percent of expected medical payments and 64 percent of expected indemnity benefits had been made by the evaluation date.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

Table TA.18 Simulated Results in Texas, Subscribers Versus Nonsubscribers, Claims with More Than 7 Days of Lost Time, 2014/2015 and 2012/2015

Assumption	Average Paid Benefit per Claim			Difference (percentage)[b]
	Subscribers	Simulated Nonsubscribers	Simulated Result for Subscribers and Nonsubscribers[a]	
Claims from injury year 2014, at 12 months' average maturity				
Nonsubscriber results are similar to average result of all 18 states	$18,124	$21,129	$18,725	-3%
Nonsubscriber results are similar to results in the lowest-cost state (Massachusetts)	$18,124	$14,381	$17,375	4%
Nonsubscriber results are similar to results in the 18-state median	$18,124	$22,825	$19,064	-5%
Nonsubscriber results are similar to Texas subscribers' median results	$18,124	$10,522	$16,604	9%
Claims from injury year 2012, at 36 months' average maturity				
Nonsubscriber results are similar to average result of all 18 states	$24,900	$34,725	$26,865	-7%
Nonsubscriber results are similar to results in the lowest-cost state (Michigan)	$24,900	$23,464	$24,613	1%
Nonsubscriber results are similar to results in the 18-state median	$24,900	$33,655	$26,651	-7%
Nonsubscriber results are similar to Texas subscribers' median results	$24,900	$11,567	$22,233	12%

Note: 2014/2015 refers to claims with injuries arising from October 1, 2013, through September 30, 2014, evaluated as of March 31, 2015. 2012/2015 refers to claims with injuries arising from October 1, 2011, through September 30, 2012, evaluated as of March 31, 2015.

[a] The simulated result is the weighted average of benefit payments per claim across the subscribers and the simulated subscribers and nonsubscribers, based on the assumption that the subscribers have 80 percent of the market and the nonsubscribers have 20 percent of the market.

[b] The percentage difference in the average benefits per claim between the subscribers and the simulated result for subscribers and nonsubscribers.

Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

REFERENCES

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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

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Back to Previous View
Table of Contents
Summary of Major Findings
Finding the Data You Want
How to Use This Analysis
Major Findings Slides
Data and Methods
Technical Appendix
Print Options
Back to Previous View

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PRESCRIPTION BENCHMARKS FOR NORTH CAROLINA. Dongchun Wang and Richard A. Victor. March 2010. wc-10-16.

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COMPARING OUTCOMES FOR INJURED WORKERS IN KENTUCKY

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WC-16-29

May 2016

WORKERS COMPENSATION RESEARCH INSTITUTE
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Of course, any errors in the study remain the responsibility of the authors.

Bogdan Savych
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May 2016

TABLE OF CONTENTS

List of Tables

List of Figures

SUMMARY OF MAJOR FINDINGS FOR KENTUCKY

This study provides interstate comparisons of the key outcomes achieved by injured workers in Kentucky and 14 other states.[1] It reflects a multiyear effort by the Workers Compensation Research Institute (WCRI) to collect and examine data on the outcomes of medical care achieved by injured workers in a growing number of states. The outcomes we examine in this study include recovery of physical health and functioning, return to work, earnings recovery, access to medical care, and satisfaction with medical care.

Table A provides interstate comparisons of key case-mix adjusted outcomes across 15 states.[2] We also indicate whether or not the Kentucky value was higher, somewhat higher, similar to, somewhat lower, or lower than the median[3] of the 15 states.[4] The thresholds we used to arrive at these characterizations are detailed in Chapter 2 and Table 2.3.

KEY FINDINGS FOR KENTUCKY

Kentucky workers reported outcomes that were similar to the median study state on most of the measures presented in Table A, but reported rates of substantial return to work that were somewhat lower than the median study state.

Recovery of physical health and functioning: We found that the average recovery of physical health and functioning was similar across the 15 states in our study.

Return to work: Injured workers in Kentucky reported somewhat lower rates of substantial return to work than workers in other study states. Eighteen percent of Kentucky workers with more than seven days of lost time reported never having a return to work that lasted at least one month predominantly due to the injury as of three years postinjury, and 20 percent reported no substantial return to work within one year of the injury. On both of these measures, rates in Kentucky were somewhat higher than what we observed in the median study state—14 percent and 17 percent, respectively—and higher or somewhat higher than in six states. Note that 18 percent of Kentucky workers responded that they had a second absence from work due to the same injury, similar to the median study state.[5] The proportion of workers who responded that they returned to work too soon (38 percent) was also similar to the median study state.

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[1] The other states included in this study are Arkansas, Connecticut, Florida, Georgia, Indiana, Iowa, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Tennessee, Virginia, and Wisconsin.

[2] Table A provides a subset of outcome measures in 15 states that represent the core metrics of importance to policymakers and stakeholders seeking to improve the performance of their systems for both injured workers and employers. Chapter 3 provides several other outcome measures.

[3] The median value reflects the observation in the middle of the distribution of the variable. In this case it means that half of the states are above this value and half of the states are below this value.

[4] States are characterized as *higher*, *somewhat higher*, *lower*, or *somewhat lower* if the difference between the state and the median of the study states is meaningful from both policy and statistical perspectives. Details of the thresholds used for these characterizations are provided in Table 2.3. States that are not characterized as higher or lower are referred to as *similar to the median state*, *in the middle of the range of states*, or *typical of the study states*.

[5] While the difference between the Kentucky value and the value for the median of the study states was more than 3 percentage points, the difference is not statistically significant at the 10 percent level, although it is statistically significant at the 20 percent level. The reader should remember that differences that are not statistically significant in this analysis might be significant in an analysis with a larger sample size. See Technical Appendix Table TA.C5 for more details.

The median Kentucky worker had substantial return to work about 13 weeks after the injury. This measure was higher or somewhat higher than in seven study states, although it was similar to the median of the states.

Earnings recovery:[6] Seven percent of injured workers in Kentucky reported earning "a lot less" at the time of substantial return to work compared with the time of the injury. This was similar to what we observed in the median of the study states (8 percent).

Access to care: Eighteen percent of injured workers in Kentucky reported that they had "big problems" getting the services that they or their provider wanted. This was similar to what we observed in the typical study state. Thirteen percent of Kentucky workers reported "big problems" getting the primary provider they wanted. This was similar to the median state but lower than six other states in our report.

Satisfaction with care: Nearly four in five Kentucky workers said that they were "somewhat" or "very" satisfied with their overall workers' compensation medical care (80 percent). However, 13 percent said that they were "very dissatisfied." This was in the middle of the range of states in our analysis.

COMPARISON OF MEDICAL COSTS AND OUTCOMES IN KENTUCKY

The key findings in this study help shed some light on tradeoffs between worker outcomes and medical costs. The expectation in the workers' compensation community is that when medical costs for a given injury are higher in a particular state compared with other states, workers in that higher-cost state should experience better outcomes for that injury. Otherwise, it is logical to ask, "Why are medical costs higher?"

When we compare outcomes reported by injured workers and payments for medical care in Kentucky, we find that Kentucky medical costs per claim were typical of the study states, while workers reported outcomes that were typical on most of the key measures but reported somewhat lower rates of achieving substantial return to work. Neighboring states had somewhat different patterns of relationships between worker outcomes and medical costs. For example, injured workers in Tennessee reported similar recovery of health and functioning, similar rates of achieving substantial return to work, similar rates of problems getting desired medical care, higher rates of problems getting desired primary provider, and somewhat higher rates of dissatisfaction with overall medical care compared with workers in Kentucky, although medical costs in the two states were similar. Injured workers in Indiana reported similar recovery of health and functioning, higher rates of achieving substantial return to work, similar rates of problems getting desired medical care, higher rates of problems getting desired primary provider, and similar rates of dissatisfaction with overall medical care compared with workers in Kentucky, although medical costs in Indiana were 32 percent higher. Other analysis states reveal different patterns of reported worker outcomes and costs of medical care. For instance, injured workers in Michigan reported similar recovery of health and functioning, higher rates of achieving substantial return to work, lower rates of problems getting desired medical care, similar rates of problems getting desired primary provider, and similar rates of dissatisfaction with overall medical care compared with workers in Kentucky, although medical costs in Michigan were 25 percent lower. These findings indicate that there may be opportunities to improve the system for injured workers in Kentucky, although the experiences from neighboring states suggest that these opportunities may be limited. For more examples and further discussion, see Chapter 4.

[6] Other WCRI studies have examined earnings losses and earnings recovery after injuries using administrative information on workers' earnings (e.g., Boden and Galizzi, 1998, 1999, and 2003).

Note that this analysis does not aim to identify specific system features that impact worker outcomes—it only highlights how worker outcomes vary across states; it does not examine whether differences in workers' compensation policies explain observed outcomes. Future WCRI studies may answer how worker outcomes may differ across different system features.

Table A Key Outcomes in Kentucky and Other Study States, Case-Mix Adjusted

	Comparison of States' Outcomes															KY Compared with 15-State Median
Recovery of physical health and functioning[a]																
	AR	GA	FL	**KY**	TN	IA	NC	VA	MN	PA	CT	MA	MI	IN	WI	
Improvement in health status from injury to interview	17	17	18	**18**	18	18	18	18	19	19	19	19	21	21	21	Similar
Return to work (as of 3 years postinjury)																
	IN	WI	IA	MN	MI	MA	CT	VA	NC	AR	PA	FL	TN	**KY**	GA	
Percentage never returned to work due to injury	7%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%	12%	12%	**13%**	15%	Similar
	IN	MI	WI	MN	CT	VA	FL	MA	IA	TN	NC	AR	PA	**KY**	GA	
Percentage never returned to work or returned to work but never sustained for at least 30 days due to injury	9%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	**18%**	19%	Somewhat Higher
	IA	MN	CT	AR	WI	MA	VA	TN	IN	MI	FL	PA	NC	**KY**	GA	
Time from injury to first substantial return to work (median weeks)[b]	9	9	9	9	10	10	11	11	11	12	12	12	13	**13**	13	Similar[c]
Earnings recovery																
	WI	**KY**	VA	MI	TN	PA	AR	IN	GA	CT	NC	IA	MA	FL	MN	
Percentage who reported earning "a lot less" due to injury at the time of substantial return to work	6%	**7%**	7%	7%	8%	8%	8%	8%	8%	8%	8%	9%	9%	11%	11%	Similar
Access to health care																
Problems getting desired medical services																
	WI	MI	PA	MA	CT	VA	MN	IA	IN	AR	TN	NC	GA	**KY**	FL	
Percentage reporting "big problems" getting services they or their primary provider wanted	11%	12%	13%	14%	16%	16%	16%	17%	17%	17%	17%	17%	18%	**18%**	21%	Similar
Problems getting desired provider																
	WI	MN	VA	MA	**KY**	PA	MI	CT	GA	AR	IA	TN	NC	IN	FL	
Percentage reporting "big problems" getting the primary provider they wanted	9%	11%	13%	13%	**13%**	13%	14%	14%	16%	16%	18%	18%	19%	19%	20%	Similar
Satisfaction with health care																
Satisfaction with overall care																
	FL	GA	TN	AR	IA	VA	MN	IN	PA	NC	MI	CT	**KY**	MA	WI	
Percentage who were "somewhat" or "very" satisfied	71%	73%	74%	75%	76%	78%	78%	78%	79%	79%	79%	80%	**80%**	84%	84%	Similar
	WI	MA	**KY**	CT	MI	NC	PA	IN	MN	VA	IA	AR	TN	GA	FL	
Percentage who were "very dissatisfied"	10%	10%	**13%**	13%	13%	14%	14%	14%	14%	14%	16%	16%	17%	18%	20%	Similar

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher*, *higher*, *somewhat lower*, or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3. Details on statistical significance are provided in Table TA.C5.

States in the table are ordered in ascending order of the value of each measure.

[a] Increase in the SF-12v2® score from the week after the injury to the time of the interview. A higher score indicates better recovery. SF-12v2® scores range from 0 to 100. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

[b] The duration question was asked only among workers who had a substantial return to work. For workers without a substantial return to work by the time of the interview, this measure was set as weeks from injury to the time of the interview.

[c] The value does not meet the policy importance threshold, although the difference is statistically significant.

1

INTRODUCTION

Two key dimensions of the performance of workers' compensation systems are (1) the postinjury outcomes achieved by injured workers and (2) the costs paid by employers. Information about the costs paid by employers is generally available to policymakers when legislative changes are considered. Objective measures of worker outcomes are less frequently available, leaving policymakers to fill in the blanks with anecdotes. This study fills this void by measuring the following worker outcomes:

- Recovery of physical health and functioning
- Return to work
- Earnings recovery
- Access to medical care
- Satisfaction with medical care

This study provides an interstate comparison of worker outcomes across 15 states. This helps policymakers and system stakeholders benchmark the performance of different state systems in order to identify and prioritize opportunities to improve system performance. The study is a reflection of an ongoing, multiyear effort by the Workers Compensation Research Institute (WCRI) to collect and examine data on outcomes of injured workers.

To accomplish this objective we performed several phases of data collection across different states:

- Phase 1: Eight states (Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin)
- Phase 2: Four states (Iowa, Arkansas, Connecticut, and Tennessee)
- Phase 3: Three states (Florida, Georgia, and Kentucky).

In subsequent phases, we plan to collect data from new states and revisit states from earlier phases that had significant system reforms in order to measure the impact of those reforms on worker outcomes.

Apart from benchmarking system performance, the measures of worker outcomes can also be used to accomplish a number of other objectives. For instance, in past studies we identified factors that may help public officials, payors, and health care providers to better predict which cases are more likely to have poorer outcomes.[1] Furthermore, future studies will also evaluate the impact of selected reforms on worker outcomes by measuring outcomes before and after those reforms.

[1] See Savych, Thumula, and Victor (2014a–d and 2015a–d) and Thumula, Savych, and Victor (2014a–d).

ORGANIZATION OF THIS REPORT

The rest of this report is organized as follows. Chapter 2 summarizes the data and methods used. It provides information about the survey process, the sample, representativeness, response rates, and response biases. We also detail criteria for comparing states on worker outcomes.

Chapter 3 reports worker outcome measures for Kentucky and 14 other states. We show outcomes after adjusting for a number of important differences in the mix of cases that enter workers' compensation systems.[2]

Chapter 4 discusses policy interpretations and implications of the comparisons presented in this report.

The technical appendices provide additional information about data and methods.

[2] Readers interested in unadjusted outcome measures in Kentucky may refer to the databook available at www.wcrinet.org/Report_Appendix/KY_databook.pdf.

2

DATA AND METHODS

This chapter provides a brief overview of the survey methodology and the approaches used to analyze the data. In addition, the chapter presents information on the validity and plausibility of the survey results—data cleaning and representativeness. This chapter also defines key concepts and criteria used for comparing states on worker outcomes that will be used throughout subsequent chapters.

KEY CONCEPTS

We use the terms defined here frequently in this report. The reader should become familiar with these definitions before reading Chapters 3 or 4 and may want to refer back to this section when reading those chapters. Careful review of these definitions will help the reader understand key concepts and results presented in the study.

Claim: All claims in the study involved more than seven days of lost time. Each claim in the sample received an income benefit payment and medical care paid for under workers' compensation. The case may have been compensable or may have had compensability in dispute but received a settlement payment to resolve that dispute. Claims filed that received no payments were not included.

Earnings losses; earnings recovery: The worker's report of whether he or she earned "a lot less" at the time of the interview or at return to work compared with his or her preinjury earnings. Workers who returned to work were asked if they were earning more, the same, or less than before the injury. If a worker said "less," they were asked if it was "a lot less" or "a little less." Workers who earned the same or more were considered to have recovered to the level of their preinjury earnings—hence we describe this as *earnings recovery*.

Perceived recovery of health and functioning: The difference between the worker's self-reported health status (as measured by responses to the SF-12v2® instrument) just after the injury and at the time of the interview (about three years after the injury).

Perceived severity: The difference between the worker's self-reported health status (SF-12v2® score) before the injury and just after the injury.

Primary provider: The medical professional who, according to the worker, made the decisions about the care that the worker needed and either provided that care or directed the worker to someone who could provide it.

Substantial return to work: The worker returned to work and remained working for at least 30 consecutive work days before any subsequent absence from work. This measure is intended to exclude very brief periods of return to work, which are typically included in empirical studies of return to work.

Worker (respondent): The person who sustained the work injury and was surveyed to provide information for this study.

SURVEY DATA AND METHODS

The outcomes reported in this study are based on telephone interviews with 6,130 injured workers from 15 states (including 403 Indiana workers) using a structured survey instrument.[1] The interviews were conducted by Mathematica Policy Research (MPR). Workers who suffered a workplace injury in 2010 in eight states (Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin) were interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee who were injured in 2011 were interviewed in 2014. Arkansas workers who were injured in 2010 and 2011 were interviewed in 2014.[2] Workers in Florida, Georgia, and Kentucky who were injured in 2012 were interviewed in 2015. With this, we have a diverse set of states that represent states across the spectrum of medical and indemnity costs. These 15 states also differ from each other on various other dimensions, including provider choice, fee schedules, approaches for compensating the permanent consequences of injury, and level of attorney involvement.[3] This study is an ongoing effort, and we plan to include more states in subsequent phases.

The surveys were conducted, on average, about three years after these workers sustained their injuries.[4] Interviewing workers several years after their injuries allows us to better measure the intermediate-term consequences of the injury—impacts not discernible earlier in the life of the claim. In particular, it allows us to better assess the recovery of health and functioning and return-to-work outcomes.

We started with initial samples of about 1,600 workers per state. The sampled claims all involved workers with more than seven days of lost time. These claims were from both insured and self-insured employers. In Connecticut, Indiana, Michigan, Minnesota, Pennsylvania, Tennessee, Virginia, and Wisconsin, state agencies provided the workers' names and the contact information we needed to draw the sample. In Arkansas, Florida, Georgia, Iowa, Kentucky, Massachusetts, and North Carolina, the state agency requested that WCRI obtain data from insurers and employers to draw the sample. We oversampled *financially more serious* cases because they occur less often. The criteria for *financially more serious* was the amount paid or reserved for each claim or duration of temporary disability payments.[5] And we weighted the responses in each stratum[6] to represent the percentages of *more* and *less* financially serious claims in the state. This weighting helps ensure that respondents in each state reflect the overall sample of claims with more than seven days of lost time.

In Minnesota and Wisconsin, we applied an additional stratum of weighting to bring the average medical cost of the respondents in line with the average medical cost of all injured workers with more than seven days

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[1] A copy of the survey can be found at www.wcrinet.org/Report_Appendix/wcri_sample_2014_survey.pdf.

[2] Because Arkansas is a smaller state, we had to sample workers injured in 2010 and 2011 in order to get a similar number of completed surveys as in other states.

[3] Readers interested in learning more about system features in study states may refer to other WCRI publications including *Workers' Compensation Laws as of January 1, 2016* (WCRI and IAIABC, 2016) and *Workers' Compensation Medical Cost Containment: A National Inventory, 2015* (Tanabe, 2015).

[4] Average duration from the injury to interview: Arkansas (3.3 years), Connecticut (2.9), Florida (2.9), Georgia (2.9), Indiana (2.8), Iowa (2.9), Kentucky (3.0), Massachusetts (2.8), Michigan (2.9), Minnesota (2.9), North Carolina (2.8), Pennsylvania (2.8), Tennessee (2.9), Virginia (3.0), and Wisconsin (2.8). Note that the interviews could have occurred from 29 to 52 months from the date of injury in Arkansas and from 29 to 40 months from the date of injury in the other 14 states. For example, in Indiana the injury dates are from February through September 2010, and the interviews were conducted between March and May 2013, so the interviews could have occurred from 30 to 40 months from the date of injury. We tested whether the outcomes reported varied with the time between the injury and the interview and found no significant differences. See Technical Appendix D for more details.

[5] Claims were considered to be *more* financially serious when there were at least 20 weeks of temporary disability payments or incurred indemnity benefits were over $6,000 for 2010 injuries evaluated as of March 2011. The incurred indemnity benefits threshold was adjusted for inflation for 2011 and 2012 injuries.

[6] *Stratum* defines a group of injured workers with selected characteristics from which we draw a random sample of cases.

of lost time in the state.[7] Before this adjustment, respondents in those two states, on average, had higher medical costs per claim than the population of injured workers in those two states (29 percent higher in Minnesota and 14 percent higher in Wisconsin).[8] The differences were not statistically significant in other survey states.

Readers can refer to Technical Appendix A for detailed documentation of the survey process, samples, response rates, and data cleaning.

REPRESENTATIVENESS OF RESPONDENTS

The response rates by state varied from 25 percent in Florida, Massachusetts, and Virginia to 31 percent in Indiana, Iowa, Michigan, and Wisconsin.[9] To assess representativeness of the respondents, we did two sets of comparisons:

- We compared the characteristics and claim costs of workers who responded to the survey with state-level values.[10]
- We compared the characteristics and claim costs of workers who responded to the survey with those in the sample who did not respond, either because they were not contacted or refused to be interviewed.

Table 2.1 shows the similarities and differences in characteristics of workers, their injuries, and their claims. It shows that the survey respondents were reasonably representative of the population of injured workers in each state on almost all measures.[11] Compared with the population of injured workers in their respective states, the respondents were similar in many attributes. Respondents were slightly different in terms of age (slightly older), tenure (slightly longer job tenure), marital status (fewer single), and wages (slightly higher) in a majority of states. There were small differences in the industry mix of respondents compared with the state mix. Table 2.1 also suggests that in many states, respondents generally had somewhat more serious injuries—more fractures, fewer lacerations and contusions, and higher surgery rates than the general population of injured workers. As we mentioned in the previous section, respondents also had higher medical costs per claim than the statewide population in Minnesota and Wisconsin. Medical costs and

[7] The estimates of average medical costs for the statewide population are from a large administrative claims database at WCRI. We observed that the differences in average medical costs between respondents and the overall state were more pronounced in the *less* financially serious stratum. Therefore, we further categorized the *less* financially serious claims into claims with medical payments of less than or equal to $10,000 and medical payments of more than $10,000. We then weighted the responses for these two states by bringing the proportion of respondents in the three groups—the *more* financially serious and the two *less* financially serious groups of claims—in line with the proportion of claims in the state. After weighting, the average medical cost per claim among respondents was similar to that in the statewide population.

[8] The average medical cost per claim was $13,547 among respondents versus $10,514 overall in Minnesota, and $18,511 among respondents versus $16,247 overall in Wisconsin. Differences in medical costs could arise from differences in the severity of the injury, the nature of providers used, and the attributes of the workers that influence the demand for medical care, in addition to a variety of other factors. Therefore, if we do not correct for these differences by reweighting, we may be at a risk of overstating the outcomes related to these factors.

[9] We computed the overall response rate by dividing the number of completed surveys by the number of sampled cases. The response rates were 30 percent in Arkansas, 30 percent in Connecticut, 25 percent in Florida, 26 percent in Georgia, 31 percent in Indiana, 31 percent in Iowa, 26 percent in Kentucky, 25 percent in Massachusetts, 31 percent in Michigan, 28 percent in Minnesota, 26 percent in North Carolina, 26 percent in Pennsylvania, 30 percent in Tennessee, 25 percent in Virginia, and 31 percent in Wisconsin.

[10] The state-level estimates come from a large claims database at WCRI that contains 45–66 percent of the claims in each state. The state-level values for average medical cost per claim and average indemnity cost per claim were externally validated against reports from the insurance rating bureaus in each state (Telles, 2013).

[11] In Table 2.1, we note if the respondents are significantly different from the population on a measure at the 5 percent significance level with an asterisk (*).

surgery rates tend to reflect differences in the severity of the injury, the nature of providers used, and the attributes of the workers that influence the demand for medical care, in addition to a variety of other factors. Therefore, in states where survey respondents had higher medical costs and/or surgery rates than the average for the state population, one may expect that the average injury severity might be higher for the state sample and that the outcomes related to injury severity may be overstated. Therefore, we weighted the data in Minnesota and Wisconsin to make the average medical costs of respondents comparable to the statewide population. In Connecticut, Florida, Georgia, and Kentucky, the average permanent partial disability (PPD)/lump-sum payment per claim for the respondents was lower than the state average. We tested whether weighting the data to bring the surgery rate and the average PPD/lump-sum payment of the respondents in line with the claim population in the state affects the measured values of worker outcomes. We reestimated the outcomes by reweighting the data and observed that the reweighted estimates were very similar to the outcomes reported in this study.[12] In the end, we decided not to weight the data on surgery rates and PPD/lump-sum payments.

REFUSALS AND RESPONSE BIAS

Table 2.2 reinforces the conclusion that those who refused to be interviewed generally had similar demographic and claim characteristics to those who agreed to be surveyed. The differences between respondents and refusals were not statistically significant at the 5 percent significance level,[13] with very few exceptions.

INVALID PHONE NUMBERS AND RESPONSE BIAS

We were hardly surprised to find that not every telephone number yielded a usable interview because people move from time to time. Invalid phone numbers are inevitable when conducting a survey of injured workers nearly three years after their injuries occurred. We found that 20–35 percent of workers we sampled had invalid phone numbers at the time of interview.

Workers for whom we had invalid phone numbers had personal and/or claim characteristics that suggested they had less severe injuries and were more mobile than respondents. Their paid medical costs were 8–20 percent lower than those of respondents in all 15 states (see Table 2.2). In most states, workers with invalid phone numbers were somewhat more likely to have lacerations and contusions (less severe injuries) and less likely to have had surgery. They were more likely than respondents to be single, tended to be slightly younger, and had lower preinjury wages and less tenure on the job.

We did not adjust for the differences in claim characteristics between workers with invalid phone numbers and respondents because (1) respondents are representative of the population of claims in each state and (2) we compare worker outcomes across states after controlling for these characteristics.

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[12] The differences with and without reweighting were within 1 percentage point on all measures across all states.

[13] Some tables in this analysis present statistical significance levels for certain findings. For example, in the bias tests in Table 2.2, we look for evidence that those who refused to be interviewed had different demographic characteristics from those who agreed to be surveyed. In particular, we examine whether any differences were due to chance or because of a true difference between the two groups. Statistical methods are designed to determine the likelihood that the observed difference between the cases could have occurred just because of a sampling variation. If this probability is lower than a specified threshold (e.g., 5 percent), the finding is said to be statistically significant at that level.

Table 2.1 Analysis of Representativeness Based on Administrative Claims Data

	AR			CT			FL			GA		
	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents
Worker characteristics												
Age (mean years)	42	42	45*	43	43	47*	44	45	48*	42	42	44*
Female (percentage of claims)	29	29	32	40	42	47*	39	39	43	41	39	45
Single (percentage of claims)	43	46*	42	53	50*	46*	51	49	46	49	50	47
Tenure with employer (mean years)	5	4*	5	7	7	9*	6	6	7*	6	6	7
Weekly wage (mean)	$615	$614	$622	$794	$813	$851*	$650	$642	$661	$641	$644	$661
Industry (percentage of cases)												
Manufacturing	26	28*	30	13	12	13	7	7	8	14	16*	16
Construction	13	13	10	7	8	6	6	6	5	6	7	5
Clerical/professional	5	4*	5	9	9	11	9	10	11	8	6*	7
Trade	14	15	14	14	13	12	19	17*	17	23	17*	17*
High-risk services	25	26	24	32	33	31	29	31*	29	27	28	28
Low-risk services	11	11	14	15	15	17	18	22*	23*	15	17*	18
Other	4	3*	4	8	9	10	11	8*	7*	6	7*	8
Type of injury (percentage of cases)												0
Neurologic spine pain	7	8	11*	8	9	8	8	9	10	10	10	9
Back and neck sprains, strains, and non-specific pain	14	14	14	20	20	19	18	18	19	17	18	17
Fractures	13	14	14	9	9	9	10	10	11	9	9	10
Lacerations and contusions	12	11	9	11	10	7*	12	11	11	11	10	10
Inflammations	5	6	6	10	11	11	8	8	9	10	11	12
Other sprains and strains	23	22	22	23	22	22	24	24	21	23	23	22
Upper extremity neurologic (carpal tunnel)	2	2	2	2	3*	5*	1	1	2	2	2	2
Other injuries	24	23	22	18	16*	18	19	19	17	18	18	18
Claim costs and characteristics												
Medical payment (mean)	$12,633	$12,085	$13,056	$11,850	$11,320	$12,136	$13,363	$13,166	$14,438	$14,350	$13,191*	$14,588
Indemnity payment (mean)	$9,071	$8,846	$9,349	$11,234	$10,367*	$9,729*	$8,033	$7,455*	$7,479	$15,874	$15,143	$14,748
Open claims (percentage of claims)	19	19	24*	32	32	35	21	24*	27*	25	25	27
PPD or lump-sum payment (percentage of claims)	34	35	37	26	28*	32*	41	40	46	39	41	44*
Lump-sum payment (percentage of claims)	11	12	12	7	7	6	15	12*	13	26	28	26
Defense attorney involved (percentage of claims)	17	18	16	24	23	20	31	30	31	33	35	33
Vocational rehabilitation services (percentage of claims)	1	2*	1	1	1	1	1	0*	1	0	1*	1
PPD or lump-sum payment (mean)	$11,298	$10,589	$11,835	$12,930	$11,619*	$8,752*	$6,361	$5,410*	$4,617*	$22,059	$19,534*	$18,359*
Lump-sum payment (mean)	$19,852	$17,142*	$18,347	$23,650	$18,570*	$12,582*	$14,635	$13,417	$12,139*	$30,878	$26,567*	$27,334
Duration of temporary disability (mean weeks)	14	14	13	17	16	17	14	14	15	23	22	21
Type of medical treatment received (percentage of claims)												
Major surgery	38	40	41	28	29	35*	27	26	29	34	32	36
Chiropractic care	1	2	3*	5	5	5	1	1	1	1	1	1

continued

Table 2.1 Analysis of Representativeness Based on Administrative Claims Data (continued)

	IA			IN			KY			MA		
	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents
Worker characteristics												
Age (mean years)	45	44*	47*	44	44	48*	42	42	45*	42	42	44*
Female (percentage of claims)	36	35	37	35	33	39	36	34	43*	33	32	34
Single (percentage of claims)	43	43	41	45	41*	35*	44	47	45	52	50	48
Tenure with employer (mean years)	7	7	9*	6	6*	8	6	7*	7	6	6	7*
Weekly wage (mean)	$665	$701*	$726*	$629	$628	$647	$640	$642	$642	$755	$773	$801
Industry (percentage of cases)												
Manufacturing	26	29	34*	28	29	32	19	25*	25*	13	13	13
Construction	8	7	6	5	5	5	6	7	8	13	14	11
Clerical/professional	11	12	11	6	6	7	8	4*	6	10	9	12
Trade	12	11	10	17	13*	11*	18	13*	13*	15	15	13
High-risk services	23	23	18*	29	32*	31	24	25	25	29	29	30
Low-risk services	14	9*	12	11	11	12	10	10	10	15	15	17
Other	6	9*	9*	3	3	3	14	16	13	5	4*	4
Type of injury (percentage of cases)												
Neurologic spine pain	4	4	4	5	7*	5	8	8	6	6	7	6
Back and neck sprains, strains, and non-specific pain	14	15	13	13	11*	11	14	16	14	21	21	19
Fractures	11	11	13	12	13	16*	11	11	13	10	12*	13
Lacerations and contusions	11	9*	7*	11	11	8*	8	9	11	12	11	8*
Inflammations	7	8*	10*	7	8	9	9	8	7	7	6	5*
Other sprains and strains	29	30	29	26	24*	24	26	24	23	23	22	27*
Upper extremity neurologic (carpal tunnel)	3	3	4	2	2	2	2	2	3	1	1	2
Other injuries	22	20	20	24	25*	26	22	22	22	20	19	19
Claim costs and characteristics												
Medical payment (mean)	$15,304	$15,103	$16,302	$15,870	$15,539	$17,642	$12,088	$11,373*	$11,927	$6,168	$5,660*	$6,444
Indemnity payment (mean)	$12,074	$11,668	$11,895	$6,364	$6,770	$6,810	$11,245	$10,784	$10,210	$11,750	$11,479	$10,513
Open claims (percentage of claims)	25	23	24	16	14	14	23	23	26	19	17	20
PPD or lump-sum payment (percentage of claims)	46	46	48	27	28	30	22	22	22	13	13	11
Lump-sum payment (percentage of claims)	16	16	17	15	17	17	16	17	15	10	10	7*
Defense attorney involved (percentage of claims)	17	17	16	14	13	10	20	19	17	20	19	17
Vocational rehabilitation services (percentage of claims)	2	3*	3	0	0*	1	2	4*	4	2	2*	2
PPD or lump-sum payment (mean)	$16,344	$15,912	$14,661	$7,750	$8,433	$7,225	$19,475	$17,219*	$12,925*	$26,027	$26,268	$23,077
Lump-sum payment (mean)	$26,027	$24,259	$21,269	$12,150	$12,378	$11,199	$24,915	$20,945*	$17,500*	$31,974	$31,558	$33,325
Duration of temporary disability (mean weeks)	12	10*	10*	11	11	12	16	16	17	19	17*	17
Type of medical treatment received (percentage of claims)												
Major surgery	40	42	47*	40	40	46*	35	35	37	22	19*	23
Chiropractic care	3	2	4	1	1	0*	4	5	7*	7	7	5

continued

Table 2.1 Analysis of Representativeness Based on Administrative Claims Data (continued)

	MI			MN			NC			PA		
	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents[a]	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents
Worker characteristics												
Age (mean years)	43	42*	46*	43	43	46*	43	43	46*	44	44	48*
Female (percentage of claims)	39	37	40	41	40	41	35	33*	34	33	32	40*
Single (percentage of claims)	49	47	43*	49	49	45	44	43	36*	46	46	37*
Tenure with employer (mean years)	8	7*	9	7	8*	10*	6	6	7*	7	6*	8
Weekly wage (mean)	$713	$711	$737	$681	$714*	$783*	$614	$630	$659*	$695	$707	$735
Industry (percentage of cases)												
Manufacturing	23	23	23	22	20	19	20	23*	27*	19	20	23
Construction	6	7	6	7	7*	8	9	11*	9	7	7	6
Clerical/professional	7	5*	6	9	9	11	6	5	6	7	6	7
Trade	15	10*	12	16	15	14	21	17*	16*	13	13	12
High-risk services	27	31*	29	27	29	27	25	26*	26	28	27	26
Low-risk services	16	16	20	14	14	14	12	13	12	14	15	16
Other	6	6	5	5	5	8*	7	4*	4*	10	12*	9
Type of injury (percentage of cases)												
Neurologic spine pain	5	6*	6	6	6*	6	7	9*	10*	6	6	6
Back and neck sprains, strains, and non-specific pain	17	18*	16	20	21	17	17	16	14*	16	15	10*
Fractures	11	12	12	9	9	11	12	13	14	9	10	15*
Lacerations and contusions	10	9	8	9	9	6*	12	11	11	10	10	9
Inflammations	8	7	9	8	8	11*	7	8	9	8	8	9
Other sprains and strains	26	25	27	24	23	22	22	21*	18*	25	25	24
Upper extremity neurologic (carpal tunnel)	3	2	3	4	4	4	1	2	2	2	2	4*
Other injuries	21	20	18	22	21	22	21	20	21	23	23	22
Claim costs and characteristics												
Medical payment (mean)	$8,177	$7,950	$8,939	$11,373	$11,212	$12,746	$14,181	$13,906	$15,505	$11,334	$11,138	$11,616
Indemnity payment (mean)	$7,270	$7,497	$6,945	$8,116	$8,190	$8,934	$17,116	$17,645	$18,681	$15,140	$14,713	$13,512
Open claims (percentage of claims)	20	17	20	22	20	24	28	27	31	22	19*	19
PPD or lump-sum payment (percentage of claims)	4	4	3	27	27	28	39	40	41	12	11	10
Lump-sum payment (percentage of claims)	4	3	2*	10	9	7	29	28	28	12	11	9
Defense attorney involved (percentage of claims)	12	10	8	13	12	10*	31	30	28	22	18*	16*
Vocational rehabilitation services (percentage of claims)	2	2	2	20	20	20	3	3	3	2	1	2
PPD or lump-sum payment (mean)	$38,880	$43,676	$41,108	$10,369	$10,356	$9,799	$20,058	$20,111	$20,497	$48,641	$49,631	$48,148
Lump-sum payment (mean)	$42,609	$49,777	$44,219	$23,317	$23,858	$25,576	$25,574	$25,710	$27,215	$49,630	$51,140	$49,395
Duration of temporary disability (mean weeks)	14	13	13	12	11	12	24	23	24	20	20	19
Type of medical treatment received (percentage of claims)												
Major surgery	35	33	40*	34	32	37	37	37	42*	33	34	39*
Chiropractic care	3	2	2	12	11	11	1	1	0*	9	9	5*

continued

Table 2.1 Analysis of Representativeness Based on Administrative Claims Data (continued)

	TN			VA			WI		
	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents	Average for State	Average for Sample	Respondents[a]
Worker characteristics									
Age (mean years)	43	43	47*	43	43	46*	44	44	48*
Female (percentage of claims)	37	37	42	35	32*	35	36	35	37
Single (percentage of claims)	42	43	39	45	43	40*	46	43*	35*
Tenure with employer (mean years)	6	6	8*	6	6*	7	8	8	10*
Weekly wage (mean)	$647	$656	$651	$686	$689	$719*	$723	$735	$769*
Industry (percentage of cases)									
Manufacturing	22	23	24	12	13	15	34	35	36
Construction	6	7*	6	10	12	9	8	8	7
Clerical/professional	4	4	7*	8	8	8	7	8*	10
Trade	14	15	17	17	11*	12*	14	12	12
High-risk services	29	30	28	28	30*	28	22	21	17*
Low-risk services	11	13*	11	16	16	18	11	9*	10
Other	12	7*	8*	8	9	10	5	5	7
Type of injury (percentage of cases)									
Neurologic spine pain	7	9	9	6	6	5	5	6	6
Back and neck sprains, strains, and non-specific pain	15	14	11*	16	15	13	15	13*	12
Fractures	10	11	10	13	15	18*	9	9	10
Lacerations and contusions	11	8*	11	13	12	11	10	9	10
Inflammations	9	11*	12	5	6	6	8	9	8
Other sprains and strains	25	23*	25	26	25	26	26	25	25
Upper extremity neurologic (carpal tunnel)	3	4	4	0	0*	1	3	4	5
Other injuries	21	21	17	20	20	21	24	25	25
Claim costs and characteristics									
Medical payment (mean)	$12,265	$11,950	$13,121	$15,879	$15,807	$17,191	$16,771	$17,487	$17,751
Indemnity payment (mean)	$13,094	$13,222	$13,850	$9,934	$10,246	$10,488	$7,449	$7,547	$7,710
Open claims (percentage of claims)	26	24	24	24	22	28*	20	17*	17
PPD or lump-sum payment (percentage of claims)	36	36	38	14	14	12	34	38	40
Lump-sum payment (percentage of claims)	29	30	31	10	11	7*	7	9	9
Defense attorney involved (percentage of claims)	43	46*	46	21	20	19	8	6	7
Vocational rehabilitation services (percentage of claims)	2	1*	1*	5	5	5	1	1	1
PPD or lump-sum payment (mean)	$19,210	$19,438	$18,065	$21,350	$22,281	$19,278	$8,310	$8,182	$7,903
Lump-sum payment (mean)	$22,598	$22,243	$21,552	$27,023	$27,845	$26,273	$12,931	$11,597	$10,832
Duration of temporary disability (mean weeks)	15	14*	15	16	16	17	9	9	9
Type of medical treatment received (percentage of claims)									
Major surgery	37	40*	43*	32	32	33	42	41	44
Chiropractic care	2	2	2	2	3	2	9	9	10

Notes: Underlying data come from the WCRI Detailed Benchmark/Evaluation (DBE) database. All values are for claims with more than seven days of lost time. Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin workers were injured in 2010 and evaluated as of March 2012. Iowa, Connecticut, and Tennessee workers were injured in 2011 and evaluated as of March 2013. Arkansas workers were injured in 2010 and 2011, and evaluated as of March 2012 and 2013 respectively. Florida, Georgia, and Kentucky workers were injured in 2012 and evaluated as of March 2014. The DBE contains 51–74 percent of the claims in each state. The state-level values for average medical cost per claim and average indemnity cost per claim were externally validated against reports from the insurance rating bureaus in each state.

[a] Minnesota and Wisconsin results are presented after reweighting the data to bring the medical costs among respondents in line with the average for the state population.

* Different from the state average at the 5 percent significance level.

Key: PPD: permanent partial disability.

Table 2.2 Analysis of Response Bias Based on Administrative Claims Data

	AR			CT			FL			GA		
	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number
Worker characteristics												
Age (mean years)	45	46	39*	47	45*	41*	48	47	42*	44	42	40*
Female (percentage of claims)	32	28	28	47	39	40	43	37	38	45	40	35*
Single (percentage of claims)	42	39	51*	46	37	60*	46	47	56*	47	41	54
Tenure with employer (mean years)	5	5	3*	9	8	6*	7	6	5*	7	6	5*
Weekly wage (mean)	$622	$665	559*	$851	$919	$707*	$661	$728	$568*	$661	$725	$582*
Industry (percentage of cases)												
Manufacturing	30	31	27	13	10	11	8	5	8	16	15	19
Construction	10	8	15*	6	8	9	5	5	8	5	6	11*
Clerical/professional	5	4	3	11	14	6*	10	12	9	7	8	3*
Trade	14	16	11	12	13	14	17	17	16	17	18	16
High-risk services	24	26	28	31	31	36	29	30	35	28	24	28
Low-risk services	14	14	12	17	16	16	23	21	18	18	23	15
Other	4	2	4	10	8	9	8	10	6	8	5	6
Type of injury (percentage of cases)												
Neurologic spine pain	11	6	6*	8	6	10	10	8	8	9	10	9
Back and neck sprains, strains, and non-specific pain	14	15	13	19	19	21	19	18	19	17	20	18
Fractures	14	18	14	9	9	9	11	10	10	10	7	9
Lacerations and contusions	9	7	13	7	8	12	11	8	13	10	9	12
Inflammations	6	5	4	11	10	12	9	8	7	12	7	10
Other sprains and strains	22	23	21	22	27	20	21	24	23	22	24	21
Upper extremity neurologic (carpal tunnel)	2	2	2	5	3	3	2	1	1	2	3	1
Other injuries	22	23	27	18	18	14	17	22	19	18	19	20
Claim costs and characteristics												
Medical payment (mean)	$13,056	$12,468	$11,422	$12,136	$10,449	$10,914	$14,438	$13,675	$11,927*	$14,588	$12,389	$12,602
Indemnity payment (mean)	$9,349	$8,768	$8,348	$9,729	$9,964	$10,651	$7,479	$7,568	$6,725	$14,748	$15,170	$14,936
Open claims (percentage of claims)	24	18	16*	35	32	29	27	21	21*	27	29	21
PPD or lump-sum payment (percentage of claims)	37	36	33	32	29	27	46	42	35*	44	35*	40
Lump-sum payment (percentage of claims)	12	13	13	6	9	7	13	13	14	26	26	31
Defense attorney involved (percentage of claims)	16	16	22*	20	21	27	31	28	34	33	31	42*
Vocational rehabilitation services (percentage of claims)	1	3	1	1	0	1	1	1	0	1	1	2
PPD or lump-sum payment (mean)	$11,835	$9,191	$10,247	$8,752	$11,592*	$13,529*	$4,617	$4,767	$5,370	$18,359	$19,881	$20,801
Lump-sum payment (mean)	$18,347	$15,052	$15,657	$12,582	$13,692	$28,901*	$12,139	$10,830	$10,190	$27,334	$25,348	$25,590
Duration of temporary disability (mean weeks)	13	15	13	17	13	17	15	13	14	21	24	22
Type of medical treatment received (percentage of claims)												
Major surgery	41	41	34	35	29	27*	29	28	23	36	27*	32
Chiropractic care	3	1	1	5	4	5	1	1	1	1	2	0

continued

Table 2.2 Analysis of Response Bias Based on Administrative Claims Data (continued)

	IA			IN			KY			MA		
	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number
Worker characteristics												
Age (mean years)	47	46	42*	48	46	41*	45	43	39*	44	43	41*
Female (percentage of claims)	37	27*	36	39	24*	30*	43	26*	34*	34	31	33
Single (percentage of claims)	41	36	50*	35	33	49*	45	36*	54*	48	43	61*
Tenure with employer (mean years)	9	7	5*	8	8	4*	7	9*	6	7	7	5*
Weekly wage (mean)	$726	$767	$650*	$647	$723*	$572*	$642	$760*	$579*	$801	$869	$684*
Industry (percentage of cases)												
Manufacturing	34	26*	29	32	27	32	25	23	26	13	6*	17
Construction	6	9	10	5	8	5	8	7	5	11	19*	14
Clerical/professional	11	12	11	7	6	5	6	2*	4	12	7	9
Trade	10	11	10	11	12	16	13	12	14	13	17	14
High-risk services	18	21	23	31	34	30	25	30	25	30	31	27
Low-risk services	12	9	7*	12	9	9	10	12	9	17	14	17
Other	9	12	10	3	3	3	13	16	16	4	5	3
Type of injury (percentage of cases)												
Neurologic spine pain	4	4	2	5	5	7	6	9	7	6	7	6
Back and neck sprains, strains, and non-specific pain	13	16	17	11	12	12	14	19	17	19	22	21
Fractures	13	5*	12	16	11	11*	13	12	10	13	16	11
Lacerations and contusions	7	11	8	8	8	15*	11	4*	10	8	10	13*
Inflammations	10	6	10	9	3*	7	7	10	7	5	7	7
Other sprains and strains	29	29	29	24	31	21	23	20	26	27	20	22
Upper extremity neurologic (carpal tunnel)	4	4	3	2	1	2	3	1	2	2	0	1
Other injuries	20	26	19	26	28	25	22	25	20	19	17	19
Claim costs and characteristics												
Medical payment (mean)	$16,302	$14,594	$13,662*	$17,642	$14,596	$14,312*	$11,927	$11,477	$10,644	$6,444	$6,227	$5,128*
Indemnity payment (mean)	$11,895	$13,489	$10,555	$6,810	$7,196	$6,750	$10,210	$12,564	$9,950	$10,513	$13,232	$11,922
Open claims (percentage of claims)	24	23	21	14	16	12	26	24	21	20	16	18
PPD or lump-sum payment (percentage of claims)	48	44	42	30	24	31	22	22	21	11	10	16*
Lump-sum payment (percentage of claims)	17	17	16	17	17	18	15	18	16	7	8	13*
Defense attorney involved (percentage of claims)	16	20	18	10	15	18*	17	21	21	17	16	22
Vocational rehabilitation services (percentage of claims)	3	4	3	1	0	1	4	6	4	2	0	2
PPD or lump-sum payment (mean)	$14,661	$18,981	$16,039	$7,225	$9,558*	$8,525	$12,925	$23,225*	$16,972	$23,077	$34,370	$27,763
Lump-sum payment (mean)	$21,269	$28,305	$24,980	$11,199	$12,655	$12,504	$17,500	$27,523*	$20,397	$33,325	$39,813	$31,956
Duration of temporary disability (mean weeks)	10	10	10	12	12	11	17	15	17	17	18	17
Type of medical treatment received (percentage of claims)												
Major surgery	47	39	39*	46	36*	36*	37	32	31	23	21	15*
Chiropractic care	4	2	1*	0	2*	1	7	5	4*	5	6	8

continued

Table 2.2 Analysis of Response Bias Based on Administrative Claims Data (continued)

	MI			MN			NC			PA		
	Respondents	Refusals	Invalid Phone Number	Respondents[a]	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number
Worker characteristics												
Age (mean years)	46	43*	40*	46	43*	41*	46	44*	40*	48	45*	41*
Female (percentage of claims)	40	32	36	41	39	35	34	30	31	40	28*	30*
Single (percentage of claims)	43	39	53*	45	48	49	36	42	47*	37	37	53*
Tenure with employer (mean years)	9	8	6*	10	9	6*	7	7	4*	8	6*	5*
Weekly wage (mean)	$737	$788	$653*	$783	$773	$691*	$659	$653	$586*	$735	$773	$648*
Industry (percentage of cases)												
Manufacturing	23	26	23	19	15	26*	27	21	21*	23	20	21
Construction	6	6	8	8	10	6	9	11	14*	6	9	7
Clerical/professional	6	3	4	11	11	8	6	5	5	7	6	6
Trade	12	7	12	14	17	13	16	19	15	12	8	13
High-risk services	29	35	30	27	26	29	26	27	25	26	27	24
Low-risk services	20	17	17	14	14	14	12	15	15	16	16	15
Other	5	5	6	8	7	5	4	3	5	9	12	13
Type of injury (percentage of cases)												
Neurologic spine pain	6	4	6	6	6	5	10	10	8	6	8	5
Back and neck sprains, strains, and non-specific pain	16	14	21	17	20	23*	14	18	16	10	16*	17*
Fractures	12	16	12	11	10	8	14	13	14	15	11	7*
Lacerations and contusions	8	6	9	6	8	11*	11	8	12	9	9	14*
Inflammations	9	10	7	11	9	8	9	10	10	9	8	7
Other sprains and strains	27	23	23	22	23	20	18	19	20	24	24	23
Upper extremity neurologic (carpal tunnel)	3	3	2	4	5	3	2	3	1*	4	0*	3
Other injuries	18	24	19	22	20	22	21	19	19	22	24	25
Claim costs and characteristics												
Medical payment (mean)	$8,939	$7,640	$7,231*	$12,746	$11,590	$11,014	$15,505	$14,124	$12,751*	$11,616	$11,346	$10,708
Indemnity payment (mean)	$6,945	$7,413	$7,434	$8,934	$8,648	$8,117	$18,681	$20,113	$17,170	$13,512	$17,782	$14,970
Open claims (percentage of claims)	20	13	16	24	22	18	31	27	23*	19	20	16
PPD or lump-sum payment (percentage of claims)	3	4	4	28	22	27	41	40	41	10	11	13
Lump-sum payment (percentage of claims)	2	3	3	7	7	11	28	29	28	9	10	12
Defense attorney involved (percentage of claims)	8	9	12	10	13	15*	28	32	34	16	17	20
Vocational rehabilitation services (percentage of claims)	2	1	2	20	22	22	3	3	2	2	1	1
PPD or lump-sum payment (mean)	$41,108	$41,330	$52,705	$9,799	$11,810	$12,437	$20,497	$21,693	$19,826	$48,148	$69,525*	$46,227
Lump-sum payment (mean)	$44,219	$53,271	$55,461	$25,576	$29,030	$26,209	$27,215	$26,381	$25,907	$49,395	$73,911*	$47,068
Duration of temporary disability (mean weeks)	13	12	13	12	13	10	24	27	22	19	21	20
Type of medical treatment received (percentage of claims)												
Major surgery	40	38	28*	37	31	30*	42	36	32*	39	30*	33
Chiropractic care	2	2	4	11	11	12	0	0	1	5	9	11*

continued

Table 2.2 Analysis of Response Bias Based on Administrative Claims Data (continued)

	TN			VA			WI		
	Respondents	Refusals	Invalid Phone Number	Respondents	Refusals	Invalid Phone Number	Respondents[a]	Refusals	Invalid Phone Number
Worker characteristics									
Age (mean years)	47	44*	41*	46	45	41*	48	47	42*
Female (percentage of claims)	42	30*	38	35	26*	32	37	32	34
Single (percentage of claims)	39	38	48*	40	35	51*	35	37	53*
Tenure with employer (mean years)	8	7	5*	7	7	5*	10	11	7*
Weekly wage (mean)	$651	$722	$577*	$719	$766	$656*	$769	$775	$647*
Industry (percentage of cases)									
Manufacturing	24	18	20	15	19	11	36	41	33
Construction	6	5	9	9	11	15*	7	11	6
Clerical/professional	7	6	4*	8	7	6	10	8	7
Trade	17	15	16	12	12	12	12	10	15
High-risk services	28	35	32	28	25	33	17	12	25*
Low-risk services	11	15	11	18	15	13*	10	13	8
Other	8	6	9	10	11	10	7	5	5
Type of injury (percentage of cases)									
Neurologic spine pain	9	12	9	5	5	6	6	6	6
Back and neck sprains, strains, and non-specific pain	11	14	15	13	15	17	12	11	16
Fractures	10	10	13	18	17	16	10	9	10
Lacerations and contusions	11	8	6*	11	10	13	10	6	10
Inflammations	12	13	9	6	5	6	8	16*	7
Other sprains and strains	25	19	24	26	28	21	25	22	24
Upper extremity neurologic (carpal tunnel)	4	3	2	1	0	0	5	3	3
Other injuries	17	21	22	21	21	21	25	28	24
Claim costs and characteristics									
Medical payment (mean)	$13,121	$10,879	$11,586	$17,191	$14,811	$14,989	$17,751[a]	$17,263	$15,485
Indemnity payment (mean)	$13,850	$12,790	$10,812*	$10,488	$12,331	$8,999	$7,710	$6,914	$6,917
Open claims (percentage of claims)	24	26	19	28	25	20*	17	18	13
PPD or lump-sum payment (percentage of claims)	38	33	35	12	14	16	40	38	34
Lump-sum payment (percentage of claims)	31	26	29	7	9	12*	9	10	7
Defense attorney involved (percentage of claims)	46	46	49	19	18	22	7	7	5
Vocational rehabilitation services (percentage of claims)	1	1	1	5	5	5	1	2	1
PPD or lump-sum payment (mean)	$18,065	$18,960	$15,425	$19,278	$26,481	$17,162	$7,903	$6,791	$7,670
Lump-sum payment (mean)	$21,552	$22,561	$17,595	$26,273	$34,646	$20,384	$10,832	$7,535	$9,105
Duration of temporary disability (mean weeks)	15	14	14	17	17	15	9	9	10
Type of medical treatment received (percentage of claims)									
Major surgery	43	40	35*	33	32	31	44	44	37
Chiropractic care	2	0	1	2	1	2	10	8	9

Notes: Underlying data come from the WCRI Detailed Benchmark/Evaluation (DBE) database. All values are for claims with more than seven days of lost time. Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin workers were injured in 2010 and evaluated as of March 2012. Iowa, Connecticut, and Tennessee workers were injured in 2011 and evaluated as of March 2013. Arkansas workers were injured in 2010 and 2011, and evaluated as of March 2012 and 2013 respectively. Florida, Georgia, and Kentucky workers were injured in 2012 and evaluated as of March 2014.

[a] Minnesota and Wisconsin results are presented after reweighting the data to bring the medical costs among respondents in line with the average for the state population.

* Different from the respondents at the 5 percent significance level.

Key: PPD: permanent partial disability.

MEASURING HEALTH STATUS, RECOVERY, AND INJURY SEVERITY

In this section, we provide a brief discussion of how we measure physical health and functioning and whether the metrics are valid. Readers can refer to Technical Appendix B for a more thorough discussion of the measurement of health status.

In the survey, workers were asked the questions from the 12-Item Short Form Health Survey, Version 2 (SF-12v2®) about their physical health. The SF-12v2® is one of the most widely used tools to measure the health status of an individual.[14] The physical questions include a mix of questions about general health and specific limitations on function. The answers to the questions are combined into a scaled score from 0 to 100. A higher score indicates better health. The scores are scaled so that the average score in the population is 50.[15]

Examples of the questions about physical health include:

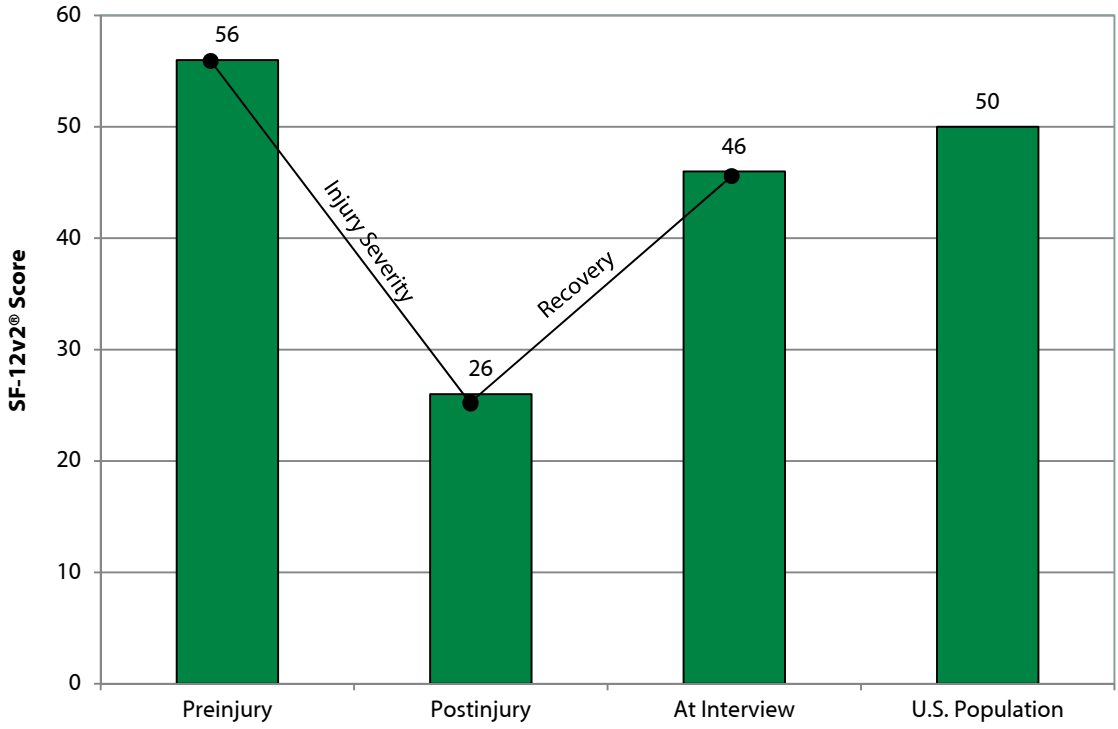
- Does your health limit you in moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?
  - Yes, limited a lot
  - Yes, limited a little
  - No, not at all
- Does your health limit you in climbing several flights of stairs?
- In the past four weeks, did you accomplish less than you would have liked at work or at home because of your health?

Workers were asked the SF-12v2® questions about three points in time. They were asked to recall their health in the four weeks prior to their injuries, in the week after their injuries, and they were asked the same questions about their health at the time of the interview. Figure 2.1 shows how we construct measures of injury severity and recovery from injury. The measure of preinjury health and functioning grounds our understanding of the measures of severity and recovery. The difference between the worker's preinjury health status (SF-12v2® score) and health status after the injury provides the measure of severity. The difference between the worker's health status after the injury and at the time of the interview (about three years after the injury) is the measure of the worker's recovery.

[14] For more information about the SF-12v2® and its widespread use and acceptance, see https://campaign.optum.com/optum-outcomes/what-we-do.html.

[15] It is also scaled so that each 10 points represents one standard deviation in the distribution of scores.

Figure 2.1 Illustration of How We Measure Severity and Recovery



Notes: Underlying data for the preinjury, postinjury, and at-interview scores in this figure are the sample of Indiana workers injured in 2010 and interviewed in 2013. All workers surveyed experienced more than seven days of lost time. SF-12v2® scores range from 0 to 100. A higher score indicates better health. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

Source: Figure for average of U.S. population is from Ware, Keller, and Kosinski (1998).

The perceived physical health and functioning outcome measures showed plausible patterns. We provide a few examples of how the worker's responses were consistent with expectations:

- The average preinjury scaled scores for physical health and functioning were consistent across the 15 study states (56–58 points) and higher than average for the general U.S. population (50 points). One would expect an employed population to have higher scores than the general U.S. population. These scores were similar to the average SF-12® score in a study of a "healthy" population.[16]
- The average postinjury scores were lower than the preinjury scores (reflecting injury severity), and the average at-interview scores were higher than the postinjury scores (reflecting some perceived recovery). Since not all workers achieve full recovery, we expected (and found) that the state average score at interview was below the average score prior to the injury. It does not mean that all workers at the time of the interview had a lower health and functioning score than at the time before the injury—some workers may have fully recovered and their pre- and postinjury health scores may be similar, while other workers may have not fully recovered.[17]

[16] A special study of a "healthy" British population, defined as persons with no longstanding illness, found that the average SF-12® score was 55 (Airey et al., 1999, tab. 3.12).

[17] Note that it is not appropriate to divide the measures of average recovery by the measure of average severity to determine the percentage of health and functioning that workers recovered. Both of these measures are derived by taking

- One would expect to see higher medical costs for workers who reported more severe injuries. We observed that medical costs increased with perceived medical severity. When compared with workers with less than 25 points of severity, the mean and median medical costs of workers who had severity between 25 and 39 points was 26 and 30 percent higher, respectively. Workers with reported severity of 40 points or over had 66 percent higher average medical costs and 57 percent higher median medical costs than those with less than 25 points of severity.[18]

METHODS TO OBTAIN REGRESSION ADJUSTED OUTCOMES

The basic approach underlying our comparisons of outcomes across the 15 states in Chapter 3 is a statistical technique that controls for interstate differences in demographic, injury, workplace, and local area characteristics.[19] A full and detailed explanation of the statistical models used for this analysis and the full set of regression results are included in Technical Appendices C and D. These methods are widely used in health services research to control for underlying differences in case mix that could be associated with better or worse outcomes.[20] For example, we know from previous studies that older workers face more difficulty in returning to work than do younger workers. If, for example, there were substantially more older workers in Wisconsin than in Massachusetts, we might observe that fewer workers returned to work in Wisconsin than in Massachusetts when the difference was due largely to the difference in the average age of respondents in the two states.

Essentially, we want our comparisons of outcomes to be based on a similar group of respondents, and we want our assessment of differences in outcomes to be a reflection of differences in state system features rather than a reflection of differences in the underlying characteristics of the respondents.[21] We control for age, gender, marital status, education, interview language, tenure, wage, part-time status, firm size, industry, location, county unemployment rate, preinjury health status, comorbidities, injury severity, injury type, trust in the workplace, and state.[22] Some of these variables are derived from administrative records, while others are observed only in workers' responses to the survey (for details, see Table TA.C2).

For a more detailed description of the data and methods used in this study, please refer to the technical appendices—survey data and methods (Technical Appendix A), measurement of physical health and functioning (Technical Appendix B), details of regression adjustment of outcomes (Technical Appendix C), and regression estimates (Technical Appendix D).

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the difference of a scaled score at different points in time. See Technical Appendix B for more details about how the perceived severity and recovery measures are constructed.

[18] Across the 15 states, the average medical cost per claim for workers with less than 25 points of severity, 25 to 40 points, and 40 points or higher was $11,097, $13,978, and $18,474, respectively. The median medical cost per claim for the three groups was $6,370, $8,249, and $9,978, respectively.

[19] Outcomes that are not adjusted for these characteristics are provided in a databook that can be accessed at www.wcrinet.org/Report_Appendix/KY_databook.pdf.

[20] By *case mix* we refer to demographic, injury, workplace, and local area characteristics. We use the term case mix for convenience and do not mean that we controlled only for worker characteristics.

[21] Readers interested in learning more about system features in study states may refer to other WCRI publications including *Workers' Compensation Laws as of January 1, 2016* (WCRI and IAIABC, 2016), *Workers' Compensation Medical Cost Containment: A National Inventory, 2015* (Tanabe, 2015).

[22] State dummies mainly reflect differences across states in system features and cultural norms, as well as other state-specific variables that we did not control for in the regression.

CRITERIA FOR COMPARING STATES ON WORKER OUTCOMES

We characterize an individual state's performance by comparing its outcomes to the median of the study states or to other states. We often use the terms *higher, somewhat higher*, *lower, somewhat lower*, and *typical* or *similar to* for such comparisons.[23] These terms are summarized in Table 2.3. States are characterized as *higher* or *lower* (including *somewhat higher* and *somewhat lower*) if the difference between the state and the median of the 15 study states satisfied two conditions: (1) the difference is large enough to be meaningful from the policy perspective (i.e., greater than a pre-determined threshold that we chose for the variable), and (2) the difference is significant from the statistical perspective.[24] For instance, for measures expressed in percentage terms, *higher* means 5 or more percentage points above the median, *somewhat higher* means 3 to 4 percentage points above the median, *lower* means 5 or more percentage points below the median, *somewhat lower* means 3 to 4 percentage points below the median, and *similar* means within 3 percentage points above or below the median state's value. We used 5- and 10-point thresholds for recovery measures[25] and 2- and 4-week thresholds for the time from injury to first substantial return to work (Table 2.3).

Our choice of thresholds for these comparisons reflects our desire to highlight differences between the state and the median (or a neighboring state) that are meaningful. We realize that these specific thresholds may not satisfy the needs of all system stakeholders. If the states differ by 3 or 4 percentage points, some policymakers may consider the differences to be meaningful and some may not. The choice may also depend on the underlying variation in measures across the 15 states. If the measure varies from 7 to 15 percent, a 3 percentage point difference is unlikely to be perceived as insignificant from a policy perspective. Since we provide specific estimates for each of the states, readers can apply their own thresholds that they view as appropriate for each of the measures.

We typically found that when two measures are different from the policy perspective (i.e., the difference is greater than a threshold of 3 percentage points), they are also different from the statistical perspective. For instance, 11 percent of workers in Minnesota did not achieve a substantial return to work within three years after the injury. This was lower than what we found in a typical study state (14 percent). This difference is meaningful from the policy perspective (3 percentage points lower) and significant from the statistical perspective.

However, there are two reasons why we characterize a state as similar to the median state even though the differences meet the thresholds in Table 2.3. First, these differences are sometimes not statistically significant at the 10 percent significance level. Note that those differences may still be statistically significant at a different statistical significance level. Second, the differences presented in tables may be smaller than our threshold due to rounding. What appears as a 3 percentage point difference in rounded numbers may be a 2.5 percentage

[23] Note that we use the following phrases interchangeably to refer to states that are not characterized as higher or lower in this report—*similar to the median state* or *in the middle of the range of states* or *typical of the study states.*

[24] Any differences between states that are not statistically significant at the 10 percent level are characterized in our tables as *similar.* The reader should remember that differences that are not statistically significant in this analysis might be significant in an analysis with a larger sample size.

[25] We characterized states within 5 points above or below the median state's recovery score as similar in this study. Our choice was driven by the consideration that SF-12® scores are scaled so that each 5 points represents one-half of a standard deviation in the distribution of scores and because a 5 point difference in scores was suggested as a minimally important difference in SF-12® and SF-36® scores following certain diagnosis and interventions. For example, Clement, Macdonald, and Simpson (2014) identified that the minimal clinically important difference in the physical component of the SF-12® score was 4.5 after a total knee arthroplasty. Angst, Aeschlimann, and Stucki (2001) found that the minimal clinically important difference ranged from 3.3 to 5.3 points on the physical function dimension and 7.2 to 7.8 points on the bodily pain dimension in patients with osteoarthritis.

point difference in underlying estimates. We identify both of these types of occurrences with notes in our tables, and we provide detailed information for making our comparisons in Table TA.C5.[26]

We sometimes also observe that a 1 or 2 percentage point difference between the state and median values is statistically significant at the 10 percent significance level. We do not want to highlight such comparisons since they may not be meaningful from the policy perspective—a 1 percentage point difference in rates of return to work may not justify a different policy approach. In those cases we call the two measures similar. Detailed information used to construct characterizations of differences across states is provided in Table TA.C5.

Table 2.3 Terms We Use to Describe a State's Performance

Multistate Values	Comparison with Median State or a Neighboring State		
	Percentage Measures (e.g., % "very dissatisfied" with overall care)	**Recovery of Physical Health and Functioning[a]**	**Time from Injury to First Substantial Return to Work (median weeks)**
Higher	5 or more percentage points above median/other state	10 or more points of SF-12v2® score above median/other state	4 or more weeks above median/other state
Somewhat higher	3 to 4 percentage points above median/other state	5 to 9 points of SF-12v2® score above median/other state	2 to 3 weeks above median/other state
Lower	5 or more percentage points below median/other state	10 or more points of SF-12v2® score below median/other state	4 or more weeks below median/other state
Somewhat lower	3 to 4 percentage points below median/other state	5 to 9 points of SF-12v2® score below median/other state	2 to 3 weeks below median/other state
Typical or similar to	Within 3 percentage points from median/other state	Within 5 points of SF-12v2® score of median/other state	Within 2 weeks from median/other state

[a] Increase in the SF-12v2® score from the week after the injury to the time of the interview. A higher score indicates better recovery. SF-12v2® scores range from 0 to 100. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

[26] Table TA.C5 provides the statistical significance levels from tests of difference between outcomes for Kentucky and the 15-state median. These tests examine whether the differences were due to chance or because of a true difference between the two groups. Statistical methods are designed to determine the likelihood that the observed difference between the cases could have occurred just because of sampling variation. If this probability is lower than a specified threshold (e.g., 10 percent), the finding is said to be statistically significant at that level.

3

WORKER OUTCOMES IN KENTUCKY

This chapter provides a comparison of worker outcomes across 15 study states, including Kentucky. We examine the key outcomes that policymakers commonly seek to measure:

- Recovery of physical health and functioning
- Return to work
- Earnings recovery
- Access to medical care
- Satisfaction with medical care

We also present several measures that provide a state-specific context behind some of the worker outcome measures presented above.

These worker outcome measures, when combined with measures of cost and other metrics, give policymakers and system stakeholders powerful information about system performance. Other WCRI studies supplement information presented in this study by examining, among other things, medical costs, system litigiousness, timeliness of payment (see Telles and Flanagan, 2016), medical prices (Yang and Fomenko, 2015), and prices for outpatient surgeries (Fomenko and Yang, 2015).

RECOVERY OF HEALTH AND FUNCTIONING

Table 3.1 compares the average self-reported preinjury health and functioning score, as well as self-reported severity and recovery scores, of injured workers in Kentucky with the values in the 14 other states as well as the median state.[1]

- Average physical health and functioning before the injury did not vary much across the 15 states in our study—it was between 56 and 58 points of the SF-12v2® score.
- Average perceived injury severity was also similar across all 15 states. It varied between 29 and 32 points of the SF-12v2® score.
- Average recovery of physical health and functioning was also similar among these 15 states. The average perceived recovery score in Kentucky was similar to the median state in our study at 17 (scores ranged from 17 to 21; a higher score means better recovery).

[1] Severity and recovery scores were constructed based on workers' responses to SF-12v2® questions asked about three points in time. The difference between the worker's health status (SF-12v2® score) before the injury and after the injury provides the measure of severity. The difference between the worker's health status after the injury and at the time of the interview (about three years after the injury) is the measure of the worker's recovery. Readers can refer to Chapter 2 and Technical Appendix B for a more thorough discussion of the measurement of health status, severity, and recovery.

Table 3.1 Average Injury Severity and Recovery of Health and Functioning in 15 States

	Comparison of States' Outcomes															KY Compared with 15-State Median
Mean SF-12v2® physical health and functioning score[a]																
Preinjury health and functioning score	WI	IN	CT	MN	PA	IA	MI	AR	VA	TN	**KY**	MA	FL	NC	GA	
	56	56	56	56	56	57	57	57	57	57	**57**	57	57	58	58	Similar
Perceived injury severity (more negative is more severe)	IA	WI	CT	MN	IN	PA	MA	TN	MI	GA	NC	VA	AR	**KY**	FL	
	-29	-29	-29	-30	-30	-30	-30	-31	-31	-31	-31	-31	-32	**-32**	-32	Similar
Perceived recovery (more positive is better recovery)	AR	GA	**KY**	FL	TN	IA	NC	VA	MN	PA	CT	MA	MI	IN	WI	
	17	17	**17**	18	18	18	18	18	19	19	19	19	21	21	21	Similar

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

The measures of preinjury health and functioning and perceived injury severity are not case-mix adjusted. The measure of perceived recovery is case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher*, *higher*, *somewhat lower*, or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3. Details on statistical significance are provided in Table TA.C5.

[a] SF-12v2® scores range from 0 to 100. A higher score indicates better health. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

RETURN TO WORK

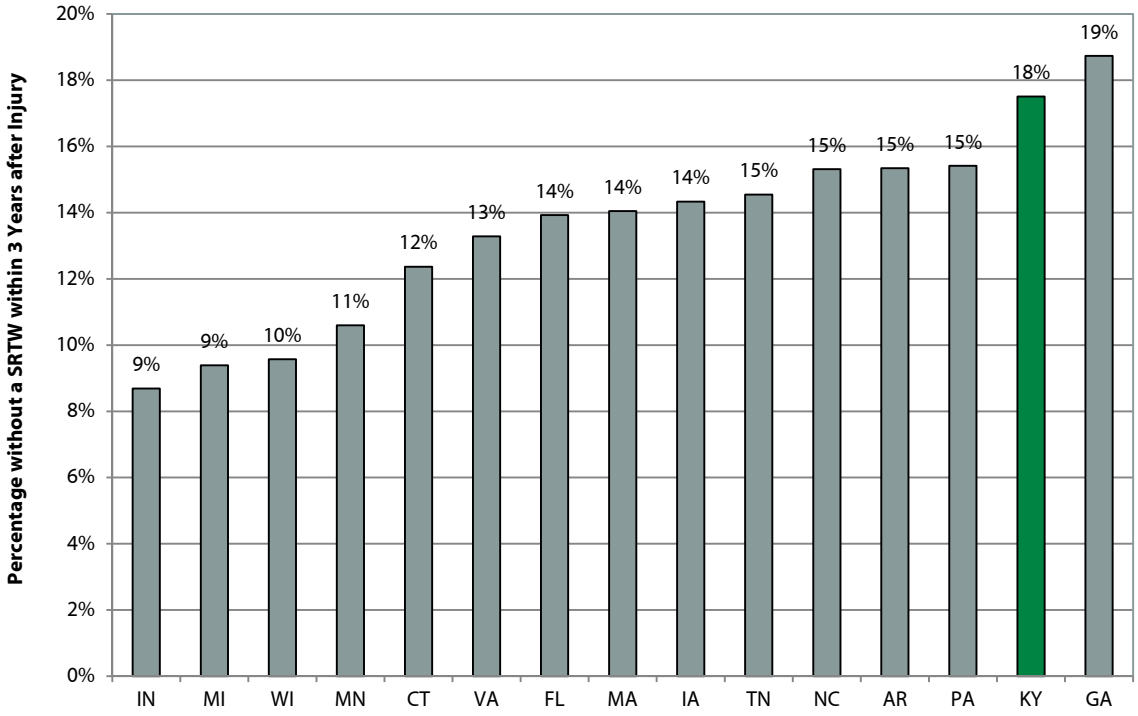
A commonly expressed goal of workers' compensation systems is to return injured workers promptly to employment. This section discusses multiple measures designed to capture various aspects of return to work that may be relevant to policymakers and stakeholders across states. One of these measures captures the percentage of workers who had a return to work. However, a prompt return to work may not meet the goals of the workers' compensation system if the worker is unable to remain in his/her job for longer than a brief period. To address this concern, we asked workers about the sustainability of their first return to work—whether they returned to work for at least one month.[2] We then asked those who had returned to work for at least a month whether they had any subsequent work absences that were due to their injuries, and whether they returned to work too soon. This section also shows the time between the injury and when workers were able to achieve a return to work that lasted at least 30 days.

Eighteen percent of workers in Kentucky reported not having a substantial return to work predominantly due to the injury, which was among the highest of the study states (Figure 3.1). There were large differences (9–19 percent) among the states in the share of workers who either never returned to work or returned to work but never worked for at least 30 consecutive work days predominantly due to the injury.[3] Compared with Kentucky, six states (Indiana, Michigan, Wisconsin, Minnesota, Connecticut, and Virginia) had a lower proportion of workers who were unable to achieve substantial return to work (see Table TA.C6).

[2] We do not mean to imply that one month back at work implies a successful return to work. We use this to distinguish from the conventional measure—any return to work, however brief. Certainly, one could consider other periods as indicators of a meaningful and sustained period of return to work. Had we selected a longer or shorter period, the proportion of persons responding that they were unable to return to work due to their injuries would have been greater or smaller, respectively.

[3] In this study, we use the term *substantial return to work* to refer to workers who returned to work and remained working for at least 30 consecutive work days before any subsequent absence from work. We are not saying that working for at least 30 days is substantial but that working for 30 days is more substantial than a typical return to work not lasting for at least 30 days.

Figure 3.1 Percentage of Workers Who Never Returned to Work or Returned to Work but Never Sustained Employment for at Least 30 Days Due to the Injury



Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

Key: SRTW: substantial return to work.

- Table 3.2 highlights several other dimensions of return-to-work outcomes:
  - Seventeen percent of workers in Kentucky reported not working at the time of the interview (on average about three years after the injury). This was similar to the 15-state median (15 percent). Across the study states, between 11 and 19 percent of workers reported not working at the time of the interview.
  - Thirteen percent of Kentucky workers reported that they had never returned to work predominantly due to their injuries (Table 3.2). This was similar to the median of the 15 study states (11 percent) but higher or somewhat higher than the rate reported in five study states.

Table 3.2 Additional Return-to-Work Outcomes in Kentucky and Other Study States, Case-Mix Adjusted

	Comparison of States' Outcomes															KY Compared with 15-State Median
Return to work (as of 3 years postinjury)																
Percentage not working at interview due to injury	IN	MN	MI	WI	VA	IA	FL	CT	TN	AR	**KY**	MA	PA	GA	NC	
	11%	12%	12%	12%	13%	13%	14%	15%	16%	16%	**17%**	17%	17%	17%	19%	Similar
Percentage never returned to work due to injury	IN	WI	IA	MN	MI	MA	CT	VA	NC	AR	PA	FL	TN	**KY**	GA	
	7%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%	12%	12%	**13%**	15%	Similar
Percentage never returned to work or returned to work but never sustained for at least 30 days due to injury	IN	MI	WI	MN	CT	VA	FL	MA	IA	TN	NC	AR	PA	**KY**	GA	
	9%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	**18%**	19%	Somewhat Higher
Time from injury to first substantial return to work (median weeks)[a]	IA	MN	CT	AR	WI	MA	VA	TN	IN	MI	FL	PA	NC	**KY**	GA	
	9	9	9	9	10	10	11	11	11	12	12	12	13	**13**	13	Similar[b]
Percentage with no substantial return to work 1 year postinjury due to injury	IN	WI	MN	MI	CT	IA	VA	FL	PA	AR	TN	MA	NC	**KY**	GA	
	11%	11%	13%	13%	14%	16%	16%	17%	17%	18%	18%	19%	19%	**20%**	23%	Somewhat Higher
Among workers with return to work that lasted at least 30 days																
Percentage with substantial return to work who had second absences due to the same injury	IN	MI	WI	MA	AR	FL	IA	PA	GA	VA	TN	NC	**KY**	MN	CT	
	10%	12%	12%	13%	14%	14%	14%	14%	15%	15%	15%	17%	**18%**	18%	19%	Similar[c]
Percentage reporting that they returned to work too soon	FL	MI	MA	NC	GA	WI	TN	CT	**KY**	MN	PA	AR	IN	IA	VA	
	31%	33%	33%	35%	36%	37%	37%	38%	**38%**	39%	40%	41%	41%	42%	43%	Similar

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher*, *higher*, *somewhat lower*, or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3. Details on statistical significance are provided in Table TA.C5.

[a] For workers who did not have a substantial return to work at the time of the interview, we assigned duration equal to the number of weeks between the injury and the interview.

[b] The value does not meet the policy importance threshold, although the difference is statistically significant.

[c] The difference from the 15-state median is not statistically significant at the 10 percent level.

We further asked those who had returned to work for at least a month whether they had any subsequent work absences that were due to their injuries and whether they felt that they returned to work too soon (Table 3.2).

- Of those who had a substantial return to work in Kentucky, 18 percent had a second absence from work due to the same injury—similar to the median of the study states.[4] In other states this measure ranged from 10 to 19 percent. Workers in three states (Indiana, Michigan, and Wisconsin) had lower rates of second absences compared with workers in Kentucky.[5]
- Thirty-eight percent of workers in Kentucky who had a substantial return to work reported that they returned to work too soon, which is similar to the 15-state median. Across all states, we found that

[4] As we show in Table TA.C5, the difference between the Kentucky value and the value for the median was more than 3 percentage points, but the difference is not statistically significant at the 10 percent level, although it is statistically significant at the 20 percent level. The reader should remember that differences that are not statistically significant in this analysis might be significant in an analysis with a larger sample size.

[5] As we show in Table TA.C6, the difference in values of the variable between Kentucky and these three states was meaningful from both statistical and policy perspectives.

workers who had a second absence were much more likely to indicate that they had returned to work too soon after their injuries—58 percent of workers across the 15 study states who had a second absence responded that they returned to work too soon, compared with 31 percent of those who did not have a second absence.

Another set of return-to-work measures pertains to the speed at which injured workers were able to return to work. The speed of return to work should be related to the time required for the worker to heal sufficiently and for an opportunity to arise to return to work (at the preinjury job or another job). The specific outcome measures for speed of first substantial return to work are the median time from injury to substantial return to work (Table 3.2) and the distribution of weeks from injury to return to work among those with substantial return to work (Table 3.3).

- Kentucky was in the higher group of states on the measure of time before substantial return to work—a typical worker took 13 weeks to achieve substantial return to work (Table 3.2). This was not different from the median study state,[6] but it was higher or somewhat higher than what we observed in seven of the study states.[7]
- Kentucky had 25 percent of workers with a substantial return to work who had more than three months away from work. Across other states, between 15 and 26 percent of workers who had a substantial return to work spent at least three months away from work (Table 3.3).

Table 3.3 Distribution of Speed of Initial Return to Work for Those Who Returned to Work and Remained Working for at Least 30 Days

	MN	IA	AR	WI	CT	FL	MA	TN	IN	PA	VA	MI	GA	KY	NC	High	Low	Median
% of workers by duration from injury to initial return to work that lasted at least 30 days (among those with such a return to work)																		
< 5 weeks	51%	48%	48%	47%	45%	43%	43%	42%	41%	40%	40%	38%	38%	37%	36%	51%	36%	42%
5 weeks to < 3 months	33%	35%	35%	35%	36%	37%	37%	37%	37%	38%	38%	38%	38%	38%	38%	38%	33%	37%
3 months to < 6 months	9%	10%	10%	10%	11%	11%	12%	12%	12%	13%	13%	13%	13%	14%	14%	14%	9%	12%
6 months to < 1 year	5%	5%	5%	5%	6%	6%	6%	6%	7%	7%	7%	7%	8%	8%	8%	8%	5%	6%
1 year or longer	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	4%	4%	2%	3%

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

Sorted by increasing percentage of workers with five or more weeks before substantial return to work.

The surveys also provide information for stakeholders interested in examining whether injured workers in their states were able to go back to their preinjury employers and their preinjury jobs or whether they had a new employer (Table 3.4). These measures provide state-specific context for the outcomes presented in the report and are not case-mix adjusted. The measures are based on responses of workers who had a substantial return to work.

- Among Kentucky workers who returned to work and remained working for at least 30 days, 24 percent

[6] As we show in TA.C5, the difference between the Kentucky value and the value for the median state was just under two weeks of duration of time before substantial return to work.

[7] As we show in Table TA.C6, the differences between Kentucky and these states were also statistically significant.

had different job duties at the at-injury employer or a new employer predominantly due to the injury (Table 3.4).

Table 3.4 Workers Changing Employers or Duties at the Time of Return to Work

	Kentucky	15 Study States		
		High	Low	Median
Among those who returned to work and remained working for at least 30 days:				
Changed employer due to injury	8%	10%	2%	5%
Had different occupation or job duties at the at-injury employer or new employer due to injury	24%	37%	19%	25%

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

Measures presented in this table are not adjusted for differences in case mix. These measures provide state-specific context to measures provided in other tables and are not the focus of interstate comparisons.

EARNINGS RECOVERY

The surveys inquired about workers' earnings losses by asking workers whether they were earning "a lot less" than their preinjury earnings predominantly due to the injury. Note that workers were given three choices in the survey—"more," "less," or "the same." If they said "less," they were asked if it was "a little less" or "a lot less."[8]

- In Kentucky, 7 percent of workers who had a substantial return to work reported that their earnings at initial substantial return to work were "a lot less" than their earnings at the time of the injury, predominantly due to the injury. This was similar to what we observed in the median of the study states (8 percent). Note that for the majority of states we did not find much variation in this measure—in most states, between 6 and 8 percent of workers reported earning "a lot less" at the time of substantial return to work. A somewhat higher rate of earning "a lot less" was reported by workers in Florida and Minnesota (11 percent).

Table 3.5 Earnings Recovery in 15 States

	Comparison of States' Outcomes															KY Compared with 15-State Median
Percentage who reported earning "a lot less" due to injury at the time of substantial return to work	WI	**KY**	VA	MI	TN	PA	AR	IN	GA	CT	NC	IA	MA	FL	MN	
	6%	**7%**	7%	7%	8%	8%	8%	8%	8%	8%	8%	9%	9%	11%	11%	Similar

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher*, *higher*, *somewhat lower*, or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3. Details on statistical significance are provided in Table TA.C5.

[8] In this report, we present the percentage of workers who reported earning "a lot less" at the time of the interview predominantly due to their injuries because of the policy interest in workers who might have suffered the largest earnings losses.

ACCESS TO CARE

Access to care is another worker outcome measure important to system stakeholders. We measure access to care by asking workers whether they had problems getting the care they or their primary provider wanted.[9] Although the majority of workers in our study states reported "no problems" getting the provider that they wanted (Table 3.6), a substantial number of workers reported having "big problems" getting desired services.

- In Kentucky, 18 percent of workers reported "big problems" getting the care that they or their primary provider wanted. This result was similar to the median study state but higher than what was observed in four states (Wisconsin, Michigan, Pennsylvania, and Massachusetts), where 11 to 14 percent of workers reported having "big problems" accessing services.[10]

Table 3.6 Access to Care in Kentucky and Other Study States, Case-Mix Adjusted

	Comparison of States' Outcomes															KY Compared with 15-State Median
Problems getting desired medical services																
Percentage reporting "no problems" getting services they or their primary provider wanted	FL	**KY**	GA	NC	TN	AR	IN	IA	MN	VA	CT	MA	PA	MI	WI	
	65%	**68%**	68%	70%	70%	70%	71%	71%	71%	71%	72%	74%	77%	78%	80%	Similar
Percentage reporting "big problems" getting services they or their primary provider wanted	WI	MI	PA	MA	CT	VA	MN	IA	IN	AR	TN	NC	GA	**KY**	FL	
	11%	12%	13%	14%	16%	16%	16%	17%	17%	17%	17%	17%	18%	**18%**	21%	Similar
Problems getting desired provider																
Percentage reporting "no problems" getting the primary provider they wanted	FL	IN	NC	TN	IA	AR	GA	CT	MI	PA	**KY**	MA	VA	MN	WI	
	69%	69%	70%	71%	72%	73%	74%	77%	77%	78%	**78%**	79%	79%	81%	84%	Similar
Percentage reporting "big problems" getting the primary provider they wanted	WI	MN	VA	MA	**KY**	PA	MI	CT	GA	AR	IA	TN	NC	IN	FL	
	9%	11%	13%	13%	**13%**	13%	14%	14%	16%	16%	18%	18%	19%	19%	20%	Similar

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher*, *higher*, *somewhat lower*, or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3. Details on statistical significance are provided in Table TA.C5.

Table 3.6a provides additional context for understanding the reasons behind workers' responses about problems getting desired medical services. Most commonly, workers who reported "big problems" getting desired medical services responded that the employer or insurer did not want this care provided.[11] We cannot determine how often the care in question was "necessary" and how often it was discouraged because it was "unnecessary."

[9] Workers were given three choices to answer whether they had problems getting the care they or their primary provider wanted: "no problems," "small problems," or "big problems."

[10] As we show in Table TA.C6, the differences between Kentucky and these four states are statistically significant.

[11] In this section, we present the reasons reported by workers who had "big problems" getting the care that they or their primary provider wanted. We made this choice because the issues faced by workers with bigger access problems might be of greater policy interest.

Table 3.6a Reasons for "Big Problems" Getting Desired Medical Services (among those who reported "big problems")

	Kentucky	15 Study States		
		High	Low	Median
Among those who reported "big problems" getting desired medical services:				
Employer or insurer did not want the care provided	54%	59%	25%	45%
Medical professional was not willing to give the care	19%	34%	6%	19%
There was difficulty in diagnosing the condition	27%	27%	5%	17%
Medical professional was not willing to send worker to a specialist	10%	21%	2%	10%
Worker could not get an appointment soon enough	8%	16%	2%	4%
Travel was too difficult to arrange	3%	7%	0%	3%
All other reasons	31%	31%	16%	21%

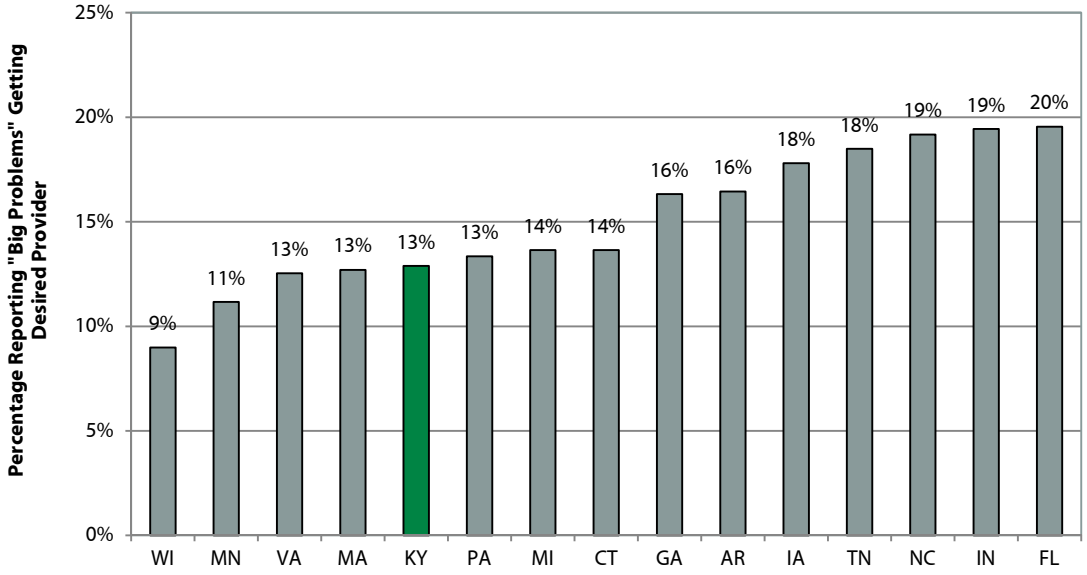
Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Not adjusted for differences in case mix.

Workers could choose multiple responses; therefore, the estimates may not add up to 100.

Unadjusted outcomes are reported because this table shows the types of concerns expressed by injured workers in each state, and the focus is not on interstate comparisons.

Thirteen percent of workers in Kentucky reported "big problems" getting the primary provider that they wanted (Figure 3.2 and Table 3.6). This outcome was similar to what we observed in the median of the study states. This measure was somewhat higher than what was reported by injured workers in Wisconsin, although it was somewhat lower than in Arkansas and Iowa and lower than in four other states in our analysis (Tennessee, North Carolina, Indiana, and Florida).

Figure 3.2 Percentage of Workers Reporting "Big Problems" Getting Desired Primary Provider



Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

When asked about reasons for their responses, the majority of workers who reported "big problems" getting their desired primary provider responded that the employer or insurer discouraged the worker from using the medical provider they wanted (Table 3.6b).

Table 3.6b Reasons for "Big Problems" Getting Desired Medical Provider (among those who reported "big problems")

	Kentucky	15 Study States		
		High	Low	Median
Among those who reported "big problems" getting their desired primary provider:				
Employer or insurer discouraged worker from using the desired medical provider	53%	63%	36%	55%
Worker could not get an appointment soon enough	5%	17%	0%	9%
Travel was too difficult to arrange	7%	10%	1%	5%
Medical professional would not take workers' compensation patients	5%	9%	1%	4%
Medical professional was not taking new patients	0%	6%	0%	0%
All other reasons	40%	48%	23%	33%

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Not adjusted for differences in case mix.

Workers could choose multiple responses; therefore, the estimates may not add up to 100.

Unadjusted outcomes are reported because this table shows the types of concerns expressed by injured workers in each state, and the focus is not on interstate comparisons.

SATISFACTION WITH CARE

The overwhelming majority of workers reported being "somewhat" or "very" satisfied with their health care—71–84 percent of workers in the 15 study states. Kentucky was in the middle group of states on this measure (80 percent) (Table 3.7).

In Kentucky, 13 percent of workers reported being "very dissatisfied" with overall care, similar to what we observed in the median study state. Responses for this measure varied across states—somewhat fewer workers in Wisconsin and Massachusetts (10 percent) reported being "very dissatisfied," while somewhat higher or higher percentages of workers in Iowa, Arkansas, Tennessee, Georgia, and Florida were dissatisfied with care compared with Kentucky (16 to 20 percent).

Many workers also expressed satisfaction with their primary provider—78–91 percent of workers across the study states (Table 3.7).

Compared with the typical study state, a somewhat lower percentage of workers in Kentucky wanted to change their initial provider due to dissatisfaction with care.

Table 3.7 Satisfaction with Overall Care and Primary Providers

	Comparison of States' Outcomes															KY Compared with 15-State Median
Satisfaction with health care																
Satisfaction with overall care																
	FL	GA	TN	AR	IA	VA	MN	IN	PA	NC	MI	CT	**KY**	MA	WI	
Percentage who were "somewhat" or "very" satisfied	71%	73%	74%	75%	76%	78%	78%	78%	79%	79%	79%	80%	**80%**	84%	84%	Similar
	WI	MA	**KY**	CT	MI	NC	PA	IN	MN	VA	IA	AR	TN	GA	FL	
Percentage who were "very dissatisfied"	10%	10%	**13%**	13%	13%	14%	14%	14%	14%	14%	16%	16%	17%	18%	20%	Similar
Satisfaction with primary provider																
	FL	PA	IA	GA	AR	TN	NC	VA	IN	MI	MN	CT	**KY**	MA	WI	
Percentage who were "somewhat" or "very" satisfied	78%	79%	79%	80%	80%	81%	82%	82%	83%	85%	85%	86%	**86%**	88%	91%	Somewhat Higher
	WI	MA	**KY**	CT	MN	MI	IN	VA	NC	TN	AR	GA	IA	PA	FL	
Percentage who were "very dissatisfied"	6%	7%	**9%**	9%	9%	10%	11%	11%	12%	12%	13%	13%	14%	14%	14%	Similar[a]
Percentage who ever wanted to change provider because of dissatisfaction with care																
	WI	MA	MN	VA	**KY**	CT	IN	GA	FL	MI	NC	TN	PA	IA	AR	
Initial provider	17%	19%	21%	22%	**22%**	26%	26%	26%	27%	27%	27%	27%	27%	27%	30%	Somewhat Lower
	MA	MI	**KY**	WI	CT	MN	IN	GA	IA	AR	NC	PA	VA	TN	FL	
Primary non-initial provider	9%	11%	**14%**	14%	15%	17%	18%	20%	20%	21%	23%	24%	25%	25%	26%	Lower

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher*, *higher*, *somewhat lower*, or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3. Details on statistical significance are provided in Table TA.C5.

[a] The value does not meet the policy importance threshold, although the difference is statistically significant.

4

Discussion

The outcomes examined in this report are important to many workers when they have a workplace injury. Not coincidentally, these outcomes are commonly raised in significant public policy debates about the performance of workers' compensation systems. However, they are often raised by advocates in the form of assertions or anecdotes due to a lack of credible data. The WCRI worker outcomes studies seek to ground those discussions in data on the outcomes achieved by workers. In this section, we highlight several uses of the data relevant from a policy perspective and reflect on other questions that may also be on system stakeholders' minds.

Reflections about Interstate Comparisons of Worker Outcomes

The interstate comparisons presented in this report provide several important observations for the policy community.

The study allows policymakers to compare outcomes in their states to those observed in other states. For instance, for policymakers concerned about whether or not injured workers in their states have adequate access to quality care, this study provides information about the proportion of workers that reported having problems accessing desired medical care and the reasons they identified underlying these problems. Policymakers can compare results in their states to those found in other states (perhaps neighboring states) or the 15-state median. Policymakers trying to determine the performance of the workers' compensation systems in their states are likely to first consider the examples from neighboring states or states in the same region. This is expected given that neighboring states are the most likely competitors for new businesses. Therefore, we chose to highlight those comparisons to neighboring states or states from a similar region where relevant.

The analysis provides a way to benchmark and compare workers' compensation systems across different dimensions. However, the outcomes presented do not reflect judgements about system performance. Priorities for achieving different system goals may differ across jurisdictions. It is the role of stakeholders to determine how different system objectives can be achieved.

One common finding in this series of reports is that despite differences in underlying workers' compensation system features, we found relatively small differences in important outcomes across states. For instance, we found that the rate of substantial return to work was similar in 9 out of 15 states with diverse system features (within 3 percentage points). We observed less than a 5 point difference between states in the average recovery of health and functioning measured by the SF-12v2® score.[1] For other worker outcome

[1] For more information about the SF-12v2® and its widespread use and acceptance, see https://campaign.optum.com/optum-outcomes/what-we-do.html.

measures, we found only small differences across the majority of study states.

The findings also suggest that differences in outcomes across states likely reflect a combination of multiple system features, not just a single policy feature. This means that readers should be discouraged from linking, for example, fee schedule approaches in a state to the satisfaction with overall medical care. Consider how these measures compare in Massachusetts and Wisconsin. These two states have very different approaches towards medical fee schedules—a fixed-amount fee schedule in Massachusetts versus no fee schedule in Wisconsin. At the same time, the two states had very similar rates of satisfaction with care—10 percent of workers in both states responded that they were "very dissatisfied" with overall care, the lowest rates across study states. On the other hand, Massachusetts and Tennessee have similar fee schedule approaches but 17 percent of workers in Tennessee reported being "very dissatisfied" with overall care. This suggests that bivariate relationships between a given policy and worker outcomes are unlikely to reveal the true relationship when multiple system features may play a role.[2] Future WCRI studies may examine the relationship between specific system features and worker outcomes.

WORKER OUTCOMES AND COSTS OF MEDICAL CARE

One natural question about the performance of the workers' compensation system is how the outcomes reported by injured workers align with medical costs. This question reflects a consideration that when medical costs for a given injury are higher in a particular state compared with other states, workers in that higher-cost state should experience better outcomes for that injury. One should expect that more expensive (and more extensive) medical treatment should result in better recoveries for workers after their injuries, thereby increasing the workers' ability to return to substantial and sustainable employment. To justify the higher costs paid by employers, we should find that injured workers with similar injuries in states with higher medical costs per claim have better outcomes than workers with the same injuries in states that deliver medical care at a lower cost. Similarly, if medical costs in a particular state are rising, worker outcomes should be improving relative to outcomes observed when the state's costs were lower.

Figure 4.1 shows that medical payments per claim in Kentucky for claims in our sample were typical of the study states.[3] We found large differences in medical payments per claim across the states in our study. In four of the study states (Iowa, Indiana, Wisconsin, and Virginia), the average medical payments per claim with more than seven days of lost time were at least 15 percent higher than what was observed in a typical study state. In two more states (Massachusetts and Michigan), the average medical costs per claim were at least 15 percent lower than typical.[4]

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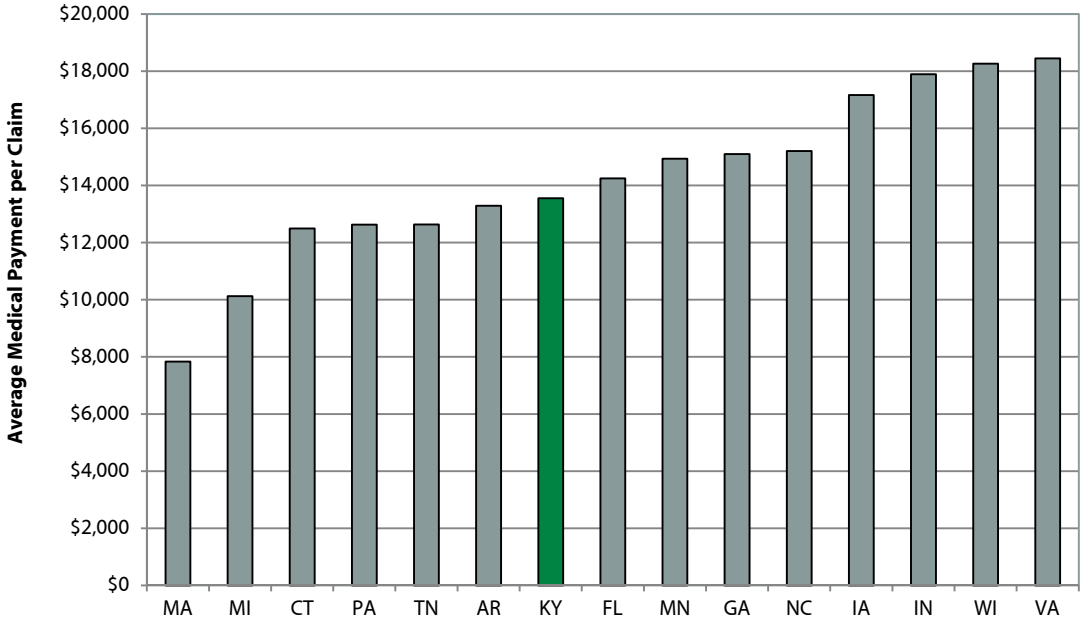
[2] Readers interested in learning more about system features in study states may refer to other WCRI publications including *Workers' Compensation Laws as of January 1, 2016* (WCRI and IAIABC, 2016) and *Workers' Compensation Medical Cost Containment: A National Inventory, 2015* (Tanabe, 2015).

[3] Differences in medical payments across states may reflect differences in utilization of medical care and differences in prices for medical services. A prior WCRI study that examined differences in medical prices across 31 states showed that average prices for workers' compensation professional services in Kentucky were 26 percent lower than the median study state (Yang and Fomenko, 2015). A prior WCRI study examining differences in hospital outpatient payments per claim across 33 states showed that average facility payments for hospital outpatient surgeries in Kentucky were 31 percent lower than the median study state (Fomenko and Yang, 2015).

[4] We have also examined how the ranking of medical costs in this study compared with what was reported in WCRI's CompScope™ reports for 36-month maturity data. For the majority of the states, the rankings were similar. For example, medical payments per claim in Indiana, Iowa, Virginia, and Wisconsin were higher than typical in both analyses; medical payments per claim in Arkansas, Florida, Georgia, Minnesota, North Carolina, and Pennsylvania were typical in both analyses; and medical payments per claim in Massachusetts and Michigan were lower than typical in both studies. There are, however, some differences in characterization (when results presented here were compared with what was presented

Figure 4.1 Average Medical Payment per Claim for Claims with More than 7 Days of Lost Time at 24 Months' Maturity



Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

Findings about medical payments per claim in Kentucky, combined with the findings for key outcomes in the report, suggest that Kentucky employers paid medical costs per claim that were typical of the study states, while workers reported typical outcomes on most of the measures and somewhat lower rates of achieving substantial return to work.

There may be opportunities to further improve the system for injured workers in Kentucky since analysis states have examples where workers reported typical outcomes on most measures while medical costs were also typical. For instance, injured workers in Pennsylvania reported outcomes that were similar on most key measures to those reported in Kentucky, with the exception of a lower rate of problems getting desired medical services. The costs in those two states were similar. In another example, injured workers in Michigan reported similar recovery of health and functioning, higher rates of achieving substantial return to work, lower rates of problems getting desired medical care, similar rates of problems getting desired primary provider, and similar rates of dissatisfaction with overall medical care compared with workers in Kentucky, although medical costs in Michigan were lower.

At the same time, states neighboring Kentucky had slightly different patterns of relationships between worker outcomes and medical costs. For instance, injured workers in Tennessee reported similar recovery of health and functioning, similar rates of achieving substantial return to work, similar rates of problems getting desired medical care, higher rates of problems getting desired primary provider, and somewhat higher rates of dissatisfaction with overall medical care compared with workers in Kentucky, although medical costs in the

in the 16th edition of the CompScope™ reports). For instance, medical costs in Kentucky were 14 percent lower than typical in the CompScope™ analysis. We have not conducted a recent CompScope™ study for Connecticut or Tennessee.

two states were similar. Injured workers in Indiana reported similar recovery of health and functioning, higher rates of achieving substantial return to work, similar rates of problems getting desired medical care, higher rates of problems getting desired primary provider, and similar rates of dissatisfaction with overall medical care compared with workers in Kentucky, although medical costs in Indiana were higher.

These findings indicate that there may be opportunities to improve the system for injured workers in Kentucky, although the experiences from neighboring states suggest that these opportunities may be limited.

Note that these comparisons of worker outcomes and medical costs per claim are not without caveats. Contrasting worker outcomes against employer costs is a challenging proposition. First, medical costs may not be the only factor associated with the interstate differences in worker outcomes. Another factor not captured by medical costs is the difference in motivation of workers to return to work, while the general economic environment in the state could also contribute to the differences in worker outcomes. Second, one may not be able to observe a full set of outcomes that may be of interest in a given state. While we examine a large set of worker outcome measures covering many aspects of postinjury experience, we do not claim to have a complete list of measures relevant for a given state. Third, we do not know the values that policymakers may attribute to different worker outcome measures. If a state has higher-than-typical return-to-work outcomes but is lower than typical in terms of access to care, then different people may come up with different characterizations of overall outcomes achieved by injured workers in the state. Some readers may consider return to work to be the most important outcome, while other readers may consider access to care to be the most important. Finally, we do not account for multiple system features that may determine costs and worker outcomes across states. Those different system features need to be accounted for in subsequent studies that look at how worker outcomes may differ across system features.

NEXT STEPS

This report is part of Phase 3 of a multi-phase study with at least four phases. The overall objective of this phase was to benchmark the performance of a large number of state systems in order for policymakers and stakeholders to identify and prioritize opportunities to improve system performance.

In the next phase of this study, we intend to collect data from new states and revisit some of the states from earlier phases that had significant system reforms. We plan to evaluate the impact of selected reforms on worker outcomes by measuring outcomes before and after those reforms.

We look forward to reporting the results from all of the phases as they are obtained.

TECHNICAL APPENDIX A

OVERVIEW OF DATA COLLECTION AND METHODS

SURVEY DATA COLLECTION PROCEDURES

THE SURVEY INSTRUMENT

WCRI developed the worker outcomes survey in collaboration with Mathematica Policy Research (MPR), which also conducted the data collection. Our objective was to obtain information about the core outcomes experienced by injured workers who received medical care and income benefit payments from state workers' compensation systems. Development of the survey instrument was guided by the following considerations:

- The questions should maximize comparability across states.
- Results from other surveys would serve as norms with which to compare system performance and validate questions. We therefore regularly borrowed or adapted questions from other surveys (which we gratefully acknowledge). To preserve comparability, we avoided changing the language of borrowed questions whenever possible.
- The average interview time should not exceed 30 minutes to avoid respondent fatigue that could result in either terminated interviews or deteriorating quality of information received. This limitation required us to regularly make difficult choices about which potentially valuable questions to include and exclude.

The survey consists of seven sections.[1] Section A contains screening questions to confirm that the person being interviewed had a work injury and that the injury is the one we sampled.[2] Section B—the first of three sections dealing with the worker's physical health and functioning as it is self-reported—contains six physical and general questions taken from the often-used SF-12v2® battery.[3] The instrument is designed to ask about the respondent's recent experience. We used the instrument this way in asking about health status at the time of the interview. However, we also used the instrument to retrospectively ask about health status in the four weeks before the work injury occurred and in the week after the injury. Technical Appendix B discusses the evidence of validity of our retrospective use of the SF-12v2®. Section C deals with the health care treatment provided—specifically, issues of access to care, provider selection, and type of provider. Included in the section are several questions about worker satisfaction with their providers and care received. Section D contains the same SF-12v2® questions as in Section B but focuses on the one-week period immediately following the work injury. The questions in Section E target the worker's experience in the preinjury labor market, including the worker's earnings and job satisfaction. It also covers the worker's postinjury labor

[1] A copy of the survey can be found at www.wcrinet.org/Report_Appendix/wcri_sample_2014_survey.pdf. The same version of the survey was used for all states.

[2] We sampled workers injured in 2010 in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin. Connecticut, Iowa, and Tennessee workers were injured in 2011, and Arkansas workers were injured in 2010 and 2011. Florida, Georgia, and Kentucky workers were injured in 2012.

[3] SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum. The questions and scoring are described in Technical Appendix B.

market experience and status in the labor market at the time of the interview. Section F appraises the worker's health status at the time of the interview, using the full SF-12v2® battery (applied to the four weeks immediately preceding the interview). Section G asks for the worker's year of birth, education level, marital status, comorbid conditions, and whether he or she used an attorney's services.

The survey consists of several skip patterns, or paths of questions, that vary depending on the number and type of provider the worker saw or the nature of his or her return to work. Consequently, some workers completed their interviews in a shorter time than others whose circumstances warranted following different and longer paths. On average, the survey took about 30 minutes to complete.

In the past we have used similar surveys to measure worker outcomes in 11 states.[4] The survey instrument used for the recent set of surveys conducted in 2013, 2014, and 2015 was the first major revision of the survey in a decade. In an effort to minimize respondent burden, the survey instrument was shortened by deleting a few questions that were not often used in analysis and by altering the skip patterns. Another change made to the recent survey was the use of SF-12v2® in place of the original SF-12® questionnaire. In concept, such changes could reduce the comparability of the results from the old and new surveys. However, we have taken steps to ensure that the questions related to the main outcomes being reported did not change. The revised instrument was pretested on a small sample of injured workers, leading to minor modifications to improve the clarity of certain questions or terms. The survey instrument was translated to the Spanish version by MPR.

THE STATE SAMPLES

In Connecticut, Indiana, Michigan, Minnesota, Pennsylvania, Tennessee, Virginia, and Wisconsin, state agencies provided the workers' names and the contact information we needed to draw the sample. In Arkansas, Florida, Georgia, Iowa, Kentucky, Massachusetts, and North Carolina, the state agency requested that WCRI use data from insurers and employers to draw the sample. Prior to calling, we sent each potential respondent a letter describing the goals and format of the study, the privacy protections surrounding the study, and an opportunity to refuse to participate in the survey. Specifically, the letter told workers the following:

- "You are not required to take part in the survey, but your participation is extremely valuable."
- "Everything you tell us will be kept in the strictest confidence. Your name, address, and telephone number will only be used to contact you to participate in this study and for no other purpose. Your responses to our questions will NOT be shared with anyone outside of the research team – NOT the state, your employer or insurer. Upon completion of the survey your responses to our questions will be combined with those of others so that no one will know your specific answers. This study is strictly for academic purposes and our findings will be published and used to improve workers' compensation programs."
- "If you choose not to participate in this study, you can also use this toll-free number to let us know that you do not wish to be contacted in the future."

We selected samples in each state from the pool of claims contained in the WCRI Detailed Benchmark/Evaluation (DBE) database, which contains about one-half to two-thirds of the total claims in

[4] Belton and Liu (2009) provide analysis of worker outcomes in 11 states.

each state. Other WCRI studies show that these very large samples are representative of the full population of claims in each state (Telles, 2012; Telles 2013, Table TA.5). We sampled from claims with more than seven days of lost time—a period long enough for the injured workers to obtain income benefits in all states.[5] We did not sample from claims in the top and bottom 1 percentile of medical and/or indemnity costs. We also ensured that the claims available for sampling had adequately detailed medical data and complete contact information. We did this because we wanted to combine the information obtained from the surveys with other data in the DBE database for the purpose of analyzing response bias, validating certain survey responses, assisting the analysis for this report, and conducting other possible studies. We checked for any observed response bias in a large number of metrics. As is discussed in more detail in the data and methods section, where possible biases exist, they appear to be minor.

We sampled claims using a stratified random sample with strata that included the financial seriousness of the claim. We have oversampled the claims that were more financially serious. This was done with the goal of collecting enough information needed to examine behaviors that occur among more financially serious claims. Financially serious claims are defined as claims with more than 20 weeks of temporary disability payments or incurred indemnity payments of more than $6,000 at an average 12 months of experience. In all states, we weighted the completed interviews by the distribution of financial seriousness that existed in each state's population of claims.

THE SURVEY PROCESS

A computer-assisted telephone interview (CATI) of injured workers was conducted across 15 states with a target of 400 completed interviews per state. The surveys were conducted in 2014 for Arkansas injuries in 2010 and 2011, and for 2011 injuries in Connecticut, Iowa, and Tennessee. The surveys of workers injured in 2010 in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were conducted in 2013. Workers injured in 2012 in Florida, Georgia, and Kentucky were interviewed in 2015. All workers who were interviewed had received workers' compensation benefits and experienced more than seven days of lost time from work. On average, the injuries for the workers surveyed had occurred about 2.8 to 3.0 years prior to the interviews in all states except Arkansas (3.3 years). Because Arkansas is a smaller state, we had to sample workers injured in 2010 and 2011 in order to get a similar number of completed surveys as in other states. We tested whether the outcomes reported varied with the time between the injury and the interview and found no significant differences. See Technical Appendix D for more details. The time lags between injury and interview were selected in order to examine the intermediate-term consequences of workers' injuries—in particular, the recovery of health and functioning and return to work. Table TA.A1 contains details about the number of workers interviewed in each state and the dates of injuries and interviews.

[5] Indemnity claims account for the majority of workers' compensation costs in each study state—80–93 percent of costs are from claims with more than seven days of lost time as of three years postinjury. The following statistics provide a general sense of the percentage of claims with more than seven days of lost time in most study states. The percentage of claims with more than seven days of lost time represents 14 percent of all workers' compensation claims in Arkansas, 21 percent in Florida, 13 percent in Indiana, 18 percent in Iowa, 27 percent in Massachusetts, 16 percent in Michigan, 16 percent in Minnesota, 17 percent in Pennsylvania, 18 percent in North Carolina, 15 percent in Virginia, and 16 percent in Wisconsin. These statistics are based on claims with dates of injury arising in October 2010 through September 2011 and evaluated as of March 2012, reflecting an average maturity of 12 months (Telles, 2013, Figure 1).

Table TA.A1 Number and Dates of Surveys Conducted in 15 States

State	Dates of Injury	Dates of Surveys	Average Duration from Injury to Interview	Number of Surveys Conducted	Number of Surveys Excluded[a]	Number of Surveys Used in Analysis
Arkansas	January 2010–September 2011	February–April 2014	3.3 years	401	3	398
Connecticut	January–September 2011	February–April 2014	2.9 years	402	4	398
Florida	February –September 2012	March–May 2015	2.9 years	400	5	395
Georgia	February –September 2012	March–May 2015	2.9 years	410	4	406
Indiana	February–September 2010	March–May 2013	2.8 years	403	3	400
Iowa	January–September 2011	February–April 2014	2.9 years	412	2	410
Kentucky	October 2011–September 2012	March–May 2015	3.0 years	405	2	403
Massachusetts	February–September 2010	March–May 2013	2.8 years	401	8	393
Michigan	February–September 2010	March–May 2013	2.9 years	408	2	406
Minnesota	February–September 2010	April–June 2013	2.9 years	404	3	401
North Carolina	February–September 2010	February–April 2013	2.8 years	416	6	410
Pennsylvania	February–September 2010	February–April 2013	2.8 years	409	3	406
Tennessee	January–September 2011	February–April 2014	2.9 years	402	5	397
Virginia	February–September 2010	April–June 2013	3.0 years	445	2	443
Wisconsin	February–September 2010	February–April 2013	2.8 years	412	2	410

[a] We excluded a small number of cases where the respondent did not appear to be the person we intended to interview or was responding about a different injury, or cases where it appeared that the compensability was denied.

MPR sent each worker in the sample an advance letter stating that the worker had been selected to participate in the survey and asking for his or her cooperation if called. MPR mailed the advance letters to the sample members three to five days before the telephone calls began for each state. The letter included a toll-free number that the workers could call with any inquiries, to report changes in his/her telephone number or location, and to refuse participation. The letters were signed by representatives of MPR and WCRI. Also included in the mailing was an endorsement letter from the state workers' compensation agency encouraging the workers to participate in the survey. Both letters assured the workers that their responses would be confidential and that individual responses would not be reported.

Agencies in two states, Minnesota and Virginia, sent their endorsement letters directly to the sample members prior to the start of the survey. These letters included instructions to opt out of the survey by contacting the state agency directly within 10 days of receipt of the letter. Table TA.A2 includes the opt-out rates for the two states by strata. The sample of workers who did not opt out was mailed the advance letters by MPR. Reminder postcards were mailed to nonresponders (sample members who were presumed eligible and who had not responded and not refused) nearly a month after interviewing began. Reminder letters (including incentive reminder letters) were mailed to nonresponders towards the end of the interview periods, as needed, in states where reaching the target of 400 completed interviews was difficult.

In the end, slightly over 400 injured workers per state completed interviews across the 15 states.

Table TA.A2 Rates of Opting Out from Survey Sample in Minnesota and Virginia

State/Strata	Total Number Contacted	Opted Out of the Survey	Opt-Out Rate
Minnesota	2,000	455	23%
Less financially serious strata	1,000	245	25%
More financially serious strata	1,000	210	21%
Virginia	2,000	240	12%
Less financially serious strata	1,000	139	14%
More financially serious strata	1,000	111	11%

WEIGHTING

As stated earlier, in all states, we weighted the completed interviews by the distribution of financial seriousness that existed in each state's population of claims. This measure is discussed below.

FINANCIAL SERIOUSNESS

The percentages of *more* and *less* financially serious claims in the sample were weighted to represent the percentages of *more* and *less* financially serious claims in the state. We used the following criteria for determining what we characterized as *more* financially serious claims across the 15 states:

- More than 20 weeks of temporary disability payments, or
- Incurred indemnity payments of more than $6,000[6]

More expensive claims are relatively rare in the workers' compensation system. The purpose of strata of financial seriousness is to get a sufficient number of expensive claims by oversampling them. The final results were weighted to reflect the DBE population.

ADDITIONAL WEIGHTING CONSIDERATIONS

In Minnesota and Wisconsin, we applied an additional stratum of weighting to bring the average medical costs of the respondents in line with the average medical costs of the injured workers in the states. Respondents had significantly higher medical costs per claim than the population of injured workers in these two states (29 percent higher in Minnesota and 14 percent higher in Wisconsin).[7] The differences were not statistically significant in other survey states.

We observed that the differences in average medical costs between respondents and the overall state were more pronounced in the *less* financially serious strata. Therefore, we further categorized the *less* financially serious claims into two groups:

- Claims with medical payments of less than or equal to $10,000, and

[6] For 2010 injuries, we used an incurred indemnity benefits threshold of $6,000 evaluated as of March 2011. The amount was adjusted for inflation for 2011 and 2012 injuries.

[7] The average medical cost per claim was $13,547 among respondents versus $10,514 overall in Minnesota, and $18,511 among respondents versus $16,247 overall in Wisconsin.

- Claims with medical payments of more than $10,000

We weighted the responses for these two states by bringing the proportion of respondents in the three groups—the *more* financially serious and the two *less* financially serious groups of claims—in line with the proportion of claims in the state. After the weighting, the average medical cost per claim among respondents was similar to that in the population.

DATA CLEANING

Of the workers who completed interviews, we subsequently dropped a small proportion of cases. We excluded any respondent we believed was either not the person we intended to interview or was responding about an injury different from the one that led us to include the respondent in the sample, or cases where it appeared that the compensability was denied. When we found serious and multiple disparities between the respondent's information and the information in the claim database about certain claim characteristics, such as the date or nature of the injury, or some other variable, we excluded the observation from the analysis. To infer if compensability was denied or disputed for a particular claim, we used the following rules: if (1) indemnity payments and medical payments were very small, and the payments stopped soon after injury or within the pay-without-prejudice period; and (2) the injury didn't appear to be closely related to the worker's occupation, then we considered the injury to be a potential compensability dispute and excluded the claim from the analysis. We identified 54 such cases.[8] We excluded these claims from the analysis because the payment data were more likely to be truncated by a denial or lump-sum settlement.

RETURN-TO-WORK MEASURES

We also cleaned the return-to-work responses. We identified 274 claims out of 6,130 where the worker reported never having a substantial return to work due to the injury and had 10 weeks or less of payments for temporary disability. We flagged these cases during our review for internal consistency.[9] We excluded 123 claims from the *no substantial return to work predominantly due to injury* measures and 75 of those claims from the *not working at interview predominantly due to injury* measure reported in Chapter 3.

We excluded the 123 cases because, after careful review, we concluded that the worker and employer probably disagreed about whether the worker was able to return to work. We concluded this because the worker told us that he or she was not working "predominantly due to the injury," but received a smaller number of weeks of income benefits than expected if the workers' perceptions were correct. We distinguished these likely disputes about return to work from likely disputes about compensability of the claim discussed in the previous section when we observed that the worker was receiving medical treatment after income benefits ended.

Comparisons of the measures with and without this adjustment are provided in Table TA.A3. The adjusted estimates for these two outcome measures are different from the unadjusted estimates by 2 to 6

[8] We excluded 54 cases across the 15 states for these reasons: 3 in Arkansas, 4 in Connecticut, 5 in Florida, 4 in Georgia, 3 in Indiana, 2 in Iowa, 2 in Kentucky, 8 in Massachusetts, 2 in Michigan, 3 in Minnesota, 6 in North Carolina, 3 in Pennsylvania, 5 in Tennessee, 2 in Virginia, and 2 in Wisconsin.

[9] We acknowledge that temporary disability duration is not a perfect measure of return to work, but it is a reasonable proxy when using administrative data.

percentage points.

Tables in this report may have fewer observations than the total number of completed interviews. This is because a few workers either refused to answer a specific question or said they were unable to answer a specific question, or we excluded them from the analysis from specific measures as discussed above. In addition, in many cases the nature of the skip patterns of the survey meant that some respondents were not asked questions that did not pertain to them.

Table TA.A3 Comparison of Substantial Return-to-Work Measures with and without Data Cleaning

State	Percentage of Claims with No Substantial Return to Work Due to Injury			Percentage of Claims with No Substantial Return to Work within 1 Year Due to Injury		
	Before Exclusion	After Exclusion	Difference	Before Exclusion	After Exclusion	Difference
Arkansas	19%	16%	-3%	22%	19%	-3%
Connecticut	16%	11%	-5%	18%	14%	-5%
Florida	20%	15%	-5%	23%	18%	-5%
Georgia	24%	20%	-4%	29%	24%	-4%
Indiana	11%	9%	-2%	14%	12%	-2%
Iowa	12%	10%	-2%	14%	11%	-2%
Kentucky	19%	16%	-3%	22%	19%	-3%
Massachusetts	17%	13%	-4%	21%	17%	-4%
Michigan	13%	10%	-3%	16%	13%	-3%
Minnesota	12%	8%	-5%	14%	9%	-5%
North Carolina	23%	20%	-3%	28%	24%	-3%
Pennsylvania	17%	14%	-3%	19%	16%	-3%
Tennessee	22%	17%	-5%	25%	21%	-5%
Virginia	17%	12%	-5%	20%	15%	-5%
Wisconsin	14%	9%	-5%	15%	10%	-6%

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. The difference between the original and adjusted measure may not be the same as the difference shown in the table due to rounding.

SURVEY RESPONSE RATES

In all 15 states, we met or exceeded our goal of 400 completed interviews per state. That target was selected to balance the cost of the survey with the statistical power achieved for interstate comparisons. Based on past surveys, we found that at the 5 percent significance level and 90 percent power, we need a sample size of 400 workers to reject hypotheses of no differences between the top states and median states for most measures included in this study.

We interviewed workers, on average, three years after the injury. This reflected our balancing of potential recall biases and difficulties locating workers against the desire to measure more than the short-term consequences of the injury. In most states, almost 90 percent of claims were closed by three years after the injury.

The telephone surveys were dispersed over different times of the day, ensuring calls were attempted for a case during the day, in the evening, and on weekends. The survey instrument was translated into Spanish and administered in that language when requested by the respondent. A total of 270 interviews were conducted in Spanish across the 15 states.

The response rates by state varied from 25 percent in Florida, Massachusetts, and Virginia to 31 percent in Indiana, Iowa, Michigan, and Wisconsin.[10] Tables TA.A4 and TA.A5 show the dispositions for workers sampled. To assess the presence and magnitude of any non-response bias, we addressed the following questions:

1. How do the respondents compare with all workers in their respective workers' compensation systems (with more than seven days of lost time)?
2. How do the respondents compare with refusals?
3. How do the respondents compare with those we could not contact because we did not have valid phone numbers?

Our assessment is reported in Chapter 2 and Tables 2.1 and 2.2.

Table TA.A4 Attempted Telephone Interviews: Valid Phone Numbers

Type of Disposition	AR	CT	FL	GA	IA	IN	KY	MA	MI	MN	NC	PA	TN	VA	WI
Total numbers sampled	1,340	1,340	1,600	1,594	1,340	1,314	1,582	1,592	1,320	1,425	1,592	1,600	1,340	1,760	1,344
Number of cases with valid telephone numbers	932	1,024	1,208	1,246	985	957	1,144	1,154	896	1,063	1,116	1,232	987	1,152	1,071
Percentage of cases with valid telephone numbers	70%	76%	76%	78%	74%	73%	72%	72%	68%	75%	70%	77%	74%	65%	80%

Table TA.A5 Disposition of Cases with Valid Phone Numbers

Type of Disposition	Percentage of Cases with Valid Phone Numbers														
	AR	CT	FL	GA	IA	IN	KY	MA	MI	MN	NC	PA	TN	VA	WI
Completed survey	43%	39%	33%	33%	42%	42%	35%	35%	46%	38%	37%	33%	41%	39%	38%
Other valid telephone numbers	57%	61%	67%	67%	58%	58%	65%	65%	54%	62%	63%	67%	59%	61%	62%
Refused	16%	19%	24%	17%	19%	17%	22%	18%	18%	20%	17%	21%	18%	19%	15%
Answering machine[a]	24%	22%	25%	27%	14%	24%	22%	26%	19%	22%	25%	17%	23%	21%	27%
Busy signal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
No answer	1%	1%	2%	3%	8%	1%	2%	1%	1%	1%	4%	2%	1%	3%	2%
Other	15%	18%	16%	21%	17%	16%	19%	20%	17%	18%	17%	27%	17%	19%	18%

Notes: The "other" category consists of "call back," "foreign language speaker," "partial complete," and "other" categories.

[a] The percentage with the answering machine disposition is large because we released large samples in order to obtain 400 completed interviews without extending the survey field period. The answering machine disposition effectively includes some workers who implicitly refused to be interviewed by screening their calls, as well as those who would have agreed to be interviewed had Mathematica Policy Research been able to reach them directly.

[10] We computed the overall response rate by dividing the number of completed surveys by the number of sampled cases. The response rates were 30 percent in Arkansas, 30 percent in Connecticut, 25 percent in Florida, 26 percent in Georgia, 31 percent in Indiana, 31 percent in Iowa, 26 percent in Kentucky, 25 percent in Massachusetts, 31 percent in Michigan, 28 percent in Minnesota, 26 percent in North Carolina, 26 percent in Pennsylvania, 30 percent in Tennessee, 25 percent in Virginia, and 31 percent in Wisconsin.

TECHNICAL APPENDIX B

MEASURING HEALTH STATUS, INJURY SEVERITY, AND RECOVERY OF HEALTH AND FUNCTIONING

APPROACH TO MEASURING PHYSICAL HEALTH AND FUNCTIONING

In each interview, we obtained data on perceived health and functioning from the perspective of three points in time: preinjury, postinjury, and at interview. We thus relied on each worker's perception of his or her own health and functioning three years before the interview.

The overall health and functioning measure is derived from questions in the SF-12v2®, a commonly used, standardized survey instrument that has been validated on numerous populations. We used the physical component summary score derived using the responses to the six general health and physical functioning questions in the SF-12v2®. The questions in the list that follows pertain to the respondent's perception of health and functioning four weeks preinjury. We asked these questions two more times, modified as appropriate, to ascertain postinjury and at-interview perceived health and functioning. The outcome measures were based on each health status measure.

- *General health:* In general, would you say that your health was excellent, very good, good, fair, or poor in the four weeks before your injury?
- *Limits on activities:* During a typical day in the four weeks before your injury, how limited were you in performing moderate activities such as moving a table, pushing a vacuum cleaner, bowling, or playing golf? Were you limited a lot, limited a little, or not limited at all?
- *Limits on climbing stairs:* During a typical day in the four weeks before your injury, how limited were you in climbing several flights of stairs? Were you limited a lot, limited a little, or not limited at all?
- *Amount accomplished:* During the four weeks before your injury, did you accomplish less than you would like with your work or other regular daily activities as a result of your physical health? (Note that daily activities include activities outside of work.)
- *Physical limitations:* During the four weeks before your injury, were you limited in the kind of work or other regular daily activities you did as a result of your physical health?
- *Pain:* During the four weeks before your injury, how much did pain interfere with your normal work, including both work outside the home and housework? Would you say not at all, a little bit, moderately, quite a bit, or extremely?

We retained the full set of 12 questions from the SF-12v2® when we asked respondents about their at-interview perceived physical and mental health and functioning. However, there are two significant differences between the survey approach we used and the traditional approach. First, we used the six general health and physical functioning questions from the SF-12v2® to ask about all three points in time. We asked the six mental health and functioning questions from the SF-12v2® regarding the time of the interview only, not pre- and postinjury, in part because of special concerns about the difficulty of recalling mental health status. Moreover, to ask 12 questions about each of the three periods would have significantly lengthened the

time needed to conduct the entire survey. Additionally, we were concerned that respondents might be confused by, or balk at, answering the same 12 questions three times. As an accommodation to those concerns, we eliminated the six mental health questions from the pre- and postinjury portions of the survey.

The standard software for scoring the SF-12v2® requires that all 12 questions be administered. That was not an issue in scoring a worker's at-interview condition. To arrive at a worker's pre- and postinjury standardized scaled scores for physical health and functioning, we assumed that the responses to the six mental health and functioning questions would be the same as the responses at the time of the interview.[1] We recognize the potential for noise created by this approach. Suppose, for instance, that the worker's mental health and functioning were lower at the time of the interview because of the injury compared with the preinjury score. By incorporating the scores from the at-interview mental health questions into the worker's preinjury score, we might underestimate the preinjury score, leading us to underestimate any decline in the score and to overstate recovery.

A previous WCRI study determined the impact this assumption could have on the physical health and functioning scores by replacing the actual responses to the six mental health and functioning questions with best-case responses and then with worst-case responses. In the scaled score for physical health and functioning, the mental health questions carry a very small weight.[2] Using the best-case or worst-case imputations in place of actual values changed the physical health and functioning scores by only one point in either direction (Belton and Liu, 2010).

The second difference from the standard SF-12v2® approach relates to the retrospective use of the questions. In the standard use of the SF-12v2®, the worker is asked about his or her health status in the four-week period that precedes the interview. That was the approach we took in this survey when asking about the worker's at-interview health status. However, we also asked the worker to think back to the time before the injury and immediately after the injury and answer the same questions about health status, limitations on activities and climbing stairs, pain levels, and so on. This approach raised concerns about the accuracy of workers' recall. However, we were willing to consider that workers could recall facts surrounding important dates in their lives—such as the dates of their work injuries and their treatments for significant medical events. Our approach was to evaluate our concerns about recall based on how workers' responses about their preinjury health and functioning compared with the average for the U.S. population for the SF-12v2®. If the responses were similar, recall concerns would not be significant, on average; if the responses were very dissimilar, concerns about recall and validity would be reinforced. As described later, the results were reassuring on the recall issue.

PERCEIVED RECOVERY OF HEALTH AND FUNCTIONING

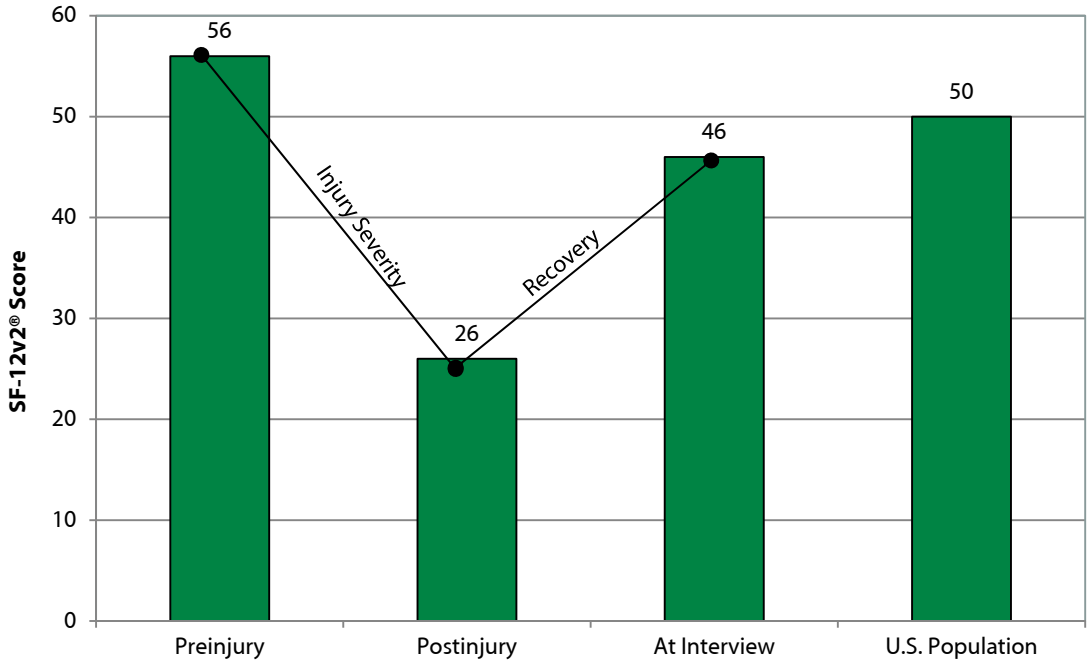
In this report, perceived recovery of physical health and functioning is the difference between the worker's self-reported health and functioning just after the injury and the comparable measure at the time of the interview. Perceived injury severity is the difference between the worker's pre- and postinjury self-reported health and functioning. We illustrate these concepts in Figure TA.B1 using one of the states in the study—

[1]Ann Lawthers, Director of Quality at MassHealth Quality Office, developed this approach and calculated the scores. We appreciate her contributions.

[2] The SF-12v2® scores can be reported using three views. The one we report throughout this study is the perceived physical condition (PCS) of the respondent. The other two views are the perceived mental condition (MCS) of the respondent and a combined scaled score for both perceived physical and perceived mental conditions.

Indiana. This state is illustrative of patterns we observed in all other states with respect to the relationships between the scores at the different points in time. For example, the average perceived physical health and functioning score just after the injury in Indiana was 26. The same score for the preinjury period was 56. This means that the average worker's perceived physical health and functioning fell in Indiana from 56 to 26—a drop of 30 points or 3.0 standard deviations (recall that this group of injured workers had more than seven days of lost time). We call this measure *perceived injury severity*. By the time of the interview, three years postinjury, the average injured worker's physical health and functioning in Indiana had increased to 46—an increase of 20 points or 2.0 standard deviations. We call this measure *perceived recovery*.

Figure TA.B1 Illustration of How We Measure Severity and Recovery



Notes: Underlying data for the preinjury, postinjury, and at-interview scores in this figure are the sample of Indiana workers injured in 2010 and interviewed in 2013. All workers surveyed experienced more than seven days of lost time. SF-12v2® scores range from 0 to 100. A higher score indicates better health. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

Source: Figure for average of U.S. population is from Ware, Keller, and Kosinski (1998).

The perceived physical health and functioning outcome measures showed plausible patterns and reconciled well with values reported in other studies. For example, the average preinjury scaled scores for physical health and functioning in the 15 states (56–58 points) were consistent across the states and higher than average for the general U.S. population (50 points). An employed population is generally assumed to be healthy, and one would expect the scores for an employed population to be higher than those of the general population. Further, the scores were similar to those found in a special study of a healthy population.[3] In all 15 states, the average postinjury scores were lower than the preinjury scores (reflecting injury severity), and

[3] A special study of a "healthy" British population, defined as persons with no longstanding illness, found that the average SF-12® score was 55 (Airey et al., 1999, tab. 3.12).

the average at-interview scores were higher than the postinjury scores (reflecting some perceived recovery) (see Table TA.B1). The average perceived physical health and functioning score at interview was 8–15 points lower than the preinjury score. This indicates that, on average, workers in these states did not fully recover their health. It is still plausible that there may remain some measurement error in self-reported recovery measures, which may potentially lead to bias towards zero for the estimates of coefficients in the recovery regressions. However, given the patterns of the correlations outlined above, this bias is unlikely to be large.

We have seen that the SF-12v2® physical health and functioning scores for respondents' perceived preinjury physical health and functioning reconcile well with expectations for a working or healthy population. The postinjury and at-interview scores are also plausible in the context of injuries suffered by workers. However, because of concerns regarding workers' recall, we explored additional evidence to see how plausible these health and functioning results might be.

As we discussed in the previous section, the pattern shown in Figure TA.B1 of the SF-12v2® scores for workers' perceived physical health and functioning based on the Indiana sample is typical of the patterns we observed in all other states where we have conducted worker outcomes surveys. In Indiana, the average SF-12v2® score reported by workers at interview was 46 points, which is lower than the average of 50 for the U.S. population. This average score may reflect several underlying patterns of recovery across workers—some workers may have fully recovered, while other workers may still be experiencing the impact of their injuries on physical health and functioning. The overall score reported for perceived physical health and functioning preinjury was 56 points, higher than the average for the U.S. population.

Table TA.B1 Perceived Injury Severity and Recovery

State	Mean SF-12v2® Physical Health and Functioning Score[a]			
	Preinjury Health Status	Perceived Injury Severity	Perceived Recovery	Overall Change in Perceived Physical Health and Functioning from Preinjury to Interview
Arkansas	57	-30	17	-14
Connecticut	56	-28	19	-10
Florida	57	-32	18	-14
Georgia	58	-31	16	-15
Indiana	56	-30	20	-10
Iowa	57	-28	19	-10
Kentucky	57	-32	18	-14
Massachusetts	57	-30	21	-10
Michigan	57	-30	21	-10
Minnesota	56	-29	20	-10
North Carolina	58	-31	17	-14
Pennsylvania	56	-30	20	-10
Tennessee	57	-30	17	-13
Virginia	57	-31	19	-12
Wisconsin	56	-29	21	-8

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

[a] SF-12v2® scores range from 0 to 100. A higher score indicates better health. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

PERCEIVED INJURY SEVERITY AND MEDICAL COSTS

Within each state, one would expect that workers reporting more severe injuries would receive more medical care and that the care would be more expensive than for workers reporting less severe injuries. Thus, we expected to see higher medical costs for workers who reported more severe injuries (that is, workers with larger reductions in their SF-12v2® perceived physical health and functioning scores from pre- to postinjury). We observed that medical costs did increase with perceived medical severity. When compared with workers with less than 25 points of severity, the mean and median medical costs of workers who had severity between 25 and 39 points was 26 and 30 percent higher, respectively. Workers with reported severity of 40 points or over had 66 percent higher average medical costs and 57 percent higher median medical costs than those with less than 25 points of severity.[4]

[4] Across the 15 states, the average medical cost per claim for workers with less than 25 points of severity, 25 to 40 points, and 40 points or higher was $11,097, $13,978, and $18,474, respectively. The median medical cost per claim for the three groups was $6,370, $8,249, and $9,978, respectively.

TECHNICAL APPENDIX C

DEFINITIONS OF KEY OUTCOMES AND CONTROL VARIABLES AND METHODS

APPROACH FOR REGRESSION ADJUSTMENT

As policymakers seek to evaluate the performance of their state workers' compensation systems, they often look for evidence about the costs to employers and the outcomes experienced by injured workers. Evidence commonly exists on the costs to employers, and a number of different measures are available. Evidence about worker outcomes is much more difficult for policymakers to obtain. This study helps fill this information gap in 15 states. It quantifies the outcomes that policymakers commonly seek to measure—recovery of health and functioning, the speed and sustainability of return to work, earnings recovery, access to health care, and satisfaction with health care. We plan on expanding the lists of states covered in the study in future editions of the report.

To achieve the goal of providing meaningful comparisons of key worker outcomes across states, we used regression methods that control for key worker demographic, employment, and injury characteristics and comorbidities that could influence outcomes. This approach allows us to understand the differences in worker outcomes across states if all states were to have workers with similar demographic, employment, and injury characteristics. In this section, we describe how we defined each of the outcome variables (the dependent variables used in our regression models), the case-mix adjustment variables, and appropriate regression approaches that we used. The full sets of estimates from the regression analyses are included in Technical Appendix D. Regressions were estimated using the Stata statistical programming package (StataCorp, 2009).

DEFINITIONS OF AND MEASUREMENT OF KEY OUTCOMES

This study focuses on a number of worker outcomes. Table TA.C1 lists the main outcome variables that we use in this report. First, we highlight multiple measures of the return-to-work construct—whether workers were working at the time of the interview, whether workers experienced any return to work, whether workers achieved substantial return to work, whether return to work happened within a year after the injury, duration of disability, and whether workers suffered earnings losses after the injury.[1] Second, we examine the two dimensions of access to care—whether workers perceived problems getting the services that they wanted and whether workers perceived problems getting the providers that they wanted. Third, we examine the measures used to assess satisfaction with care—whether workers were satisfied with overall care and whether workers were satisfied with their providers. In addition, we report the self-reported recovery of health and functioning measure.

[1] We report measures of no return to work predominantly due to injury. We do not report the measure for workers with no return to work due to other reasons.

There are several reasons why we selected these measures. First, the measures of recovery of health and functioning and the speed of return to work represent the *bottom line* goals of workers' compensation systems. While measures of workers' access to medical care and satisfaction with medical care are certainly important *intermediate* measures reflecting the process of medical care delivery, the extent to which workers recover from their injuries and return to work reflects the end-result outcomes of the care provided.

Note that the outcomes we examine in the report have different characteristics—some are continuous measures, others are dichotomous measures taking values 0 or 1, while other measures are ordered categorical variables. These measures require different modeling approaches. The approaches that we chose to use are listed in Table TA.C1 and are discussed in more detail below.

Many of the tables in this report have fewer observations than the total number of completed interviews. This is because a few workers either refused or said they were unable to answer a specific question. In addition, for some of the measures, the universe of responses may not include all workers. For instance, when examining earnings losses at the time of the substantial return to work, we limit the sample of workers to those who had a substantial return to work.

Table TA.C1 Main Outcomes Examined in the Report and Regression Approaches

Variable	Definition	Estimation
Recovery of physical health and functioning	Worker's perceived recovery. The difference between SF-12v2® score in the week after the injury and the score at the time of the interview.	Ordinary least squares model
Not working at interview due to injury	A dummy variable. The value is 1 if the worker was not working at the time of interview predominantly due to injury.	Logistic regression
No substantial return to work due to injury	A dummy variable. The value is 1 if the worker never returned to work or returned to work, but was not able to stay for one full month predominantly due to injury.	Logistic regression
Duration of disability	The number of weeks from the time of the injury to the first substantial return to work. If workers did not have substantial return to work, we assigned the time between the injury and the interview in weeks for them.	Accelerated failure time (survival) model (assumed log-logistic distribution of duration with gamma distribution of unobserved heterogeneity)
No substantial return to work 1 year postinjury due to injury	A dummy variable. The value is 1 if the worker was not able to have a sustained return to work within 1 year after the injury predominantly due to injury.	Logistic regression
Worker reporting large earnings losses at the time of substantial return to work due to injury	A dummy variable. The value is 1 if the worker reported large earnings losses at the time of substantial return to work.	Logistic regression
Worker reporting large earnings losses at the time of interview due to injury	A dummy variable. The value is 1 if the worker reported large earnings losses at the time of interview.	Logistic regression
Problems getting desired medical services	An ordinal categorical variable. The question is about the level of problems getting services that the worker or his/her primary provider wanted. 1 is "no problems;" 2 is "small problems;" 3 is "big problems."	Ordered logistic regression
Problems getting desired provider	An ordinal categorical variable. The question is about the level of problems getting the primary provider the worker wanted. 1 is "no problems;" 2 is "small problems;" 3 is "big problems."	Ordered logistic regression
Satisfaction with overall care	An ordinal categorical variable. The question is about the satisfaction level with the medical care the worker received overall. 1 is "very satisfied;" 2 is "somewhat satisfied;" 3 is "somewhat dissatisfied;" 4 is "very dissatisfied."	Ordered logistic regression

continued

Table TA.C1 Main Outcomes Examined in the Report and Regression Approaches (continued)

Variable	Definition	Estimation
Satisfaction with primary provider	An ordinal categorical variable. The question is about the satisfaction level with the medical care the worker received from his/her primary provider. 1 is "very satisfied;" 2 is "somewhat satisfied;" 3 is "somewhat dissatisfied;" 4 is "very dissatisfied."	Ordered logistic regression
Wanting to change initial provider because of dissatisfaction with care	A dummy variable. The value is 1 if the worker wanted to change initial provider because of dissatisfaction with care.	Logistic regression
Wanting to change primary non-initial provider because of dissatisfaction with care	A dummy variable. The value is 1 if the worker wanted to change primary non-initial provider because of dissatisfaction with care.	Logistic regression

Note: SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

REGRESSION ADJUSTMENT METHODS

For all outcomes of interest, we estimated a pooled regression that can be written down in a general form as follows:

$$Y_{is} = f(\alpha + STATE_s\gamma + WORKER_{is}\beta_1 + EMPLOYER_{is}\beta_2 + INJURY_{is}\beta_3 + COMORBIDITIES_{is}\beta_4) + \varepsilon_{is} \quad \text{(TA.C1)}$$

Where, Y_{is} stands for the outcome of interest (one of the measures listed in Table TA.C1); β_1, β_2, β_3, and β_4 reflect vectors of estimated coefficients on the worker, employer, injury characteristics, and self-reported comorbidities; γ reflects the vector of the coefficients on state dummies; $f(.)$ takes different functional forms based on the appropriate empirical specification for each of the measures of interest. The state dummies mainly reflect differences across states in system features and cultural norms, as well as other variables that we did not control for in the regression. For example, in an ordinary least squares (OLS) specification, coefficients on state dummies would represent the differences across states in the variables of interest while holding worker, employer, and injury characteristics, and comorbidities that we controlled for, constant. Coefficient sets β_1, β_2, β_3, and β_4 isolate effects of each of the other separate factors that are included in the model. Those are briefly discussed when we present results in Technical Appendix D.

CONTROL VARIABLES

We controlled for differences in worker demographic, employment, and injury characteristics, and relevant comorbidities. We also included information on county-level unemployment rates at the time of injury. Table TA.C2 provides a complete description of the control variables used in the regressions.[2] Some claims were missing information for some of the case-mix adjustment variables. We included these claims in the regressions by including corresponding dummy variables indicating missing information and setting the missing values to zero.

[2] We tested variance inflation factors (VIF) and found no evidence that multicollinearity was a concern in our analysis. The average VIF was 1.61 and the maximum VIF for a given variable was 3.34, well below a commonly used threshold of 10.

Table TA.C2 Case-Mix Adjustment Variables

WCRI Variable	Definition	Source of Data
Worker characteristics		
Age	Worker's age at injury classified into one of five categories; categories then used to create five dummy variables. Categories include (1) age 15 to 24, (2) age 25 to 39, (3) age 40 to 54, (4) age 55 to 60, and (5) age over 60. "Age 25 to 39" is the reference category.	DBE and survey
Gender	1 if male; 0 otherwise.	DBE
Marital status	1 if married; 0 otherwise.	DBE and survey
Education attainment	Claim classified into one of four categories based on highest level of education attained; categories then used to create five dummy variables. Categories include (1) less than high school graduate, (2) high school graduate, (3) some college, (4) college graduate or post-graduate. "High school graduate" is the reference category.	Survey
Language chosen to be interviewed	1 if worker chose to be interviewed in Spanish; 0 otherwise.	Survey
Employment characteristics		
Tenure with employer	Claim classified into one of five categories based on the number of years worker was employed with employer prior to injury; categories then used to create five dummy variables. Categories include (1) fewer than or equal to 6 months, (2) more than 6 months to 1 year, (3) more than 1 year to 5 years, (4) more than 5 years to 10 years, and (5) more than 10 years. "More than 1 year to 5 years" is the reference category.	DBE
Wage	Average weekly wage in dollars; natural log form used in models.	DBE
Part-time status	1 if worker typically worked fewer than 35 hours per week; 0 otherwise.	Survey
Hourly worker	1 if worker reported being paid hourly wage; 0 otherwise (worker reported being paid a salary).	Survey
Multiple employers in the year before injury	1 if worker had more than one employer in the year prior to his/her injury; 0 otherwise.	Survey
Satisfaction with job at the time of injury	Claim classified into one of three categories based on worker's satisfaction level with his/her job at the time of injury. Categories then used to created three dummy variables. Categories include (1) completely satisfied, (2) mostly satisfied, and (3) somewhat or not at all satisfied. "Completely satisfied" is the reference category.	Survey
Worker was concerned that he/she would be fired or laid off	Claim classified into three categories based on the level of worker's agreement with the statement. Categories then used to create three dummy variables. Categories include (1) disagree, (2) somewhat agree, and (3) strongly agree. "Disagree" is the reference category.	Survey
Employer's payroll size	Claim classified into one of four company-size categories based on the payroll size at the time of injury. Categories then used to create four dummy variables. Categories include (1) $1 to $4 million (very small size), (2) more than $4 million to $20 million (small size), (3) more than $20 million to $80 million (medium size), and (4) over $80 million (large size). "$1 to $4 million (very small size)" is the reference category.	DBE
Industrial classification	Claim classified into one of seven categories based on industrial classification of occupation or employer; categories then used to create seven dummy variables. Categories include (1) manufacturing, (2) construction, (3) clerical/ professional, (4) trade, (5) high-risk services, (6) low-risk services, and (7) other industry. "Clerical/professional" is the reference category. Details on each group are available in Table TA.C3.	DBE
Metropolitan statistical area	1 if worker lived in a metropolitan statistical area as defined by Census Bureau; 0 otherwise.	Census
Injury characteristics		
Injury type	Claim classified into one of eight categories based on the nature of injury; categories then used to create eight dummy variables. Categories include (1) neurologic spine pain; (2) spine (back and neck) sprains, strains, and non-specific pain; (3) fractures; (4) lacerations and contusions; (5) inflammations; (6) other sprains and strains; (7) upper extremity neurologic; (8) other injury. "Fractures" is the reference category.	DBE
Perceived severity	Measured by calculating the difference between the preinjury and postinjury composite health and functioning status scores. Health and functioning status scores are based on single scaled scores ranging from 0 to 100 using SF-12v2® survey questions and scoring. Claim classified into one of three categories based on the distribution of perceived severity; categories then used to create three dummy variables. Categories include (1) severity under 25 points, (2) severity 25 to 39 points, and (3) severity 40 points and over. "Severity under 25 points" is the reference category.	Survey

continued

Table TA.C2 Case-Mix Adjustment Variables (continued)

WCRI Variable	Definition	Source of Data
Comorbidities		
Cancer	1 if worker reported receiving treatment for cancer; 0 otherwise.	Survey
Diabetes	1 if worker reported receiving treatment for diabetes; 0 otherwise.	Survey
Heart problems	1 if worker reported receiving treatment for heart problems; 0 otherwise.	Survey
Hypertension	1 if worker reported receiving treatment for hypertension; 0 otherwise.	Survey
Lung conditions	1 if worker reported receiving treatment for lung conditions; 0 otherwise.	Survey
Smoking history	Claim classified into one of three categories: (1) worker did not smoke; (2) worker smoked for 1 to 9 years; (3) worker smoked for at least 10 years. "No smoking" is the reference category.	Survey
State dummies		
State dummies	Claim classified into one of the 15 groups based on the state of interview; groups then used to create 15 dummy variables. Categories include each of the states in our analysis: Arkansas, Connecticut, Florida, Georgia, Indiana, Iowa, Kentucky, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Tennessee, Virginia, and Wisconsin. "Indiana" is the reference category.	DBE and survey
Other		
Unemployment rate	Monthly county-level unemployment rate from BLS at the time of injury.	BLS

Note: SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

Key: BLS: U.S. Bureau of Labor Statistics; DBE: WCRI's Detailed Benchmark/Evaluation database.

Table TA.C3 lists the major components of each of the seven occupation/industry groups used in our analysis—clerical and professional, construction, manufacturing, trade, high-risk services, low-risk services, and other industries. We classified claims into occupation/industry groups based on four-digit, industry-standard worker and governing-class codes and standard industrial classification (SIC) codes.[3] For certain occupations/industries, incidence rates published by the Bureau of Labor Statistics (BLS) were also used to further classify occupations that are in the same industry but bear very different risk factors. Note that the clerical and professional category includes only clerical and educational professionals, while health professionals are split into either high-risk or low-risk services. For instance, physicians and dentists were grouped in the low-risk services category, while other health workers, such as nurses and home health care aides, fell into the high-risk services group, based on the injury incidence rates associated with the codes. The other categories include agriculture, mining, quarrying, and miscellaneous occupations.

In the analysis, we controlled only for the main effects of the variables. We did not examine any potential interactions between variables of interest. While this approach is potentially less flexible, it avoids concerns about available degrees of freedom and complex interpretation of interactions in nonlinear models. We also kept the overall effect similar across states. For example, we did not allow the effect of the age variable on an outcome to differ across states.

[3] A workers' compensation claim is assigned a classification code based on the injured worker's occupation and the payroll exposure reports of the employer. Classification codes in most states are defined using a common set of basic classifications published by the National Council on Compensation Insurance (NCCI), subject to individual state exceptions, although some states use independently established sets of basic classifications. In Pennsylvania, for example, classification codes are set out in the Pennsylvania Compensation Rating Bureau's Pennsylvania Workers Compensation Manual.

Table TA.C3 Industry Categories

Clerical and professional
Clerical
Instructional professions
Construction
Erection
Shipbuilding
Miscellaneous construction
Manufacturing
Food and tobacco
Textiles
Cloth products
Leather
Rubber/bone products
Paper/pulp products, printing
Wood
Metallurgy
Metal forming
Machine shops/fine machines
Vehicles
Stone products
Clay products
Glass products
Chemicals
Miscellaneous manufacturing
Trade
Retail trade
Wholesale trade
High-risk services
Laundering, cleaning, and dyeing
Stevedoring and freight handling; explosives or ammunition shipping; refrigerator car loading or unloading
Railroad operations
Package delivery; hauling (long-distance or local)
Electric light or power; steam light or power; waterworks operation; sewage disposal plant operation; recycling and garbage collection
Automobile hauling; automobile sales and services
Warehousing and storage
Health care facility-related services, nursing home, home care (excluding physician and dentist services)
Building maintenance; janitorial services; elevator services; sign installation; window cleaning
Hotels, restaurants, clubs
Low-risk services
Telephone, telegraph, Internet access providers; computer data processing; radio and television broadcasting; cable television; motion picture productions; recording studios
Automobile parking and garage
Physicians and dentists
Insurance; real estate; travel agencies; addressing; mailing; mail packaging; advertising
Schools, museums, day care centers
Commercial service and repair; architect or engineer consulting
Property management; leasing services
Dinner theater; theater operations
Amusement park or exhibition operations; dog shows; horse shows; racetrack operations
Personal service, such as beauty salons and hair styling
Other industries
Agriculture
Mining; oil and gas production
Quarrying: stone, sand, clay
Miscellaneous occupations

REGRESSION MODELS

As indicated in Table TA.C1, our outcomes of interest come in different forms: continuous (recovery), continuous with censoring (duration of return to work), in two categories (substantial return to work), and in more than two categories (satisfaction). We therefore had to use different statistical methods for different dependent variables, as discussed in more detail below. For continuous variables (recovery), we estimated our relationship of interest using a linear regression, also known as an OLS regression. For binary outcomes, we used a logistic regression. For categorical variables with more than two categories, we used an ordered logistic regression. For continuous variables with right censoring, we used a survival model. Each of the models used the controls listed in Table TA.C2.

REGRESSION APPROACH FOR CONTINUOUS VARIABLES: RECOVERY OF PHYSICAL HEALTH AND FUNCTIONING

We used an OLS regression to model a continuous outcome: recovery of physical health and functioning. An OLS regression describes a linear relationship between a variable of interest and a set of predictors where the functional form $f(.)$ in the equation (TA.C1) is linear, and the estimated coefficient of a variable simply measures how the outcome changes with a one-unit increase in the variable. Estimates from the OLS regression for the continuous measure are provided in Table TA.D1 and are discussed in Technical Appendix D. A convenient aspect of the OLS regression is that the differences in the estimated coefficients for state dummies reflect the differences in the average predictions between states conditional on the control variables. Next, we discuss how we estimated the predictions for other outcome variables for which we cannot use linear regressions.

All regression estimates provided in this study were weighted using probability weights. These weights are designed to make the sample representative of the overall population of claims in the state since we have oversampled more financially serious cases. See Technical Appendix A for more details on how we constructed the weights.

REGRESSION APPROACH FOR BINARY VARIABLES

A number of the variables listed in Table TA.C1 are binary, that is they take only two values—"1" if a condition was true and "0" if otherwise. For instance, the *no substantial return to work* measure is equal to 1 if the worker was not able to return to work and stay for one full month, and 0 if otherwise. For such measures, we estimated predictions using a logistic regression. This is a non-linear approach designed to deal with categorical dependent variables that take on two possible values: 1 and 0.[4] Consider, for example, the estimates for return to work. In the logit model, Y_{is} in the equation (TA.C1) is replaced by an unobserved variable Y_{is}^{*}, which represents the unobserved propensity to return to work, and ε_{is} is assumed to have a logistic distribution (and results are always nearly identical assuming a normal distribution). The discrete value Y_{is} equals 1 if $Y_{is}^{*} > 0$, and it equals 0 otherwise. The equation for the logistic model can be written down as follows:

$$\Pr(Y_{is} = 1) = \frac{e^{Z_{is}\theta}}{1+e^{Z_{is}\theta}} \qquad \text{(TA.C2)}$$

$$\Pr(Y_{is} = 0) = \frac{1}{1+e^{Z_{is}\theta}}$$

[4] Alternatives are a probit model or linear probability model. Probit models generally produce results that are similar to the estimates from a logistic model. A linear probability model may not be appropriate in this situation since it does not constrain the predicted outcomes to be between 0 and 1.

Where $Z_{is}\theta$ denotes parameters and variables on the right-hand side of the equation (TA.C1), and parameters θ are estimated using the maximum likelihood approach.

Like the usual linear regression estimates, this method allows us to examine the relationship between factors that are hypothesized to affect outcomes of interest and worker and injury characteristics. Unlike the OLS regression, the coefficients from the model cannot be used directly to examine the differences in predicted outcomes without necessary transformations. As a result, in most of the report we focus not on discussing the coefficients but rather on discussing the differences in predictions from the same set of claims, as discussed later in this section.

In addition, Technical Appendix D presents transformations of the logit coefficients that are more easily interpretable. Specifically, we present odds ratios for each variable. They measure the multiplicative effect of the variable of interest. For instance, if the odds ratio is 1.15, then a one-unit increase in the variable of interest increases the relative probability $\Pr(Y_{is} = 1)$ by 15 percent.

REGRESSION APPROACH FOR DURATION OF TIME BEFORE RETURN TO WORK

We estimated the model for the duration of time out of work using survival models to account for the possible truncation of the spell of time out of work. In particular, at the time of the survey, 9–19 percent of workers across the 15 states still had not had a substantial return to work, which implies that their time out of work lasted at least up to the time of the survey (Table 3.2). Survival models were designed to address situations like these—they examine the length of time to the occurrence of an event. In our case, we examine the time to substantial return to work. These methods can be applied to measures that are not normally distributed. In this framework, the outcome measure is the length of the spell of time out of work (T_{is}). We estimated an accelerated failure time model:

$$\ln(T_{is}) = Z_{is}\theta + \varepsilon_{is} \qquad \text{(TA.C3)}$$

T_{is} captures the duration of time from injury to substantial return to work measured in weeks (a substantial return to work is observed when the worker returns to work for at least one month). Survival models account for the possibility that the duration of the time before return to work is not normally distributed. While many injured workers return to work within a short period of time after their work-related injury, some workers may find it difficult to return to work after a certain point. The survival approach also explicitly models the probability that the time off work is not fully observed, and the values are therefore right censored. The accelerated failure time models provide insight into how the values of predictors impact the expected value of failure time.

We explored several accelerated failure time models: gamma, exponential, Weibull, log-normal, and log-logistic. In Figures TA.C1 and TA.C2, we plot the Kaplan-Meier survival estimate and the estimated hazard function for our data for each of the states. The hazard function shows how the likelihood that an end of the spell of non-work occurs in a given time period, conditional on the worker not returning to work in prior periods. We saw that for all states in our analysis, the hazard rate decreases with time. The Kaplan-Meier survival curve shows the probability that the spell of time off work lasted beyond each of the time periods. This is a non-parametric approach to estimate a survival curve. The states that have higher survival rates in Figure TA.C1 have more workers stay out of work at each time period.

Figure TA.C1 Kaplan-Meier Survival Estimates

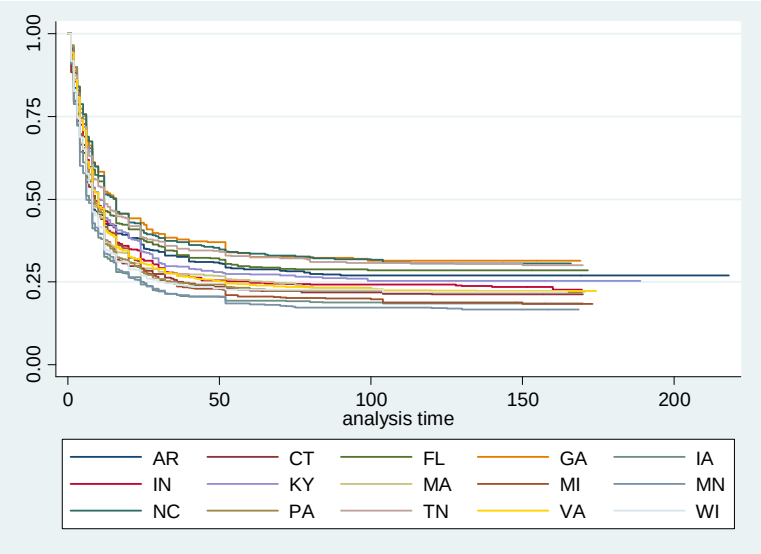
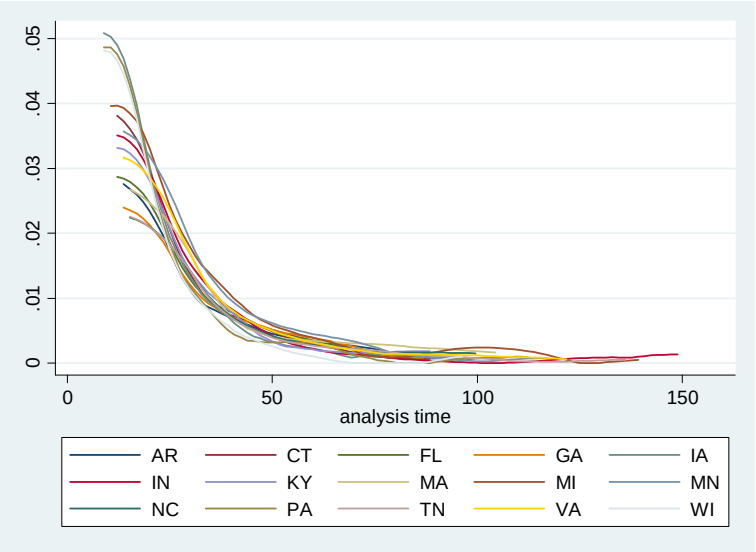


Figure TA.C2 Smoothed Hazard Estimates



For our analysis, we chose a log-logistic model. Since we can make different assumptions about the distribution of ε_{is}, our choice was driven by the need to find a model that provides a good approximation for our data. The Kaplan-Meier survival estimate and the estimated hazard function for our data in Figures TA.C1 and TA.C2 suggest that the log-logistic model provides a good approximation for our measure of the duration of time before substantial return to work. An appealing feature of the hazard function for the log-logistic distribution is that it is flexible and can be increasing monotonically, decreasing monotonically, or first increasing and then decreasing. We also accounted for possible unobserved heterogeneity using gamma

distribution.[5] This model delivers the lowest Akaike information criterion (AIC) when compared with alternative specifications (see Table TA.C4).

In our estimates from the duration model, we directly address concerns about potential bias arising from unobserved heterogeneity—that observed responses by injured workers may differ based on factors that are not observed by researchers. Unlike OLS or logistic models presented above, unobserved heterogeneity may bias estimates from duration models even if it is uncorrelated with regressors. We considered two types of unobserved heterogeneity (gamma and inverse Gaussian) and chose the model with the best fit. From a statistical view, there are several approaches for selecting the best parametric model for the analysis. For nested models, we can distinguish between different specifications using the likelihood-ratio test. The generalized gamma distribution provides one of the most flexible forms for the hazard function, which may take a large number of possible shapes. It nests the log-normal distribution, the Weibull distribution, and the exponential distribution. For non-nested models, we can distinguish between approaches using AIC. The preferred model is the one with the smallest AIC value. Table TA.C4 lists the test statistics from multiple models we considered based on different assumptions about the distribution of the hazard and the distribution of the unobserved heterogeneity. Model (12), log-logistic distribution with gamma unobserved heterogeneity, has the smallest value of AIC. The estimated θ in Model (12) is statistically different from zero. It shows unobserved heterogeneity does exist. Therefore, we chose Model (12), the log-logistic distribution with gamma unobserved heterogeneity for our study.

We used the duration model described above to estimate case-mix adjusted outcomes for Chapter 3 by predicting median time to return to work. Since we estimated the survival model with unobserved individual heterogeneity, we estimated predicted median time to return to work unconditional on unobserved heterogeneity—that is, the prediction was averaged over the distribution of unobserved heterogeneity.

REGRESSION APPROACH FOR ORDERED CATEGORICAL MEASURES

Finally, for the measures of satisfaction with care, we used an ordered logistic regression. Measures of satisfaction with care are categorical variables where each of the responses can be ordered. For instance, the response to the questions about workers' satisfaction with overall care includes the following options: very satisfied, somewhat satisfied, somewhat dissatisfied, and very dissatisfied. These responses can be clearly ranked, but there is no way to quantify the distance between the responses. Ordered logistic regressions were developed to study outcomes like these. The framework of the analysis is similar to the logit model presented for the binary responses, with the addition of multiple comparison categories.

To help with interpreting the results, we transformed ordered logit coefficients into odds ratios. These show relative probability of reporting one level higher on the satisfaction or access-to-care questions. For instance, if the odds ratio is 1.15, then a one-unit increase in the variable of interest increases the relative probability that the level of satisfaction is one unit higher by 15 percent.

[5] The estimated θ in the duration model that we estimate is statistically different from zero. It suggests that unobserved heterogeneity is relevant for our estimates.

Table TA.C4 Test Statistics from Survival Models with Different Assumptions about the Distribution of the Hazard Function and the Unobserved Heterogeneity

	1	2	3	4	5	6	7	8	9	11	12	13
Hazard function	Gamma	Weibull	Log-normal	Exponential	Gamma	Gamma	Weibull	Weibull	Log-normal	Log-logistic	Log-logistic	Log-logistic
Unobserved heterogeneity function					Inverse Gaussian	Gamma	Gamma	Inverse Gaussian	Gamma		Gamma	Inverse Gaussian
Log likelihood	-9,417.19	-10,689.64	-10,006.14	-12,299.05	-9,313.49	-9,228.55	-9,389.30	-10,340.70	-9,231.66	-10,020.07	-9,163.09	-9,227.51
Sigma (σ)	1.27		1.87		1.02	0.84			0.76			
Kappa (κ)	-2.05				-0.98	-0.21						
AIC	18,978.37	21,521.27	20,154.29	24,738.09	18,772.99	18,603.10	18,922.59	20,825.41	18,607.32	20,182.14	18,470.19	18,599.03
Theta (θ)					1.52	1.78	7.57	2.56	2.12		1.73	6.32

Key: AIC: Akaike information criterion.

ESTIMATES FOR MULTISTATE COMPARISONS

The main objective of the report is to examine how worker outcomes differ across states while accounting for differences in case mix.[6] The regression models outlined above were used to derive case-mix adjusted estimates that are used throughout the report. In this section we outline our approach to deriving the predicted outcomes.

PREDICTED OUTCOMES

Throughout the report, we compare outcomes between states by comparing predictions from the regression models outlined above. Our estimates are based on the regression models that have dummy variables for 14 of the states (treating one of the states as a comparison group) and include an intercept. We can recover predictions for the outcome of interest for each of the 15 states. Furthermore, our main focus is on the predictions from the model rather than on the comparison of the state-specific coefficients, although there is a direct correspondence between the coefficient and predictions which can be easily traced and confirmed in the linear models. The estimates from the regression models are available in Technical Appendix D. Case-mix adjusted outcomes allow us to make meaningful comparisons between states while holding all other relevant factors constant. To estimate values of the worker outcomes, we first constructed a sample of claims covering all workers with completed surveys while setting the state dummy to reflect the state of interest. Then, we estimated the predicted value of the outcome based on the regression results while assuming that all workers came from the same state. We accounted for the sampling weights in this estimation. We repeated this exercise for each state in our analysis by varying the values of the state identifiers that are turned on and off for different predictions. For instance, to estimate the likelihood that the worker had not returned to work in Arkansas, we computed the predicted value for the return-to-work measure using coefficients from the return-to-work regression (Table TA.D2) for the full sample of claims while assuming that all claims come from Arkansas. We repeated this exercise for each of the states in the analysis. As a result of this exercise, we have predicted outcomes for the identical set of claims in each state. Any differences in predicted outcomes across states are driven by state-specific factors and not by interstate differences in the underlying worker, employer, or claim characteristics.

Future editions of the report will construct predictions in a similar manner. We will first estimate regression models for all states in the analysis, including new states that become available. Predictions of worker outcomes will be computed as discussed above. Note, however, that the predicted estimates for the states that are currently in the report may slightly change. There are several reasons for the change. Adding more states to the analysis may change the estimates of the coefficients that serve as a basis for prediction. For instance, the relationship between preinjury wages and the return-to-work measure may change slightly once we add more states to our analysis. Another potential source of difference is the expansion of the sample from which we draw predictions. While these factors should not lead to large differences in the overall predictions, we will examine the effect separately in future editions of the report.

[6] Readers interested in unadjusted outcome measures may refer to the databook available at www.wcrinet.org/Report_Appendix/KY_databook.pdf.

MULTISTATE COMPARISONS OF PREDICTED OUTCOMES

In this report, we characterize an individual state's performance by comparing the predicted outcomes to the median of the study states as well as to other states. Chapter 2 describes the criteria used to characterize the outcomes in a state as *higher, somewhat higher*, *lower, somewhat lower*, or *similar to* the median of the study states or other states. The thresholds used to arrive at these characterizations are detailed in Table 2.3. For example, for measures expressed in percentage terms, *higher* means 5 or more percentage points above the median or other state, *somewhat higher* means 3 to 4 percentage points above the median or other state, *lower* means 5 or more percentage points below the median or other state, *somewhat lower* means 3 to 4 percentage points below the median or other state, and *similar* means within 3 percentage points above or below the median or other state's value. In addition, any differences between states that are not statistically significant at the 10 percent level are characterized in our tables as *similar*. Table TA.C6 highlights the other states where injured workers reported higher or lower outcomes compared with the report state.

We realize that these specific thresholds may not satisfy the needs of all system stakeholders. We provide detailed information of the difference between the report state and the median as well as the statistical significance levels from tests of difference between outcomes for the report state and the 15-state median in Table TA.C5.

NOTE ON STATISTICAL SIGNIFICANCE OF DIFFERENCES IN PREDICTED OUTCOMES

When comparing differences in predicted worker outcomes across states, we examine the statistical precision of these differences. For each pair of states, we estimate the standard error of the difference in outcomes and the corresponding confidence interval. Throughout the report we highlight whether the differences between the states are statistically significant at the 10 percent level. For each of the comparisons we have bootstrapped standard errors by drawing 1,000 samples. We chose to bootstrap the estimates of the standard errors assuming a normal distribution, since those are not readily available for the predictions from non-linear models. While standard errors of the differences in the predicted outcomes for pairs of states are straightforward to estimate for OLS regressions, it is challenging to estimate these from non-linear models. We apply the bootstrap approach consistently for all models.

Table TA.C7 provides the main descriptive statistics mentioned in this report.

ANALYSIS LIMITATIONS

The approach outlined above was chosen to reflect the scope of the study, which is to compare outcomes of injured workers across 15 states. In particular, the analysis addresses the question of how worker outcomes differ across study states after controlling for differences in mix of injured workers, employers, and injury types. We do not examine why there may be residual differences in worker outcomes across states and which workers' compensation system features explain these differences. A different type of analysis is needed to address these research questions.

The analysis in this report is also subject to the typical limitations that may be raised about any survey-based analysis. Survey researchers typically worry about nonresponse bias, i.e., whether the sample of workers that responded to the survey is different from the overall sample of workers who were eligible to be interviewed. We compared the worker, injury, and claim characteristics of workers that responded to the survey with those that did not using administrative claims data and observed no apparent differences. For more details about this, see Chapter 2.

Readers may also be worried about other biases that may be present in workers' responses to survey questions. Those may include acquiescence bias,[7] recall bias, social desirability bias, or extreme responding. Some of these were addressed by the design of the survey instrument such as asking factual questions about experience after an injury, mixing positively and negatively worded questions. However biases may still be present. To examine whether biases that still remain invalidate the responses that we received, we compared the measures that we captured in surveys with similar measures from administrative data, as well as the consistency across responses to different questions, and found no concerns.

Finally, the analysis is limited to the measures that we collected in the survey. While there may be many more measures that are of interest to policymakers, we had to make difficult choices about which potentially important questions to include in the survey.

[7] This is also known as *yea-saying*—respondents to a survey have a tendency to agree with all the questions in a measure, leading to inconsistent answers across different measures worded in a similar manner.

Table TA.C5 Testing Statistical Significance of the Difference between Measures for Kentucky and 15-State Median

	KY	15-State Median	Difference	P-Value of the Difference	KY Compared with 15-State Median
Recovery of physical health and functioning[a]					
Improvement in health status from injury to interview	18	18	-0.7	0.311	Similar
Return to work (as of 3 years postinjury)					
Percentage never returned to work due to injury	13%	11%	0.021	0.215	Similar
Percentage never returned to work or returned to work but never sustained for at least 30 days due to injury	18%	14%	0.035	0.065	Somewhat Higher
Time from injury to first substantial return to work (median weeks)[b]	13	11	1.95	0.053	Similar[c]
Percentage with no substantial return to work 1 year postinjury due to injury	20%	17%	0.033	0.088	Somewhat Higher
Percentage not working at interview due to the injury	17%	15%	0.012	0.496	Similar
Percentage with substantial return to work who had second absences due to the same injury	18%	14%	0.037	0.113	Similar[d]
Percentage reporting that they returned to work too soon	38%	38%	0.000	0.995	Similar
Earnings recovery					
Percentage who reported earning "a lot less" due to injury at the time of substantial return to work	7%	8%	-0.012	0.447	Similar
Percentage who reported earning "a lot less" due to injury at the time of the interview	6%	8%	-0.019	0.177	Similar
Access to health care					
Problems getting desired medical services					
Percentage reporting "big problems" getting services they or their primary provider wanted	18%	17%	0.017	0.292	Similar
Problems getting desired provider					
Percentage reporting "big problems" getting the primary provider they wanted	13%	14%	-0.008	0.625	Similar
Satisfaction with health care					
Satisfaction with overall care					
Percentage who were "somewhat" or "very" satisfied	80%	78%	0.021	0.228	Similar
Percentage who were "very dissatisfied"	13%	14%	-0.015	0.225	Similar
Satisfaction with primary provider					
Percentage who were "somewhat" or "very" satisfied	86%	82%	0.040	0.008	Somewhat Higher
Percentage who were "very dissatisfied"	9%	11%	-0.028	0.008	Similar[c]
Percentage who ever wanted to change provider because of dissatisfaction with care					
Initial provider	22%	26%	-0.046	0.038	Somewhat Lower
Primary non-initial provider	14%	20%	-0.063	0.074	Lower

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

States are characterized as either *somewhat higher, higher, somewhat lower,* or *lower* if they satisfy policy and statistical significance thresholds. Details of these thresholds are discussed in Chapter 2 and presented in Table 2.3.

[a] Increase in the SF-12v2® score from the week after injury to the time of the interview. A higher score indicates better recovery. SF-12v2® scores range from 0 to 100. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

[b] The duration question was asked only among workers who had a substantial return to work. For workers without a substantial return to work by the time of the interview, this measure was set as weeks from injury to the time of the interview.

[c] The value does not meet the policy importance threshold, although the difference is statistically significant.

[d] The difference from the 15-state median is not statistically significant at the 10 percent level.

Table TA.C6 Case-Mix Adjusted Outcomes across States with Tests of Statistical Significance between Kentucky and Other State Values

	Comparison of States' Outcomes														
Recovery of physical health and functioning[a]															
Improvement in health status from injury to interview	AR	GA	FL	**KY**	TN	IA	NC	VA	MN	PA	CT*	MA*	MI*	IN*	WI*
	17	17	18	**18**	18	18	18	18	19	19	19	19	21	21	21
Return to work (as of 3 years postinjury)															
Percentage not working at interview due to injury	IN*	MN*	MI*	WI*	VA	IA	FL	CT	TN	AR	**KY**	MA	PA	GA	NC
	11%	12%	12%	12%	13%	13%	14%	15%	16%	16%	**17%**	17%	17%	17%	19%
Percentage never returned to work due to injury	IN*	WI*	IA*	MN*	MI*	MA	CT	VA	NC	AR	PA	FL	TN	**KY**	GA
	7%	8%	8%	8%	8%	11%	11%	11%	11%	11%	11%	12%	12%	**13%**	15%
Percentage never returned to work or returned to work but never sustained for at least 30 days due to injury	IN*	MI*	WI*	MN*	CT*	VA*	FL	MA	IA	TN	NC	AR	PA	**KY**	GA
	9%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	**18%**	19%
Time from injury to first substantial return to work (median weeks)[b]	IA*	MN*	CT*	AR*	WI*	MA*	VA*	TN	IN	MI	FL	PA	NC	**KY**	GA
	9	9	9	9	10	10	11	11	11	12	12	12	13	**13**	13
Percentage with no substantial return to work 1 year postinjury due to injury	IN*	WI*	MN*	MI*	CT*	IA*	VA	FL	PA	AR	TN	MA	NC	**KY**	GA
	11%	11%	13%	13%	14%	16%	16%	17%	17%	18%	18%	19%	19%	**20%**	23%
Percentage with substantial return to work who had second absences due to the same injury	IN*	MI*	WI*	MA	AR	FL	IA	PA	GA	VA	TN	NC	**KY**	MN	CT
	10%	12%	12%	13%	14%	14%	14%	14%	15%	15%	15%	17%	**18%**	18%	19%
Percentage reporting that they returned to work too soon	FL*	MI	MA	NC	GA	WI	TN	CT	**KY**	MN	PA	AR	IN	IA	VA
	31%	33%	33%	35%	36%	37%	37%	38%	**38%**	39%	40%	41%	41%	42%	43%
Earnings losses at SRTW and at Interview															
Percentage who reported earning "a lot less" due to injury at the time of the interview	MA	NC	VA	**KY**	PA	WI	IN	AR	CT	IA	TN	MI	FL	MN*	GA*
	5%	6%	6%	**6%**	7%	7%	7%	8%	8%	8%	9%	9%	10%	10%	11%
Percentage who reported earning "a lot less" due to injury at the time of substantial return to work	WI	**KY**	VA	MI	TN	PA	AR	IN	GA	CT	NC	IA	MA	FL*	MN*
	6%	**7%**	7%	7%	8%	8%	8%	8%	8%	8%	8%	9%	9%	11%	11%
Access to health care															
Problems getting desired medical services															
Percentage reporting "big problems" getting services they or their primary provider wanted	WI*	MI*	PA*	MA*	CT	VA	MN	IA	IN	AR	TN	NC	GA	**KY**	FL
	11%	12%	13%	14%	16%	16%	16%	17%	17%	17%	17%	17%	18%	**18%**	21%
Problems getting desired provider															
Percentage reporting "big problems" getting the primary provider they wanted	WI*	MN	VA	MA	**KY**	PA	MI	CT	GA	AR*	IA*	TN*	NC*	IN*	FL*
	9%	11%	13%	13%	**13%**	13%	14%	14%	16%	16%	18%	18%	19%	19%	20%
Satisfaction with health care															
Satisfaction with overall care															
Percentage who were "somewhat" or "very" satisfied	FL*	GA*	TN*	AR*	IA*	VA	MN	IN	PA	NC	MI	CT	**KY**	MA*	WI*
	71%	73%	74%	75%	76%	78%	78%	78%	79%	79%	79%	80%	**80%**	84%	84%
Percentage who were "very dissatisfied"	WI*	MA*	**KY**	CT	MI	NC	PA	IN	MN	VA	IA*	AR*	TN*	GA*	FL*
	10%	10%	**13%**	13%	13%	14%	14%	14%	14%	14%	16%	16%	17%	18%	20%
Satisfaction with primary provider															
Percentage who were "somewhat" or "very" satisfied	FL*	PA*	IA*	GA*	AR*	TN*	NC*	VA*	IN*	MI	MN	CT	**KY**	MA	WI*
	78%	79%	79%	80%	80%	81%	82%	82%	83%	85%	85%	86%	**86%**	88%	91%
Percentage who were "very dissatisfied"	WI*	MA	**KY**	CT	MN	MI	IN*	VA*	NC*	TN*	AR*	GA*	IA*	PA*	FL*
	6%	7%	**9%**	9%	9%	10%	11%	11%	12%	12%	13%	13%	14%	14%	14%
Percentage who ever wanted to change provider because of dissatisfaction with care															
Initial provider	WI	MA	MN	VA	**KY**	CT	IN	GA	FL	MI	NC	TN*	PA*	IA*	AR*
	17%	19%	21%	22%	**22%**	26%	26%	26%	27%	27%	27%	27%	27%	27%	30%
Primary non-initial provider	MA	MI	**KY**	WI	CT	MN	IN	GA	IA	AR	NC*	PA*	VA*	TN*	FL*
	9%	11%	**14%**	14%	15%	17%	18%	20%	20%	21%	23%	24%	25%	25%	26%
Medical payments															
Average medical payment per claim and percentage above or below 15-state median (24 months' maturity)	MA*	MI*	CT	PA	TN	AR	**KY**	FL	MN	GA	NC	IA*	IN*	WI*	VA*
	$7,835	$10,129	$12,497	$12,629	$12,634	$13,289	**$13,552**	$14,249	$14,939	$15,102	$15,208	$17,169	$17,898	$18,265	$18,448
	-45%	-29%	-12%	-11%	-11%	-7%	**-5%**	0%	5%	6%	7%	20%	26%	28%	29%

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time. Case-mix adjusted. For more details about case-mix adjustment, see Technical Appendix C.

* Difference between Kentucky and other state values are statistically significant at the 10 percent level.

[a] Increase in the SF-12v2® score from the week after injury to the time of the interview. A higher score indicates better recovery. SF-12v2® scores range from 0 to 100. SF-12v2® is a registered trademark of the Medical Outcomes Trust and Optum.

[b] The duration question was asked only among workers who had a substantial return to work. For workers without a substantial return to work by the time of the interview, this measure was set as weeks from injury to the time of the interview.

Key: SRTW: substantial return to work.

Table TA.C7 Descriptive Statistics for Kentucky

	KY
Observations	403
Worker characteristics	
Average age at the time of injury	45
Median age at the time of injury	47
Age group categories	
Age 15 to 24	8%
Age 25 to 39	26%
Age 40 to 54	40%
Age 55 to 60	15%
Percentage married	55%
Educational attainment categories	
Less than high school graduate	8%
High school graduate	45%
Some college	30%
College graduate or postgraduate	15%
Percentage chose to be interviewed in Spanish	2%
Employment characteristics	
Part-time worker at the time of injury	12%
Part-time status was missing	1%
Hourly worker at the time of injury	89%
Hourly worker status is missing	0%
Multiple employers in the year before injury	16%
Tenure categories	
≤ 6 months	16%
> 6 months to 1 year	12%
> 1 to 5 years	22%
> 5 to 10 years	13%
> 10 years	19%
Tenure is missing	17%
Preinjury average weekly wage	$642
Preinjury weekly wage (median)	$513
Log of preinjury wage	6.3
Industry categories	
Manufacturing	24%
Construction	8%
Clerical and professional	6%
Trade	12%
High-risk services	25%
Low-risk services	9%
Other industries	13%
Industry is missing	2%
Firm's payroll size categories	
$1 to $4 million (very small size)	5%
>$4 million to $20 million (small size)	7%
>$20 million to $80 million (medium size)	9%
> $80 million (large size)	19%
Payroll values missing	61%

continued

Table TA.C7 Descriptive Statistics for Kentucky (continued)

	KY
Satisfied with job at the time of injury	
Completely	42%
Mostly	31%
Somewhat	22%
Not at all	4%
Concerned about being fired	
Strongly agree	32%
Somewhat agree	11%
Somewhat disagree	11%
Strongly disagree	45%
Value is missing	0%
Supervisor thought was faking or exaggerating injury	
Strongly agree	16%
Somewhat agree	9%
Somewhat disagree	8%
Strongly disagree	66%
Value is missing	2%
Additional injuries	
Prior work injury	5%
Subsequent work injury	10%
Location characteristics	
County unemployment rate at the time of injury	8.7%
Metropolitan area	51%
Injury characteristics	
SF-12v2™ score 4 weeks before the injury	57
SF-12v2™ score 1 week after the injury	25
SF-12v2™ score at interview	43
Average severity	-32
Self-reported injury severity categories	
Severity under 25 points	25%
Severity 25 to 39 points	48%
Severity 40 points and over	26%
Severity is missing	1%
Injury type categories	
Neurologic spine pain	5%
Back and neck sprains, strains, and non-specific pain	14%
Fractures	13%
Lacerations and contusions	12%
Inflammations	5%
Other sprains and strains	25%
Upper extremity neurologic (carpal tunnel)	3%
Other injuries	23%
Comorbidities	
Received treatment for cancer	4%
Received treatment for diabetes	11%
Received treatment for heart problems	4%
Received treatment for hypertension	29%
Received treatment for lung conditions	7%
Smoking history	
Did not smoke	39%
Smoked 1 to 9 years	16%
Smoked 10 or more years	45%

Note: Sample of Kentucky workers injured in 2012 and interviewed in 2015. All workers surveyed experienced more than seven days of lost time.

TECHNICAL APPENDIX D

REGRESSION ESTIMATES

This section of the technical appendices presents results from the regression analyses that were used to create the case-mix adjusted measures of worker outcomes discussed throughout this report.

Table TA.D1 presents coefficient estimates from the OLS regression for the continuous outcome examined in this report—recovery of health and functioning. The coefficients in this table show how worker outcomes change with changes in the control variables. For the continuous variables, the coefficient can be interpreted as a change in the outcome when the control increases by 1. For logged continuous control variables, the coefficient estimates can be interpreted as a semi-elasticity—a change in the outcome when the control increases by 1 percent. For categorical controls, the coefficients show how the average outcome in the selected group compares with the average outcome in the base category. Consider, for example, coefficient estimates for age group categories from the recovery of health and functioning equation in Table TA.D1. We observed that the recovery of health and functioning decreases when age is higher. Workers who were over 60 years old had recoveries that were 3.6 points lower than workers who were 25 to 39 years old (our base category). Note that the coefficients show the change in outcomes while keeping each of the other variables that are used in the analysis constant. These regression estimates were used to compute predicted outcomes that are used for interstate comparisons of worker outcomes in the main body of the report.

Table TA.D2 presents estimated odds ratios from the logistic regressions for return-to-work outcomes. As discussed in Technical Appendix C, logistic regression is a common approach for examining binary outcomes. Return-to-work measures examined in Table TA.D2 are examples of such binary measures. For instance, the first measure examined in the table takes the value "1" if the worker was not working at the time of the interview predominantly due to the injury and "0" if the worker was working at the time of the interview. Since the coefficient estimates from the logistic regressions are not intuitively easy to explain, we present odds ratios that measure the multiplicative effect of the variable of interest. The odds ratios that were greater than 1 reveal a positive correlation between the control and outcome variables. The odds ratios that were less than 1 reveal a negative correlation between the control and the outcome variables. For instance, workers who were over the age of 60 were more likely to be not working at the time of the interview, more likely to experience no return to work, and more likely to experience no substantial return to work when compared with workers who were 25–39 years old.

Table TA.D3 presents coefficient estimates from the duration model for the measure of time before substantial return to work. As discussed in Technical Appendix C, these models are designed to examine measures where the full duration spell may sometimes be unobserved. A positive coefficient estimate suggests positive correlation with the outcome, and a negative coefficient estimate suggests a negative correlation with the duration measure. For instance, consistent with expectations, we found that workers with higher self-reported severity took longer to return to work.

Table TA.D4 presents odds ratios from logistic regressions for measures of earnings recovery. In particular, we examine whether workers reported that they earned "a lot less" at the time of the interview or at the time of substantial return to work due to the injury. As in the case of the binary return-to-work outcomes, we present the estimates of the odds ratios. Odds ratios that were greater than 1 reveal a positive

correlation between the control and outcome variables. Odds ratios that were less than 1 reveal a negative correlation between the control and outcome variables.

Table TA.D5 presents odds ratios from ordered logistic regressions for measures of access to care. In particular, we examine whether workers reported big problems getting the care they wanted or big problems getting the provider they wanted. Workers could respond that they had "big problems," "small problems," or "no problems."

Table TA.D6 shows coefficient estimates from ordered logistic regressions for measures of satisfaction with care and satisfaction with primary provider. Ordered logistic regressions are designed to deal with categorical outcomes that are ordered in nature. In this case, there is a clear ranking of responses to the satisfaction question, ranging from "very satisfied" to "very dissatisfied." The table reports odds ratios as well as coefficient estimates. Odds ratios that were greater than 1 reveal a positive correlation between the control and outcome variables. Odds ratios that were less than 1 reveal a negative correlation between the control and outcome variables.

Table TA.D7 provides estimates for two additional measures of satisfaction with care—whether workers wanted to change their initial or their primary non-initial provider due to dissatisfaction with care. In this table, we present separate logistic regressions for the two measures—for instance, the first measure reported in Table TA.D7 was coded as "1" if workers wanted to change their initial provider and "0" if otherwise. The second measure was coded similarly. These measures were examined using the logistics regression approaches that were outlined above.

CHANGES IN PREDICTED OUTCOMES BETWEEN PHASES 1, 2, AND 3

The empirical analysis in this report follows approaches from earlier phases of this study using an expanded set of states. Analysis in Phase 1 (Savych, Thumula, and Victor, 2014a–d; Thumula, Savych, and Victor, 2014a–d) relied on survey information from 8 states, Phase 2 used 12 states (Savych, Thumula, and Victor, 2015a–d), while this report used data from 15 states (3 new states were added). Since we used a larger sample, we would not expect estimates from the current study to be identical to estimates from Phases 1 and 2 of the analysis. The change may result from more precise regression estimates using the 15-state sample (Tables TA.D1–TA.D7),[1] as well as from the differences in samples that are used to make case-mix adjusted predictions.

The shift to a 15-state sample led to small changes in state-specific predictions that we present in Chapter 3. As we discussed in detail in Technical Appendix C, state-specific predictions were constructed by repeatedly applying regression estimates from Tables TA.D1–TA.D7 to the sample of all workers while assuming that this sample came from each of the states in our analysis. However, the set of claims for which we made predictions changed between the three phases of analysis—it now includes observations from 15 states. Most changes in predicted outcomes were within 1 percentage point. For instance, we found a 1 percentage point higher rate of not working at interview predominantly due to the injury in Wisconsin using a 15-state sample compared with an 8-state sample, but a 1 percentage point lower rate of no substantial return to work as of one year postinjury predominantly due to the injury in Pennsylvania. We expect that these predictions will change slightly once we add more states to the interstate comparisons.

[1] Those looking for more details may compare point estimates from two sets of regressions—the tables are numbered in a consistent manner between the reports. Regression estimates presented in Tables TA.D1 through TA.D7 in this report correspond to the regression estimates presented in Tables TA.D1 through TA.D7 in Savych, Thumula, and Victor (2014a).

Table TA.D1 Coefficient Estimates from OLS Regressions for Recovery of Health and Functioning

Control Variables	Recovery		Medical Costs	
	Coefficient	Standard Error	Coefficient	Standard Error
Worker Demographics				
Age group categories				
Age 15 to 24	2.681***	(0.756)	-603	(907)
Age 25 to 39 (base)				
Age 40 to 54	-2.849***	(0.440)	1,484**	(595)
Age 55 to 60	-3.137***	(0.585)	2,537***	(787)
Age over 60	-3.553***	(0.620)	2,263***	(811)
Gender is male	1.987***	(0.383)	1,639***	(493)
Marital status is married	0.396	(0.347)	895**	(455)
Educational attainment				
Less than high school graduate	-2.762***	(0.601)	2,245***	(864)
High school graduate (base)				
Some college	1.062***	(0.391)	-913*	(506)
College graduate or postgraduate	1.367***	(0.503)	-552	(632)
Chose to be interviewed in Spanish	-2.820***	(0.870)	3,610**	(1578)
Employment characteristics				
Tenure categories				
≤ 6 months	-1.361**	(0.543)	1,662**	(701)
> 6 months to 1 year	-0.882	(0.647)	2,718***	(962)
> 1 to 5 years (base)				
> 5 to 10 years	-0.574	(0.523)	813	(727)
> 10 years	0.226	(0.478)	1,225**	(624)
Tenure is missing	-0.790	(0.658)	336	(821)
Log of preinjury wage	1.004***	(0.366)	2,011***	(494)
Part-time worker at the time of injury	0.331	(0.574)	461	(685)
Hourly worker at the time of injury	-0.277	(0.498)	48	(678)
Hourly worker status is missing	-3.324**	(1.417)	-7	(2294)
Multiple employers in the year before injury	-0.002	(0.444)	-487	(561)
Satisfied with job at the time of injury				
Completely satisfied (base)				
Mostly satisfied	1.691***	(0.376)	-1,539***	(516)
Somewhat or not at all satisfied	2.175***	(0.436)	-3,941***	(541)
Concerned about being fired				
Disagree (base)				
Somewhat agree	-2.681***	(0.489)	2,061***	(631)
Strongly agree	-6.106***	(0.404)	4,194***	(573)
Firm's payroll size categories				
$1 to $4 million (very small size) (base)				
> $4 million to $20 million (small size)	-0.829	(0.584)	-526	(750)
> $20 million to $80 million (medium size)	-0.912	(0.615)	184	(858)
> $80 million (large size)	-0.314	(0.587)	116	(802)
Payroll values missing	-0.850*	(0.498)	211	(693)
Industry categories				
Manufacturing	0.504	(0.704)	-552	(958)
Construction	-0.803	(0.877)	1,894	(1385)
Clerical and professional (base)				
Trade	1.137	(0.737)	-98	(1033)
High-risk services	0.359	(0.663)	-1,557*	(928)
Low-risk services	0.159	(0.719)	-1,326	(971)
Other industries	1.620*	(0.854)	-3,349***	(1059)
Industry is missing	2.512**	(1.075)	-1,125	(1450)

continued

Table TA.D1 Coefficient Estimates from OLS Regressions for Recovery of Health and Functioning (continued)

Control Variables	Recovery		Medical Costs	
	Coefficient	Standard Error	Coefficient	Standard Error
Location characteristics				
Metropolitan statistical area	0.715*	(0.407)	711	(559)
County unemployment rate	-0.256**	(0.100)	-9	(133)
Injury characteristics				
Injury type categories				
Neurologic spine pain	-6.828***	(0.764)	4,344***	(1283)
Back and neck sprains, strains, and non-specific pain	-3.932***	(0.625)	-7,319***	(879)
Fractures (base)				
Lacerations and contusions	-0.759	(0.682)	-6,760***	(927)
Inflammations	-2.102***	(0.665)	3,276***	(979)
Other sprains and strains	-2.553***	(0.525)	-1,366*	(802)
Upper extremity neurologic (carpal tunnel)	-2.441**	(1.031)	-2,207**	(947)
Other injuries	-2.228***	(0.533)	-1,864**	(826)
Self-reported injury severity categories				
Severity under 25 points (base)				
Severity 25 to 39 points	11.441***	(0.375)	2,756***	(458)
Severity 40 points and over	14.377***	(0.487)	7,436***	(662)
Prior work injury	-1.452**	(0.621)	-878	(671)
Comorbidities				
Received treatment for cancer	-1.140	(0.998)	645	(1348)
Received treatment for diabetes	-1.446**	(0.598)	500	(821)
Received treatment for heart problems	-3.119***	(0.848)	691	(1312)
Received treatment for hypertension	-2.135***	(0.401)	958*	(523)
Received treatment for lung conditions	-2.570***	(0.611)	24	(722)
Smoking history				
Did not smoke (base)				
Smoked 1 to 9 years	-1.644***	(0.519)	-446	(679)
Smoked 10 or more years	-1.094***	(0.370)	-565	(493)
Dummy variables for each state in survey				
Indiana (base)				
Arkansas	-4.789***	(0.925)	-4,609***	(1368)
Connecticut	-2.034**	(0.897)	-5,401***	(1209)
Florida	-3.784***	(0.934)	-3,649***	(1317)
Georgia	-4.751***	(0.853)	-2,796**	(1303)
Iowa	-3.394***	(1.006)	-729	(1493)
Kentucky	-3.583***	(0.919)	-4,346***	(1260)
Massachusetts	-1.868**	(0.907)	-10,063***	(1121)
Michigan	-0.043	(0.933)	-7,769***	(1109)
Minnesota	-2.523***	(0.899)	-2,959**	(1318)
North Carolina	-3.166***	(0.849)	-2,690**	(1333)
Pennsylvania	-2.189**	(0.877)	-5,269***	(1218)
Tennessee	-3.521***	(0.877)	-5,264***	(1196)
Virginia	-2.917***	(0.900)	550	(1467)
Wisconsin	0.131	(0.853)	367	(1351)
Constant	14.347***	(2.818)	418	(3687)
Observations	5,968		6,076	
R-squared	0.29		0.13	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

Key: OLS: ordinary least squares.

Table TA.D2 Odds Ratio from Logistic Regression for Return-to-Work Measures

Control Variables	Not Working at the Time of Interview Due to Injury		No Substantial Return to Work Due to Injury		No Substantial Return to Work within 1 Year after Injury Due to Injury	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Worker characteristics						
Age group categories						
Age 15 to 24	0.276***	(0.096)	0.439***	(0.122)	0.441***	(0.110)
Age 25 to 39 (base)						
Age 40 to 54	1.752***	(0.199)	1.411***	(0.159)	1.395***	(0.147)
Age 55 to 60	2.155***	(0.318)	1.646***	(0.241)	1.458***	(0.203)
Age over 60	3.050***	(0.459)	2.354***	(0.359)	2.168***	(0.311)
Gender is male	0.871	(0.082)	0.888	(0.083)	0.967	(0.086)
Marital status is married	0.902	(0.078)	0.935	(0.080)	0.885	(0.071)
Educational attainment						
Less than high school graduate	1.981***	(0.247)	1.802***	(0.228)	1.731***	(0.212)
High school graduate (base)						
Some college	0.855	(0.083)	0.776***	(0.076)	0.885	(0.081)
College graduate or postgraduate	0.741**	(0.104)	0.655***	(0.094)	0.681***	(0.091)
Chose to be interviewed in Spanish	0.818	(0.181)	0.916	(0.202)	0.916	(0.196)
Employment characteristics						
Tenure categories						
≤ 6 months	1.807***	(0.229)	1.709***	(0.212)	1.587***	(0.189)
> 6 months to 1 year	1.346*	(0.214)	1.115	(0.182)	1.254	(0.186)
> 1 to 5 years (base)						
> 5 to 10 years	0.928	(0.127)	0.956	(0.133)	0.966	(0.124)
> 10 years	1.216	(0.147)	1.155	(0.139)	1.095	(0.125)
Tenure is missing	1.196	(0.203)	1.018	(0.172)	0.926	(0.150)
Log of preinjury wage	0.806**	(0.074)	0.739***	(0.066)	0.764***	(0.064)
Part-time worker at the time of injury	0.779	(0.121)	0.807	(0.125)	0.788	(0.116)
Hourly worker at the time of injury	1.071	(0.136)	1.089	(0.142)	1.129	(0.139)
Hourly worker status is missing	2.329***	(0.735)	2.638***	(0.798)	2.177***	(0.643)
Multiple employers in the year before injury	1.042	(0.119)	1.135	(0.126)	1.101	(0.117)
Satisfied with job at the time of injury						
Completely satisfied (base)						
Mostly satisfied	0.543***	(0.049)	0.622***	(0.056)	0.657***	(0.056)
Somewhat or not at all satisfied	0.350***	(0.042)	0.406***	(0.048)	0.433***	(0.048)
Concerned about being fired						
Disagree (base)						
Somewhat agree	1.646***	(0.215)	1.531***	(0.204)	1.514***	(0.188)
Strongly agree	3.052***	(0.285)	3.051***	(0.281)	3.246***	(0.281)
Firm's payroll size categories						
$1 to $4 million (very small size) (base)						
> $4 million to $20 million (small size)	0.966	(0.138)	0.954	(0.136)	0.893	(0.121)
> $20 million to $80 million (medium size)	0.845	(0.133)	0.808	(0.126)	0.847	(0.124)
> $80 million (large size)	1.019	(0.145)	0.954	(0.137)	1.019	(0.140)
Payroll values missing	1.008	(0.128)	0.969	(0.123)	1.006	(0.121)
Industry categories						
Manufacturing	0.973	(0.177)	0.965	(0.173)	0.934	(0.160)
Construction	1.520*	(0.326)	1.479*	(0.314)	1.394	(0.283)
Clerical and professional (base)						
Trade	0.833	(0.159)	0.776	(0.145)	0.699**	(0.126)
High-risk services	0.960	(0.163)	0.944	(0.158)	0.930	(0.148)
Low-risk services	0.955	(0.178)	0.810	(0.150)	0.792	(0.138)
Other industries	0.788	(0.180)	0.664*	(0.152)	0.703	(0.153)
Industry is missing	0.771	(0.229)	0.642	(0.205)	0.779	(0.221)

continued

Table TA.D2 Odds Ratio from Logistic Regression for Return-to-Work Measures (continued)

Control Variables	Not Working at the Time of Interview Due to Injury		No Substantial Return to Work Due to Injury		No Substantial Return to Work within 1 Year after Injury Due to Injury	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Location characteristics						
Metropolitan statistical area	0.986	(0.098)	1.248**	(0.126)	1.230**	(0.118)
County unemployment rate	1.054**	(0.025)	1.064**	(0.026)	1.055**	(0.025)
Injury characteristics						
Injury type categories						
Neurologic spine pain	5.917***	(1.035)	5.787***	(1.066)	5.139***	(0.886)
Back and neck sprains, strains, and non-specific pain	2.784***	(0.468)	2.316***	(0.406)	2.131***	(0.345)
Fractures (base)						
Lacerations and contusions	0.923	(0.216)	0.886	(0.209)	0.783	(0.172)
Inflammations	1.675***	(0.320)	2.524***	(0.478)	2.667***	(0.468)
Other sprains and strains	1.786***	(0.282)	1.945***	(0.323)	1.877***	(0.288)
Upper extremity neurologic (carpal tunnel)	1.924**	(0.532)	2.042**	(0.568)	2.001***	(0.520)
Other injuries	1.434**	(0.238)	1.515**	(0.264)	1.590***	(0.254)
Self-reported injury severity categories						
Severity under 25 points (base)						
Severity 25 to 39 points	1.407***	(0.158)	1.370***	(0.157)	1.409***	(0.151)
Severity 40 points and over	2.943***	(0.359)	2.747***	(0.342)	2.833***	(0.330)
Severity is missing	2.718***	(0.715)	1.662*	(0.466)	2.001***	(0.525)
Prior work injury	1.476***	(0.205)	1.392**	(0.201)	1.311*	(0.183)
Comorbidities						
Received treatment for cancer	1.314	(0.309)	1.125	(0.250)	0.949	(0.209)
Received treatment for diabetes	1.132	(0.145)	1.120	(0.148)	1.194	(0.151)
Received treatment for heart problems	1.343	(0.251)	1.574**	(0.287)	1.479**	(0.263)
Received treatment for hypertension	1.467***	(0.137)	1.358***	(0.127)	1.298***	(0.115)
Received treatment for lung conditions	1.180	(0.162)	1.167	(0.165)	1.076	(0.146)
Smoking history						
Did not smoke (base)						
Smoked 1 to 9 years	1.017	(0.139)	1.183	(0.158)	1.156	(0.146)
Smoked 10 or more years	1.211**	(0.112)	1.154	(0.109)	1.237**	(0.109)
Dummy variables for each state in survey						
Indiana (base)						
Arkansas	1.713**	(0.414)	2.130***	(0.51)	1.929***	(0.420)
Connecticut	1.579*	(0.381)	1.582*	(0.38)	1.459*	(0.325)
Florida	1.421	(0.343)	1.861***	(0.45)	1.776***	(0.393)
Georgia	1.830***	(0.427)	2.850***	(0.65)	2.822***	(0.588)
Iowa	1.267	(0.352)	1.936**	(0.53)	1.620*	(0.411)
Kentucky	1.763**	(0.425)	2.578***	(0.60)	2.327***	(0.507)
Massachusetts	1.764**	(0.422)	1.883***	(0.45)	2.140***	(0.459)
Michigan	1.143	(0.280)	1.103	(0.28)	1.234	(0.286)
Minnesota	1.098	(0.293)	1.290	(0.34)	1.208	(0.290)
North Carolina	2.093***	(0.450)	2.125***	(0.47)	2.155***	(0.433)
Pennsylvania	1.811**	(0.424)	2.144***	(0.50)	1.923***	(0.414)
Tennessee	1.661**	(0.376)	1.976***	(0.45)	1.973***	(0.417)
Virginia	1.237	(0.292)	1.744**	(0.41)	1.767***	(0.387)
Wisconsin	1.147	(0.291)	1.131	(0.29)	1.016	(0.242)
Observations	5,948		5,897		5,813	
Pseudo R-squared	0.20		0.18		0.18	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

Table TA.D3 Coefficient Estimates from Duration Model

Control Variables	Duration Model		
	Marginal Effect	Coefficient	Standard Error
Worker Demographics			
Age group categories			
Age 15 to 24	-1.106	-0.102	(0.086)
Age 25 to 39 (base)			
Age 40 to 54	1.009*	0.093*	(0.053)
Age 55 to 60	1.311*	0.120*	(0.070)
Age over 60	1.177	0.108	(0.077)
Gender is male	1.007**	0.093**	(0.047)
Marital status is married	-0.072	-0.007	(0.043)
Educational attainment			
Less than high school graduate	2.187***	0.201***	(0.072)
High school graduate (base)			
Some college	-0.212	-0.019	(0.045)
College graduate or postgraduate	-0.087	-0.008	(0.061)
Chose to be interviewed in Spanish	0.646	0.059	(0.103)
Employment characteristics			
Tenure categories			
≤ 6 months	-0.159	-0.015	(0.067)
> 6 months to 1 year	1.318	0.121	(0.080)
> 1 to 5 years (base)			
> 5 to 10 years	0.054	0.005	(0.063)
> 10 years	-0.268	-0.025	(0.055)
Tenure is missing	0.188	0.017	(0.074)
Log of preinjury wage	0.631	0.058	(0.044)
Part-time worker at the time of injury	1.931**	0.177**	(0.069)
Hourly worker at the time of injury	2.542***	0.234***	(0.066)
Hourly worker status is missing	3.606*	0.331*	(0.201)
Multiple employers in the year before injury	0.395	0.036	(0.058)
Satisfied with job at the time of injury			
Completely satisfied (base)			
Mostly satisfied	-0.815*	-0.075*	(0.044)
Somewhat or not at all satisfied	-1.488**	-0.137**	(0.054)
Concerned about being fired			
Disagree (base)			
Somewhat agree	2.614***	0.240***	(0.056)
Strongly agree	3.909***	0.359***	(0.057)
Firm's payroll size categories			
$1 to $4 million (very small size) (base)			
> $4 million to $20 million (small size)	-0.246	-0.023	(0.070)
> $20 million to $80 million (medium size)	-0.999	-0.092	(0.073)
> $80 million (large size)	0.499	0.046	(0.069)
Payroll values missing	0.024	0.002	(0.060)
Industry categories			
Manufacturing	3.300***	0.303***	(0.092)
Construction	3.885***	0.357***	(0.118)
Clerical and professional (base)			
Trade	1.912*	0.176*	(0.097)
High-risk services	3.482***	0.320***	(0.089)
Low-risk services	1.849*	0.170*	(0.093)
Other industries	3.777***	0.347***	(0.108)
Industry is missing	1.717	0.158	(0.133)

continued

Table TA.D3 Coefficient Estimates from Duration Model (continued)

Control Variables	Duration Model		
	Marginal Effect	Coefficient	Standard Error
Location characteristics			
Metropolitan statistical area	0.416	0.038	(0.046)
County unemployment rate	-0.123	-0.011	(0.012)
Injury characteristics			
Injury type categories			
Neurologic spine pain	0.197	0.018	(0.111)
Back and neck sprains, strains, and non-specific pain	-3.525***	-0.324***	(0.073)
Fractures (base)			
Lacerations and contusions	-5.601***	-0.515***	(0.076)
Inflammations	0.781	0.072	(0.099)
Other sprains and strains	-1.680**	-0.154**	(0.065)
Upper extremity neurologic (carpal tunnel)	0.395	0.036	(0.112)
Other injuries	-2.129***	-0.196***	(0.063)
Self-reported injury severity categories			
Severity under 25 points (base)			
Severity 25 to 39 points	2.882***	0.265***	(0.046)
Severity 40 points and over	6.357***	0.584***	(0.056)
Severity is missing	3.534**	0.325**	(0.139)
Prior work injury	-0.170	-0.016	(0.087)
Comorbidities			
Received treatment for cancer	0.256	0.024	(0.115)
Received treatment for diabetes	0.248	0.023	(0.071)
Received treatment for heart problems	1.805	0.166*	(0.100)
Received treatment for hypertension	0.797	0.073	(0.046)
Received treatment for lung conditions	0.229	0.021	(0.081)
Smoking history			
Did not smoke (base)			
Smoked 1 to 9 years	1.048*	0.096*	(0.057)
Smoked 10 or more years	1.295***	0.119***	(0.044)
Dummy variables for each state in survey			
Indiana (base)			
Arkansas	-2.526**	-0.232**	(0.105)
Connecticut	-2.849**	-0.262**	(0.116)
Florida	0.565	0.052	(0.123)
Georgia	1.388	0.128	(0.108)
Iowa	-3.063**	-0.281**	(0.121)
Kentucky	1.198	0.110	(0.103)
Massachusetts	-1.062	-0.098	(0.111)
Michigan	0.182	0.017	(0.106)
Minnesota	-3.042**	-0.280**	(0.110)
North Carolina	1.125	0.103	(0.106)
Pennsylvania	0.751	0.069	(0.098)
Tennessee	-0.597	-0.055	(0.109)
Virginia	-0.903	-0.083	(0.107)
Observations		5,631	
Gamma		0.460	
Theta		1.730	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

Table TA.D4 Odds Ratio from Logistic Regression for Earnings Recovery Measures

Control Variables	Reporting Earning a Lot Less at the Time of Substantial Return to Work Due to Injury		Reporting Earning a Lot Less at the Time of Interview Due to Injury	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Worker Demographics				
Age group categories				
Age 15 to 24	0.479**	(0.150)	0.515**	(0.170)
Age 25 to 39 (base)				
Age 40 to 54	0.911	(0.134)	1.105	(0.189)
Age 55 to 60	0.734	(0.161)	0.853	(0.216)
Age over 60	1.080	(0.261)	1.002	(0.337)
Gender is male	0.948	(0.129)	0.888	(0.144)
Marital status is married	0.912	(0.113)	0.908	(0.129)
Educational attainment				
Less than high school graduate	1.253	(0.286)	1.264	(0.341)
High school graduate (base)				
Some college	0.953	(0.133)	1.341*	(0.220)
College graduate or postgraduate	1.017	(0.190)	1.215	(0.260)
Chose to be interviewed in Spanish	0.406**	(0.170)	0.587	(0.227)
Employment characteristics				
Tenure categories				
≤ 6 months	0.929	(0.178)	0.960	(0.213)
> 6 months to 1 year	0.886	(0.191)	0.987	(0.243)
> 1 to 5 years (base)				
> 5 to 10 years	0.721*	(0.140)	1.128	(0.246)
> 10 years	0.707*	(0.127)	0.730	(0.155)
Tenure is missing	0.725	(0.173)	1.200	(0.313)
Log of preinjury wage	1.083	(0.162)	0.850	(0.132)
Part-time worker at the time of injury	0.917	(0.206)	0.400***	(0.125)
Hourly worker at the time of injury	1.126	(0.226)	0.898	(0.189)
Hourly worker status is missing	3.716***	(1.339)	0.900	(0.607)
Multiple employers in the year before injury	0.972	(0.161)	1.153	(0.210)
Satisfied with job at the time of injury				
Completely satisfied (base)				
Mostly satisfied	0.962	(0.131)	0.586***	(0.087)
Somewhat or not at all satisfied	0.918	(0.148)	0.387***	(0.076)
Concerned about being fired				
Disagree (base)				
Somewhat agree	2.099***	(0.381)	1.827***	(0.419)
Strongly agree	4.027***	(0.551)	6.067***	(0.977)
Firm's payroll size categories				
$1 to $4 million (very small size) (base)				
> $4 million to $20 million (small size)	0.906	(0.205)	1.703**	(0.402)
> $20 million to $80 million (medium size)	0.894	(0.224)	0.799	(0.216)
> $80 million (large size)	1.046	(0.233)	1.085	(0.274)
Payroll values missing	1.232	(0.245)	1.138	(0.248)
Industry categories				
Manufacturing	1.678	(0.530)	2.878***	(1.150)
Construction	1.857*	(0.670)	3.305***	(1.453)
Clerical and professional (base)				
Trade	2.086**	(0.668)	3.789***	(1.503)
High-risk services	2.558***	(0.740)	3.577***	(1.345)
Low-risk services	1.398	(0.445)	2.704**	(1.055)
Other industries	1.726	(0.602)	2.322*	(1.021)
Industry is missing	1.863	(0.790)	2.062	(1.225)

continued

Table TA.D4 Odds Ratio from Logistic Regression for Earnings Recovery Measures (continued)

Control Variables	Reporting Earning a Lot Less at the Time of Substantial Return to Work Due to Injury		Reporting Earning a Lot Less at the Time of Interview Due to Injury	
	Odds Ratio	Standard Error	Odds Ratio	Standard Error
Location characteristics				
Metropolitan statistical area	1.095	(0.165)	0.991	(0.164)
County unemployment rate	1.026	(0.036)	0.987	(0.041)
Injury characteristics				
Injury type categories				
Neurologic spine pain	1.726**	(0.451)	1.814*	(0.582)
Back and neck sprains, strains, and non-specific pain	1.111	(0.251)	1.556	(0.435)
Fractures (base)				
Lacerations and contusions	0.486**	(0.149)	0.959	(0.321)
Inflammations	1.359	(0.329)	1.526	(0.465)
Other sprains and strains	1.219	(0.239)	1.399	(0.355)
Upper extremity neurologic (carpal tunnel)	1.057	(0.423)	1.861	(0.856)
Other injuries	0.845	(0.174)	1.195	(0.320)
Self-reported injury severity categories				
Severity under 25 points (base)				
Severity 25 to 39 points	1.476**	(0.246)	1.888***	(0.380)
Severity 40 points and over	2.391***	(0.420)	2.918***	(0.642)
Severity is missing	1.203	(0.590)	3.068***	(1.258)
Prior work injury	0.695	(0.170)	1.074	(0.296)
Comorbidities				
Received treatment for cancer	0.828	(0.343)	1.332	(0.543)
Received treatment for diabetes	1.232	(0.249)	1.881***	(0.427)
Received treatment for heart problems	1.673	(0.547)	2.089**	(0.784)
Received treatment for hypertension	0.981	(0.148)	0.932	(0.161)
Received treatment for lung conditions	1.074	(0.231)	1.273	(0.339)
Smoking history				
Did not smoke (base)				
Smoked 1 to 9 years	1.249	(0.228)	1.125	(0.240)
Smoked 10 or more years	1.173	(0.159)	1.291	(0.205)
Dummy variables for each state in survey				
Indiana (base)				
Arkansas	0.967	(0.340)	1.147	(0.428)
Connecticut	1.007	(0.339)	1.159	(0.460)
Florida	1.454	(0.467)	1.436	(0.536)
Georgia	1.000	(0.335)	1.663	(0.578)
Iowa	1.116	(0.428)	1.185	(0.496)
Kentucky	0.821	(0.295)	0.818	(0.309)
Massachusetts	1.174	(0.387)	0.620	(0.283)
Michigan	0.889	(0.305)	1.306	(0.510)
Minnesota	1.491	(0.491)	1.591	(0.594)
North Carolina	1.029	(0.322)	0.718	(0.273)
Pennsylvania	0.967	(0.323)	0.941	(0.384)
Tennessee	0.957	(0.325)	1.298	(0.485)
Virginia	0.846	(0.276)	0.757	(0.282)
Wisconsin	0.775	(0.272)	0.959	(0.355)
Observations	4,599		4,144	
Pseudo R-squared	0.12		0.18	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

Table TA.D5 Coefficient Estimates from Ordered Logistic Regression for Measures of Access to Care and Provider

Control Variables	Problems Getting Care (1: no problems, 2: small problems, 3: big problems)			Problems Getting Provider (1: no problems, 2: small problems, 3: big problems)		
	Odds Ratio	Coefficient	Standard Error	Odds Ratio	Coefficient	Standard Error
Worker Demographics						
Age group categories						
Age 15 to 24	0.803	-0.219	(0.153)	0.888	-0.119	(0.164)
Age 25 to 39 (base)						
Age 40 to 54	1.054	0.053	(0.082)	1.066	0.064	(0.087)
Age 55 to 60	0.905	-0.100	(0.109)	0.949	-0.052	(0.115)
Age over 60	0.960	-0.041	(0.126)	0.979	-0.021	(0.130)
Gender is male	0.850**	-0.163**	(0.072)	0.871*	-0.138*	(0.075)
Marital status is married	0.960	-0.041	(0.065)	1.020	0.020	(0.070)
Educational attainment						
Less than high school graduate	1.122	0.115	(0.111)	1.169	0.156	(0.114)
High school graduate (base)						
Some college	1.145*	0.135*	(0.074)	1.020	0.020	(0.077)
College graduate or postgraduate	1.130	0.122	(0.096)	1.021	0.021	(0.101)
Chose to be interviewed in Spanish	1.861***	0.621***	(0.159)	1.398**	0.335**	(0.168)
Employment characteristics						
Tenure categories						
≤ 6 months	1.036	0.035	(0.097)	1.041	0.040	(0.103)
> 6 months to 1 year	1.020	0.020	(0.120)	0.824	-0.194	(0.134)
> 1 to 5 years (base)						
> 5 to 10 years	0.974	-0.026	(0.101)	1.149	0.139	(0.104)
> 10 years	1.183*	0.168*	(0.091)	1.119	0.112	(0.096)
Tenure is missing	0.889	-0.118	(0.140)	1.030	0.030	(0.138)
Log of preinjury wage	1.023	0.023	(0.070)	1.045	0.044	(0.075)
Part-time worker at the time of injury	1.051	0.050	(0.114)	0.979	-0.021	(0.118)
Hourly worker at the time of injury	1.010	0.010	(0.097)	1.185	0.170	(0.104)
Hourly worker status is missing	1.611*	0.477*	(0.246)	1.442	0.366	(0.288)
Multiple employers in the year before injury	1.112	0.106	(0.085)	1.092	0.088	(0.092)
Satisfied with job at the time of injury						
Completely satisfied (base)						
Mostly satisfied	1.141*	0.132*	(0.071)	1.076	0.073	(0.075)
Somewhat or not at all satisfied	1.111	0.105	(0.083)	1.220**	0.199**	(0.088)
Concerned about being fired						
Disagree (base)						
Somewhat agree	1.933***	0.659***	(0.089)	1.910***	0.647***	(0.094)
Strongly agree	2.776***	1.021***	(0.072)	2.596***	0.954***	(0.075)
Firm's payroll size categories						
$1 to $4 million (very small size) (base)						
> $4 million to $20 million (small size)	0.947	-0.054	(0.110)	0.946	-0.055	(0.119)
> $20 million to $80 million (medium size)	1.022	0.022	(0.123)	1.138	0.129	(0.128)
> $80 million (large size)	1.285**	0.251**	(0.109)	1.399***	0.336***	(0.116)
Payroll values missing	1.174*	0.160*	(0.096)	1.207*	0.188*	(0.102)
Industry categories						
Manufacturing	1.228	0.205	(0.142)	0.918	-0.086	(0.144)
Construction	1.324*	0.281*	(0.170)	1.073	0.070	(0.177)
Clerical and professional (base)						
Trade	1.140	0.131	(0.151)	0.943	-0.059	(0.150)
High-risk services	1.239	0.214	(0.133)	0.984	-0.016	(0.133)
Low-risk services	1.095	0.091	(0.147)	0.710**	-0.343**	(0.149)
Other industries	1.397**	0.334**	(0.163)	1.160	0.148	(0.170)
Industry is missing	1.108	0.103	(0.228)	0.962	-0.039	(0.223)

continued

Table TA.D5 Coefficient Estimates from Ordered Logistic Regression for Measures of Access to Care and Provider (continued)

Control Variables	Problems Getting Care (1: no problems, 2: small problems, 3: big problems)			Problems Getting Provider (1: no problems, 2: small problems, 3: big problems)		
	Odds Ratio	Coefficient	Standard Error	Odds Ratio	Coefficient	Standard Error
Location characteristics						
Metropolitan statistical area	0.961	-0.040	(0.076)	1.052	0.051	(0.083)
County unemployment rate	0.981	-0.019	(0.019)	0.962*	-0.039*	(0.021)
Injury characteristics						
Injury type categories						
Neurologic spine pain	3.004***	1.100***	(0.144)	2.583***	0.949***	(0.146)
Back and neck sprains, strains, and non-specific pain	2.394***	0.873***	(0.127)	2.125***	0.754***	(0.129)
Fractures (base)						
Lacerations and contusions	1.343*	0.295*	(0.155)	1.250	0.223	(0.153)
Inflammations	2.071***	0.728***	(0.141)	1.964***	0.675***	(0.144)
Other sprains and strains	1.956***	0.671***	(0.120)	1.642***	0.496***	(0.121)
Upper extremity neurologic (carpal tunnel)	2.059***	0.722***	(0.216)	1.376	0.319	(0.233)
Other injuries	1.662***	0.508***	(0.123)	1.384**	0.325**	(0.128)
Self-reported injury severity categories						
Severity under 25 points (base)						
Severity 25 to 39 points	1.631***	0.489***	(0.081)	1.498***	0.404***	(0.085)
Severity 40 points and over	2.423***	0.885***	(0.091)	2.166***	0.773***	(0.095)
Severity is missing	1.904***	0.644***	(0.221)	1.467*	0.383*	(0.229)
Prior work injury	0.986	-0.014	(0.117)	1.002	0.002	(0.122)
Comorbidities						
Received treatment for cancer	1.009	0.009	(0.208)	1.241	0.216	(0.189)
Received treatment for diabetes	1.047	0.046	(0.107)	0.938	-0.064	(0.116)
Received treatment for heart problems	1.443**	0.367**	(0.153)	1.121	0.114	(0.168)
Received treatment for hypertension	1.014	0.014	(0.074)	0.984	-0.016	(0.077)
Received treatment for lung conditions	1.022	0.022	(0.111)	1.221*	0.200*	(0.112)
Smoking history						
Did not smoke (base)						
Smoked 1 to 9 years	1.240**	0.215**	(0.099)	1.060	0.058	(0.103)
Smoked 10 or more years	1.230***	0.207***	(0.071)	1.125	0.118	(0.074)
Dummy variables for each state in survey						
Indiana (base)						
Arkansas	1.007	0.007	(0.177)	0.803	-0.219	(0.179)
Connecticut	0.908	-0.096	(0.176)	0.635**	-0.454**	(0.181)
Florida	1.339*	0.292*	(0.174)	1.008	0.008	(0.178)
Georgia	1.127	0.120	(0.168)	0.795	-0.229	(0.176)
Iowa	0.993	-0.007	(0.201)	0.890	-0.117	(0.201)
Kentucky	1.129	0.121	(0.171)	0.592***	-0.524***	(0.183)
Massachusetts	0.810	-0.211	(0.181)	0.582***	-0.542***	(0.178)
Michigan	0.648**	-0.434**	(0.191)	0.635**	-0.454**	(0.192)
Minnesota	0.974	-0.026	(0.181)	0.499***	-0.696***	(0.193)
North Carolina	1.037	0.036	(0.159)	0.982	-0.018	(0.164)
Pennsylvania	0.703**	-0.353**	(0.179)	0.618***	-0.481***	(0.183)
Tennessee	1.008	0.008	(0.172)	0.936	-0.066	(0.169)
Virginia	0.952	-0.049	(0.173)	0.572***	-0.558***	(0.182)
Wisconsin	0.565***	-0.571***	(0.192)	0.387***	-0.950***	(0.203)
Observations		6,024			5,999	
Pseudo R-squared		0.08			0.07	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

Table TA.D6 Coefficients from Ordered Logistic Regression for Satisfaction with Care and Provider

Control Variables	Satisfaction with Care (1: very satisfied, 2: somewhat satisfied, 3: somewhat dissatisfied, 4: very dissatisfied)			Satisfaction with Provider (1: very satisfied, 2: somewhat satisfied, 3: somewhat dissatisfied, 4: very dissatisfied)		
	Odds Ratio	Coefficient	Standard Error	Odds Ratio	Coefficient	Standard Error
Worker Demographics						
Age group categories						
Age 15 to 24	0.885	-0.122	(0.130)	0.955	-0.046	(0.144)
Age 25 to 39 (base)						
Age 40 to 54	0.926	-0.077	(0.072)	0.994	-0.006	(0.078)
Age 55 to 60	0.837*	-0.178*	(0.099)	0.827*	-0.190*	(0.103)
Age over 60	0.779**	-0.250**	(0.110)	0.826	-0.191	(0.121)
Gender is male	0.922	-0.081	(0.064)	0.971	-0.029	(0.068)
Marital status is married	0.917	-0.087	(0.059)	0.950	-0.051	(0.062)
Educational attainment						
Less than high school graduate	1.229**	0.206**	(0.097)	1.083	0.080	(0.101)
High school graduate (base)						
Some college	1.013	0.013	(0.066)	0.976	-0.024	(0.069)
College graduate or postgraduate	0.968	-0.033	(0.086)	0.841*	-0.173*	(0.093)
Chose to be interviewed in Spanish	1.777***	0.575***	(0.138)	2.052***	0.719***	(0.141)
Employment characteristics						
Tenure categories						
≤ 6 months	1.169*	0.156*	(0.086)	1.155	0.144	(0.092)
> 6 months to 1 year	0.949	-0.052	(0.107)	0.959	-0.042	(0.118)
> 1 to 5 years (base)						
> 5 to 10 years	1.038	0.037	(0.087)	1.114	0.108	(0.096)
> 10 years	1.055	0.054	(0.080)	1.102	0.097	(0.085)
Tenure is missing	0.908	-0.097	(0.116)	1.255*	0.227*	(0.119)
Log of preinjury wage	1.076	0.073	(0.061)	1.020	0.020	(0.065)
Part-time worker at the time of injury	0.991	-0.009	(0.101)	1.080	0.077	(0.107)
Hourly worker at the time of injury	1.181*	0.166*	(0.086)	1.198*	0.181*	(0.094)
Hourly worker status is missing	1.636**	0.492**	(0.240)	1.232	0.209	(0.247)
Multiple employers in the year before injury	1.116	0.110	(0.077)	1.117	0.111	(0.081)
Satisfied with job at the time of injury						
Completely satisfied (base)						
Mostly satisfied	1.212***	0.192***	(0.064)	1.296***	0.259***	(0.069)
Somewhat or not at all satisfied	1.332***	0.287***	(0.072)	1.586***	0.461***	(0.077)
Concerned about being fired						
Disagree (base)						
Somewhat agree	2.042***	0.714***	(0.077)	1.808***	0.592***	(0.083)
Strongly agree	2.924***	1.073***	(0.065)	2.175***	0.777***	(0.067)
Firm's payroll size categories						
$1 to $4 million (very small size) (base)						
> $4 million to $20 million (small size)	1.099	0.094	(0.099)	1.259**	0.230**	(0.106)
> $20 million to $80 million (medium size)	1.239**	0.214**	(0.108)	1.409***	0.343***	(0.112)
> $80 million (large size)	1.300***	0.262***	(0.099)	1.381***	0.323***	(0.108)
Payroll values missing	1.441***	0.365***	(0.087)	1.452***	0.373***	(0.094)
Industry categories						
Manufacturing	1.080	0.077	(0.120)	1.065	0.063	(0.128)
Construction	1.008	0.008	(0.152)	1.186	0.171	(0.161)
Clerical and professional (base)						
Trade	1.057	0.055	(0.127)	1.033	0.032	(0.135)
High-risk services	1.080	0.077	(0.114)	0.919	-0.085	(0.123)
Low-risk services	0.871	-0.138	(0.126)	0.871	-0.138	(0.136)
Other industries	1.062	0.060	(0.145)	1.025	0.025	(0.159)
Industry is missing	1.005	0.005	(0.195)	0.687*	-0.376*	(0.212)

continued

Table TA.D6 Coefficients from Ordered Logistic Regression for Satisfaction with Care and Provider (continued)

Control Variables	Satisfaction with Care (1: very satisfied, 2: somewhat satisfied, 3: somewhat dissatisfied, 4: very dissatisfied)			Satisfaction with Provider (1: very satisfied, 2: somewhat satisfied, 3: somewhat dissatisfied, 4: very dissatisfied)		
	Odds Ratio	Coefficient	Standard Error	Odds Ratio	Coefficient	Standard Error
Location characteristics						
Metropolitan statistical area	1.011	0.011	(0.070)	1.054	0.053	(0.075)
County unemployment rate	1.016	0.016	(0.017)	1.007	0.007	(0.018)
Injury characteristics						
Injury type categories						
Neurologic spine pain	2.680***	0.986***	(0.123)	2.026***	0.706***	(0.134)
Back and neck sprains, strains, and non-specific pain	2.675***	0.984***	(0.107)	2.522***	0.925***	(0.115)
Fractures (base)						
Lacerations and contusions	1.429***	0.357***	(0.128)	1.351**	0.301**	(0.140)
Inflammations	1.665***	0.510***	(0.123)	1.694***	0.527***	(0.131)
Other sprains and strains	1.878***	0.630***	(0.097)	1.775***	0.574***	(0.106)
Upper extremity neurologic (carpal tunnel)	1.595***	0.467***	(0.180)	1.600**	0.470**	(0.191)
Other injuries	1.540***	0.432***	(0.101)	1.346***	0.297***	(0.112)
Self-reported injury severity categories						
Severity under 25 points (base)						
Severity 25 to 39 points	1.423***	0.353***	(0.069)	1.303***	0.265***	(0.074)
Severity 40 points and over	2.264***	0.817***	(0.080)	1.937***	0.661***	(0.085)
Severity is missing	2.006***	0.696***	(0.173)	1.288	0.253	(0.208)
Prior work injury	1.125	0.118	(0.099)	1.094	0.090	(0.101)
Comorbidities						
Received treatment for cancer	1.363*	0.310*	(0.174)	1.005	0.005	(0.197)
Received treatment for diabetes	1.289***	0.254***	(0.093)	1.251**	0.224**	(0.098)
Received treatment for heart problems	1.344**	0.296**	(0.140)	1.225	0.203	(0.152)
Received treatment for hypertension	0.949	-0.052	(0.067)	1.014	0.014	(0.071)
Received treatment for lung conditions	1.084	0.081	(0.102)	1.030	0.030	(0.107)
Smoking history						
Did not smoke (base)						
Smoked 1 to 9 years	1.034	0.033	(0.086)	0.987	-0.013	(0.092)
Smoked 10 or more years	1.169**	0.156**	(0.063)	0.986	-0.014	(0.067)
Dummy variables for each state in survey						
Indiana (base)						
Arkansas	1.163	0.151	(0.155)	1.203	0.185	(0.165)
Connecticut	0.870	-0.139	(0.159)	0.774	-0.256	(0.168)
Florida	1.539***	0.431***	(0.155)	1.362*	0.309*	(0.164)
Georgia	1.344**	0.296**	(0.146)	1.221	0.200	(0.153)
Iowa	1.145	0.135	(0.176)	1.313	0.272	(0.184)
Kentucky	0.868	-0.142	(0.164)	0.752*	-0.285*	(0.169)
Massachusetts	0.652***	-0.427***	(0.158)	0.633***	-0.458***	(0.170)
Michigan	0.927	-0.076	(0.167)	0.842	-0.172	(0.175)
Minnesota	1.013	0.013	(0.164)	0.815	-0.204	(0.175)
North Carolina	0.937	-0.065	(0.147)	1.089	0.085	(0.156)
Pennsylvania	0.943	-0.059	(0.157)	1.331*	0.286*	(0.166)
Tennessee	1.296*	0.259*	(0.146)	1.113	0.107	(0.159)
Virginia	1.014	0.014	(0.153)	1.042	0.041	(0.164)
Wisconsin	0.621***	-0.476***	(0.165)	0.480***	-0.734***	(0.188)
Observations		6,027			6,019	
Pseudo R-squared		0.08			0.06	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

Table TA.D7 Odds Ratio from Logistic Regression for Satisfaction Measures

Control Variables	Wanted to Change Initial Provider		Wanted to Change Primary Non-Initial Provider	
	Coefficient	Standard Error	Coefficient	Standard Error
Worker Demographics				
Age group categories				
Age 15 to 24	0.930	(0.147)	0.899	(0.313)
Age 25 to 39 (base)				
Age 40 to 54	0.969	(0.084)	1.316	(0.227)
Age 55 to 60	0.831	(0.098)	1.002	(0.244)
Age over 60	0.779*	(0.101)	1.299	(0.348)
Gender is male	0.903	(0.069)	0.862	(0.132)
Marital status is married	0.945	(0.065)	0.918	(0.128)
Educational attainment				
Less than high school graduate	0.989	(0.116)	1.776**	(0.430)
High school graduate (base)				
Some college	0.849**	(0.065)	1.205	(0.189)
College graduate or postgraduate	0.940	(0.097)	0.954	(0.195)
Chose to be interviewed in Spanish	1.405**	(0.239)	1.444	(0.562)
Employment characteristics				
Tenure categories				
≤ 6 months	1.158	(0.119)	0.960	(0.200)
> 6 months to 1 year	1.003	(0.128)	1.057	(0.259)
> 1 to 5 years (base)				
> 5 to 10 years	1.169	(0.125)	0.924	(0.199)
> 10 years	1.059	(0.104)	0.765	(0.155)
Tenure is missing	1.183	(0.159)	0.786	(0.217)
Log of preinjury wage	1.123	(0.084)	1.130	(0.178)
Part-time worker at the time of injury	1.012	(0.123)	1.525*	(0.377)
Hourly worker at the time of injury	1.215*	(0.127)	0.998	(0.193)
Hourly worker status is missing	1.504	(0.411)	0.879	(0.538)
Multiple employers in the year before injury	1.083	(0.097)	0.978	(0.183)
Satisfied with job at the time of injury				
Completely satisfied (base)				
Mostly satisfied	1.052	(0.078)	1.036	(0.158)
Somewhat or not at all satisfied	1.182*	(0.103)	1.163	(0.205)
Concerned about being fired				
Disagree (base)				
Somewhat agree	1.725***	(0.165)	2.335***	(0.463)
Strongly agree	2.289***	(0.170)	2.569***	(0.393)
Firm's payroll size categories				
$1 to $4 million (very small size) (base)				
> $4 million to $20 million (small size)	1.189	(0.147)	0.755	(0.197)
> $20 million to $80 million (medium size)	1.426***	(0.188)	1.181	(0.323)
> $80 million (large size)	1.613***	(0.195)	1.244	(0.318)
Payroll values missing	1.647***	(0.176)	1.376	(0.300)
Industry categories				
Manufacturing	1.298*	(0.190)	0.803	(0.231)
Construction	1.144	(0.206)	0.869	(0.299)
Clerical and professional (base)				
Trade	1.280	(0.196)	0.586*	(0.180)
High-risk services	1.237	(0.170)	0.469***	(0.127)
Low-risk services	1.065	(0.162)	0.808	(0.230)
Other industries	1.510**	(0.261)	0.677	(0.235)

continued

Table TA.D7 Odds Ratio from Logistic Regression for Satisfaction Measures (continued)

Control Variables	Wanted to Change Initial Provider		Wanted to Change Primary Non-Initial Provider	
	Coefficient	Standard Error	Coefficient	Standard Error
Location characteristics				
Metropolitan statistical area	1.172*	(0.096)	0.884	(0.148)
County unemployment rate	0.991	(0.021)	1.005	(0.039)
Injury characteristics				
Injury type categories				
Neurologic spine pain	1.994***	(0.297)	4.317***	(1.651)
Back and neck sprains, strains, and non-specific pain	2.179***	(0.284)	4.601***	(1.651)
Fractures (base)				
Lacerations and contusions	1.242	(0.193)	2.818***	(1.131)
Inflammations	2.468***	(0.356)	2.675***	(1.014)
Other sprains and strains	1.613***	(0.196)	3.526***	(1.196)
Upper extremity neurologic (carpal tunnel)	1.467*	(0.321)	2.215	(1.173)
Other injuries	1.349**	(0.171)	2.757***	(0.955)
Self-reported injury severity categories				
Severity under 25 points (base)				
Severity 25 to 39 points	1.568***	(0.136)	1.688***	(0.334)
Severity 40 points and over	2.166***	(0.207)	2.160***	(0.459)
Prior work injury	1.268**	(0.147)	0.817	(0.200)
Comorbidities				
Received treatment for cancer	1.269	(0.245)	0.987	(0.395)
Received treatment for diabetes	1.042	(0.120)	1.230	(0.274)
Received treatment for heart problems	1.110	(0.193)	0.898	(0.320)
Received treatment for hypertension	1.026	(0.080)	0.911	(0.152)
Received treatment for lung conditions	0.907	(0.106)	0.849	(0.208)
Smoking history				
Did not smoke (base)				
Smoked 1 to 9 years	1.087	(0.110)	1.581**	(0.329)
Smoked 10 or more years	1.020	(0.076)	1.048	(0.156)
Dummy variables for each state in survey				
Indiana (base)				
Arkansas	1.238	(0.226)	1.262	(0.478)
Connecticut	0.978	(0.181)	0.780	(0.304)
Florida	1.032	(0.193)	1.725	(0.595)
Georgia	1.010	(0.179)	1.175	(0.405)
Iowa	1.073	(0.227)	1.208	(0.474)
Kentucky	0.769	(0.144)	0.712	(0.280)
Massachusetts	0.636**	(0.123)	0.439*	(0.185)
Michigan	1.038	(0.203)	0.555	(0.223)
Minnesota	0.709*	(0.144)	0.914	(0.358)
North Carolina	1.042	(0.183)	1.414	(0.483)
Pennsylvania	1.068	(0.197)	1.496	(0.549)
Tennessee	1.048	(0.187)	1.613	(0.551)
Virginia	0.758	(0.147)	1.610	(0.580)
Wisconsin	0.558***	(0.114)	0.727	(0.306)
Observations	6,048		1,758	
Pseudo R-squared	0.08		0.12	

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

* Statistically significant at the 10 percent level; ** statistically significant at the 5 percent level; *** statistically significant at the 1 percent level.

EXPLORING DIFFERENCES IN OUTCOMES BASED ON TIME BETWEEN THE INJURY AND THE INTERVIEW

Since the surveys were conducted between 29 and 52 months after the injury (with an average and median duration of 35 months after the injury), it is important to examine whether workers' responses differed with the time between the injury and the interview. Some readers may be concerned that workers interviewed 29 months after the injury would have different recall of their experiences compared with workers interviewed at closer to 52 months. Other readers may be concerned that those interviewed closer to 52 months would have had more opportunity to return to work, or had more "exposure" to the medical care delivery system such that they would represent a fundamentally different experience with the workers' compensation system such that it might not be valid to compare with those who had a shorter "exposure" to the workers' compensation system.

We examined these concerns while statistically accounting for other injury, worker, and workplace characteristics (similar to what we did in the analysis presented in Tables TA.D1–TA.D7). Table TA.D8 shows the estimate of interest—the coefficient for how the number of months from the injury to the interview is related to worker outcomes. In most specifications, worker outcomes did not vary much with the time between the injury and the interview. For instance, the coefficient estimate in panel A of Table TA.D8 from the recovery regression was 0.014. This implies that a one-year increase in time between the injury and the interview was associated with a 0.168 point higher recovery of health and functioning—a very small difference in average recovery. We found that estimates from most other regressions were also small. Only one of the estimates presented in Table TA.D8 was statistically significant. In particular, workers were less likely to report earning "a lot less" at the time of the interview with more months between the injury and the interview. We have also examined specifications that allow for a non-linear effect of the time after the injury (by controlling for different groups of time between the injury and the interview), and we found no strong evidence that differences in outcomes across workers were driven by time lag between their injuries and interviews.

DIFFERENCES IN OUTCOMES IN ARKANSAS DUE TO LONGER TIME BETWEEN INJURIES AND INTERVIEWS

The time lag between the injury and interview was longer for Arkansas because we sampled workers injured in 2010 and 2011 and conducted interviews in 2014. For the 2014 interviews conducted in three other states, we sampled workers injured in 2011. For the 2013 interviews conducted in eight states, we sampled injuries that occurred in 2010. Similarly for the three states interviewed in 2015, we sampled workers from 2012. Because Arkansas is a smaller state, we had to sample workers injured in 2010 and 2011 in order to get a similar number of completed surveys as in other states. We explored how this sampling may affect our results by comparing predicted worker outcomes for the full sample in Arkansas (2010 and 2011 injuries, estimates that are presented in Chapter 3) and the sample of 2011 injuries.[2] We found small differences in case-mix adjusted outcomes in Table TA.D9. For instance, we found a 1 point difference in recovery of health and functioning, a less than 1 percentage point difference in return-to-work measures, and a 4 percent difference in median weeks before a substantial return to work. We also found small differences for most measures of satisfaction with care and provider. For instance, workers in the 2011 sample were 2 percentage points more

[2] We derived predictions for the 2011 sample by reestimating all regression models presented in Tables TA.D1–TA.D7 while excluding Arkansas injuries that happened in 2010. Arkansas observations from 2011 were reweighted to reflect the population from which they were drawn.

likely to report "big problems" getting the services that they or their provider wanted and 1 percentage point more likely to report "big problems" getting the provider that they wanted than the workers in the overall Arkansas sample. Note that we found a 5 percentage point difference in the likelihood that workers wanted to change their primary non-initial provider due to dissatisfaction with care. This difference, however, is not statistically different from zero, since it is estimated from the sample of claims where the primary provider was a non-initial provider.

Table TA.D8 Estimates from Multiple Regressions for Variable Capturing Time between the Injury and the Interview

Selected Control Variables	Coefficient or Odds Ratio	Standard Error
A. OLS estimates for "recovery" (coefficient)		
Months between the injury and the interview	0.014	(0.058)
B. Logit estimates for "not working at the time of the interview due to injury" (odds ratio)		
Months between the injury and the interview	0.988	(0.014)
C. Logit estimates for "no substantial return to work due to injury" (odds ratio)		
Months between the injury and the interview	1.017	(0.014)
D. Logit estimates for "no substantial return to work within 1 year after injury due to injury" (odds ratio)		
Months between the injury and the interview	1.015	(0.013)
E. Duration model for "speed of initial return to work" (coefficient)		
Months between the injury and the interview	-0.002	(0.007)
F. Logit regression for "reporting earning a lot less at the time of substantial return to work" (odds ratio)		
Months between the injury and the interview	0.988	(0.023)
G. Logit regression for "reporting earning a lot less at the time of interview" (odds ratio)		
Months between the injury and the interview	0.959*	(0.023)
H. Ordered logistics regression for "problems getting care"		
Months between the injury and the interview	0.987	(0.011)
I. Ordered logistics regression for "problems getting provider"		
Months between the injury and the interview	0.994	(0.011)
J. Ordered logistics regression for "satisfaction with care"		
Months between the injury and the interview	0.994	(0.009)
K. Ordered logistics regression for "satisfaction with provider"		
Months between the injury and the interview	0.997	(0.010)
L. Logit regression for "wanted to change initial provider" (odds ratio)		
Months between the injury and the interview	0.991	(0.011)
M. Logit regression for "wanted to change primary non-initial provider" (odds ratio)		
Months between the injury and the interview	0.964	(0.022)

Notes: Sample of workers in 15 states. Workers in Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Virginia, and Wisconsin were injured in 2010 and interviewed in 2013. Workers in Connecticut, Iowa, and Tennessee were injured in 2011 and interviewed in 2014. Workers in Arkansas were injured in 2010 and 2011 and interviewed in 2014. Florida, Georgia, and Kentucky workers were injured in 2012 and interviewed in 2015. All workers experienced more than seven days of lost time.

Estimates include controls for all other measures presented in Tables TA.D1–TA.D7.

* Statistically significant at the 10 percent level.

Key: OLS: ordinary least squares.

Table TA.D9 Comparing Predictions for Arkansas for Full Sample of Injuries and for 2011 Injuries

Outcome Measure	Full Sample	2011 Sample	Difference
Perceived recovery of health and functioning	17	16	1
% not working at interview due to injury	16%	16%	0%
% who never returned to work or returned to work but never worked for at least 30 days due to injury	15%	14%	-1%
% with no substantial return to work as of 1 year postinjury due to injury	18%	17%	-1%
Median weeks from injury to initial return to work that lasted for at least 30 days (across all workers)	9	8	-4%
% reporting earning "a lot less" due to injury at the time of interview	8%	9%	0%
% reporting earning "a lot less" due to injury at the time of substantial return to work	8%	8%	0%
% reporting "no problems" getting services that they or their primary provider wanted	71%	68%	-3%
% reporting "big problems" getting services that they or their primary provider wanted	16%	18%	2%
% reporting "no problems" getting primary provider they wanted	74%	73%	-2%
% reporting "big problems" getting primary provider they wanted	15%	16%	1%
Satisfaction with overall care			
% who were "somewhat" or "very" satisfied	76%	74%	-2%
% who were "very dissatisfied"	8%	9%	1%
Satisfaction with primary provider			
% who were "somewhat" or "very" satisfied	81%	79%	-2%
% who were "very dissatisfied"	12%	13%	1%
Wanted to change providers due to dissatisfaction with care			
Initial provider	29%	30%	1%
Primary non-initial provider	21%	26%	5%

Notes: Values may not add up due to rounding.

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The Workers Compensation Research Institute is a nonpartisan, not-for-profit research organization providing objective information about public policy issues involving workers' compensation systems.

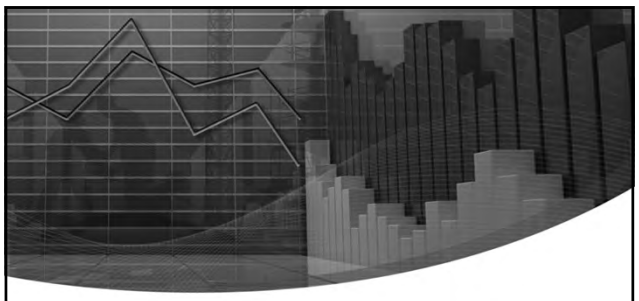
The Institute does not take positions on the issues it researches; rather it provides information obtained through studies and data collection efforts that conform to recognized scientific methods, with objectivity further ensured through rigorous peer review procedures.

The Institute's work helps those interested in improving workers' compensation systems by providing new, objective, empirical infor–mation that bears on certain vital questions:

- How serious are the problems that policymakers want to address?
- What are the consequences of proposed solutions?
- Are there alternative solutions that merit consideration? What are their consequences?

The Institute's work takes several forms:

- Original research studies on major issues confronting workers' compensation systems
- Original research studies of individual state systems where policymakers have shown an interest in reform and where there is an unmet need for objective information
- Sourcebooks that bring together information from a variety of sources to provide unique, convenient reference works on specific issues
- Periodic research briefs that report on significant new research, data, and issues in the field
- Benchmarking reports that identify key outcomes of state systems



Comparing Kentucky's Workers' Compensation System With Other States

August 19, 2016

WCRI

About WCRI

- Not-for-profit public policy research organization
- Objective research on important public policy issues in workers' compensation systems
- Quality assured with external peer reviews
- Don't make policy recommendations and do not take positions on issues studied
- Support from diverse membership
  - Insurers, service providers, employers, labor, state agencies, independent rating bureaus

  WCRI

Agenda

- Broad overview of results for Kentucky from various WCRI studies
- CompScope™ benchmarking study
- Injured worker outcome survey

  WCRI

What Is CompScope™?

- Annual benchmarking study that compares state WC benefit delivery systems
  - Findings today from CompScope™ 16th edition (1st report for Kentucky)
- Contains 18 larger-than-average states representing nearly 70% of U.S. WC benefits paid
- Goals
  - Facilitate continuous improvement
  - Monitor the impact of reforms
  - Ground public policy debates in facts that are based on data

WC: Workers' Compensation

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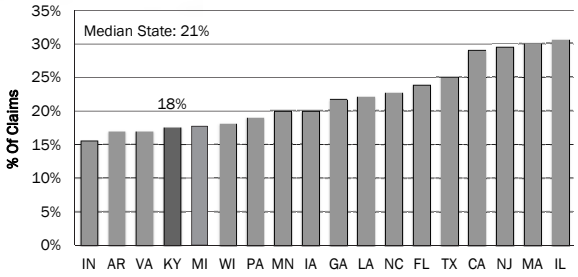
Key Findings For Kentucky From CompScope™ Benchmarks, 16th Edition

- Typical total payments/claim with > 7 days of lost time
  - Typical indemnity benefits per claim; masks offsetting factors
    - Longer duration of temporary disability
    - Lower % of claims with PPD/lump-sum payments, although higher average PPD/lump-sum payment per claim
  - Lower-than-typical medical payments/claim due to lower prices
  - Greater frequency of medical-legal expenses and higher payments, but other benefit delivery expenses per claim typical
- Costs per claim changed little from 2009 to 2014, overall and for all components

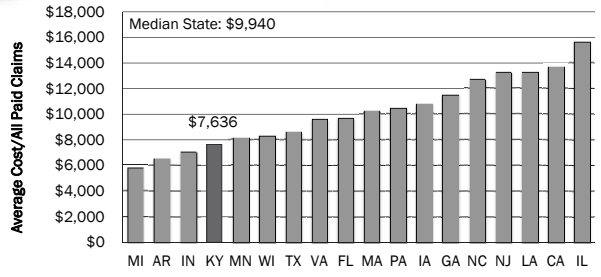
PPD: Permanent Partial Disability

Kentucky Had Lower % Of Workers Who Lost More Than 7 Days Of Work



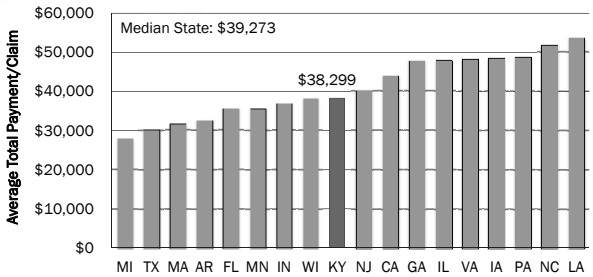
2012/15 Claims With > 7 Days Of Lost Time As A % Of All Paid Claims, Adjusted For Injury/Industry Mix And Wages

Broadest Cost Measure: KY Costs For All Paid Claims 23% Lower Than 18-State Median



2012/15 All Paid Claims, Adjusted For Injury/Industry Mix And Wages

Total Payments Per Claim With More Than 7 Days Of Lost Time Typical In Kentucky



2012/15 Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix And Wages

Typical Indemnity And Benefit Delivery Expenses Per Claim, Lower Medical Payments

Average Payment Per Claim	Kentucky	18-State Median	% Difference
Total	$38,299	$39,273	-2%
Indemnity	$18,332	$18,020	2%
Medical	$14,050	$16,267	-14%
Benefit Delivery Expenses	$5,896	$5,780	2%

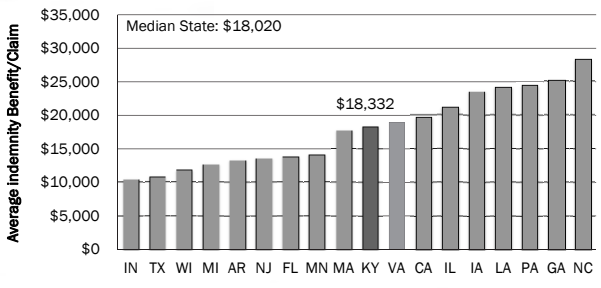
2012/15 Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix And Wages

System Features That May Contribute To Indemnity Costs In Kentucky

- Longer duration of temporary disability: no requirement in KY for payment of temporary partial benefits when a worker returns to work on a part-time basis or at reduced wages
- Higher PPD/lump-sum payments per claim
  - PPD determination process includes factors based on AMA impairment rating and other multipliers (age/education and ability to return to work)
  - Likely leads to higher ratings (and benefits), when compared with other PPD states that do not consider factors other than impairment rating
- Statutory maximum limited benefits for 1 in 8 injured workers
- Lower % of workers were off work more than one week

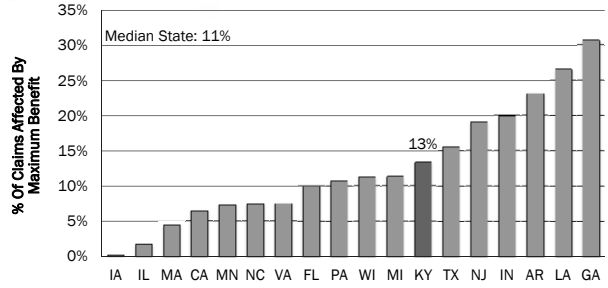
AMA: American Medical Association

Kentucky Indemnity Benefits Per Claim Were Typical: Masks Offsetting Factors



2012/15 Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix And Wages

More Than 1 In 8 Injured KY Workers Had Weekly Benefits Limited By Statutory Max



2014/15 Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix

Key Findings For Kentucky From CompScope™ Benchmarks, 16th Edition

- Typical total payments/claim with > 7 days of lost time
  - Typical indemnity benefits per claim; masks offsetting factors
    - Longer duration of temporary disability
    - Lower % of claims with PPD/lump-sum payments, although higher average PPD/lump-sum payment per claim
  - ➔Lower-than-typical medical payments/claim due to lower prices
  - Greater frequency of medical-legal expenses and higher payments, but other benefit delivery expenses per claim typical
- Costs per claim changed little from 2009 to 2014, overall and for all components

WCRI

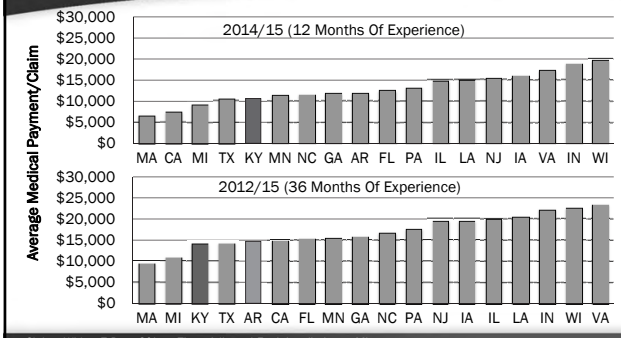
What Do We Know About Medical Costs In Kentucky From Other WCRI Studies?

- Findings on prices/payments from other WCRI studies:
  - Prices paid for professional services in KY were 14% lower than the median and changed little 2009–2014
  - KY hospital outpatient facility payments per surgical episode were in the lower group of 33 states in 2014
  - Higher ambulatory surgery center (ASC) facility payments for common surgical episodes; much lower use of ASCs
- CompScope™ Medical Benchmarks, 17th Edition, analyzes other cost components, including utilization of nonhospital and hospital outpatient services

Sources: *WCRI Medical Price Index For Workers' Compensation, Seventh Edition* (2015); *Hospital Outpatient Cost Index For Workers' Compensation, 4th Edition* (2015)

WCRI

Medical Payments Per Claim In Kentucky Lower Than Typical Of 18 Study States



Claims With > 7 Days Of Lost Time, Adjusted For Injury/Industry Mix

WCRI

Key Findings For Kentucky From CompScope™ Benchmarks, 16th Edition

- Typical total payments/claim with > 7 days of lost time
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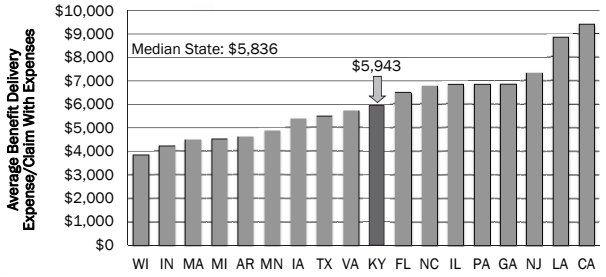
WCRI

Typical Average Benefit Delivery Expense Per Claim In Kentucky



2012/15 Claims With > 7 Days Of Lost Time And Benefit Delivery Expenses, Adjusted For Injury/Industry Mix

Key Findings For Kentucky From CompScope™ Benchmarks, 16th Edition

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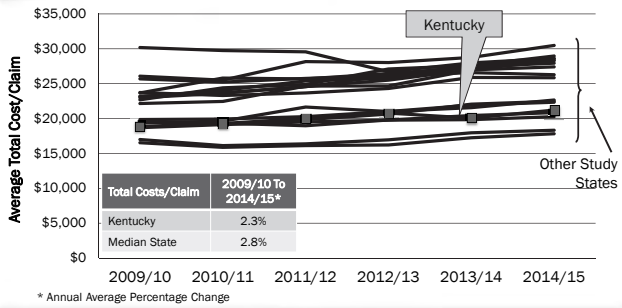
➔Costs per claim changed little from 2009 to 2014, overall and for all components

KY Expenses Typical For Some Measures; Higher Use And Costs For Medical-Legal

Performance Measure	Kentucky	18-State Median	Difference	Multistate Ranking
Medical Cost Containment Expense/Claim	$3,395	$3,361	1%	Typical
% Claims With Defense Attorneys (payment > $500)	26.8%	28.9%	-2 ppt	Typical
Defense Attorney Payment Per Claim (payment > $500)	$5,488	$5,631	-3%	Typical
% Claims With Medical-Legal	**30.2%**	**23%**	**7 ppt**	**Higher**
Medical-Legal Expense/Claim	**$2,142**	**$1,738**	**23%**	**Higher**

2012/15 Claims With > 7 Days Of Lost Time And Benefit Delivery Expenses, Adjusted For Injury/Industry Mix

Little Change In Kentucky Total Costs Per Claim From 2009 To 2014

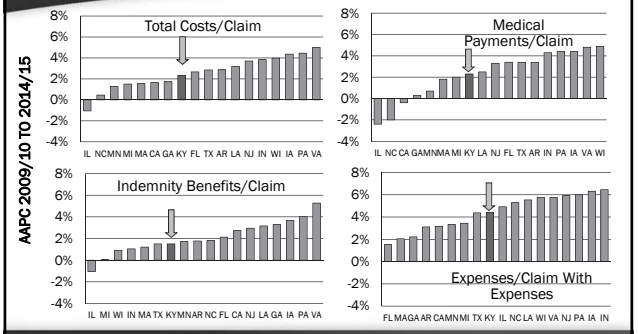


Total Costs/Claim	2009/10 To 2014/15*
Kentucky	2.3%
Median State	2.8%

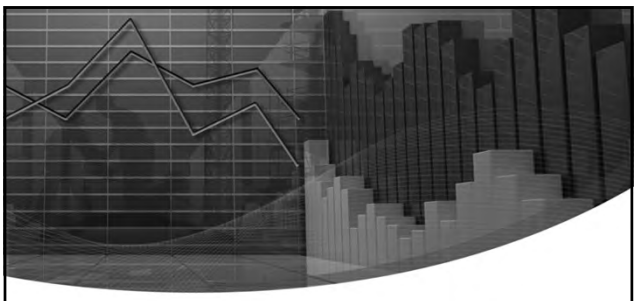
* Annual Average Percentage Change

Claims With > 7 Days Of Lost Time At 12 Months Of Experience, Not Adjusted For Injury/Industry Mix And Wages

All Components In KY Grew Slower Than Or Similar To Median From 2009 To 2014



Average Annual Percentage Change In Costs Per Claim Between 2009/10 And 2014/15, Claims With > 7 Days Of Lost Time At 12 Months Of Experience, Not Adjusted For Injury/Industry Mix And Wages



Comparing Outcomes For Injured Workers In Kentucky

Key Findings For Kentucky From CompScope™ Benchmarks, 16th Edition

- Total payments/claim with > 7 days of lost time typical
  - Indemnity benefits per claim typical; masks offsetting factors
    - Longer duration of temporary disability
    - Lower % of claims with PPD/lump-sum payments, although higher average PPD/lump-sum payment per claim
  - Medical payments/claim lower than typical due to lower prices
  - Greater frequency of medical-legal expenses and higher payments, but other benefit delivery expenses per claim typical
- Costs per claim changed little from 2009 to 2014, overall and for all components

Why Study Worker Outcomes?

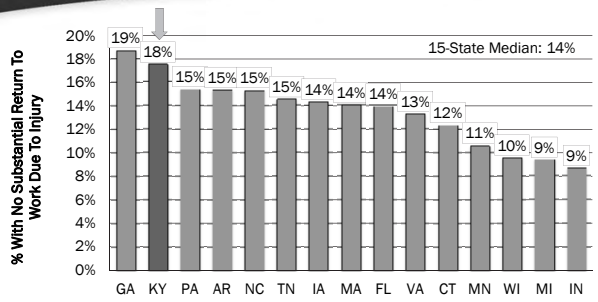
- Policymakers historically have information about costs
- Information about medical utilization has become more available in the past 10–15 years
- Information about how workers fare in the system has lagged behind
- We provide a way to benchmark outcomes reported by injured workers

Comparing Worker Outcomes: The Same Methods Used Across 15 States

- Telephone survey in 15 states
- Interviews 3 years postinjury asking injured workers about their experience, recovery, and satisfaction
- Injuries with more than 7 days of lost time
- 400 completed interviews in each state
- Compare states while controlling for differences in characteristics of:
  - Injured Worker: gender, age, education, marital status
  - Injury: injury type and severity
  - Employer: size of employer, industry, tenure

Note: Workers in IN, MA, MI, MN, NC, PA, VA, and WI were injured in 2010 and interviewed in 2013. Workers in CT, IA, and TN were injured in 2011 and interviewed in 2014. Workers in AR were injured in 2010 and 2011 and interviewed in 2014. Workers in FL, GA, and KY were injured in 2012 and interviewed in 2015.

18% Of KY Workers Had No Substantial Return To Work Due To Injury

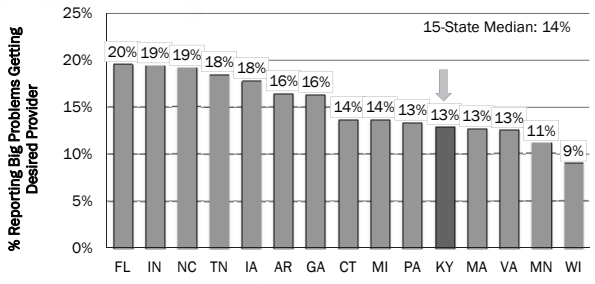


Percentage With No Return To Work Or Return To Work Not Sustained For At Least 30 Days Due To The Injury, Within 3 Years After An Injury. Case-Mix Adjusted. Workers With > 7 Days Of Lost Time.

Outcomes Of KY Injured Workers Mostly Similar To Other Study States

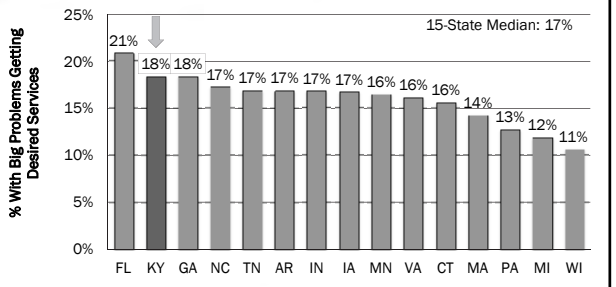
Key Outcomes Of Injured Workers	KY Compared With Median Study State
Recovery Of Physical Health And Functioning	Similar
No Substantial Return To Work (as of 3 years postinjury)	Somewhat Higher
Earning Recovery	Similar
Access To Heath Care	
Problems Getting Desired Medical Services	Similar
Problems Getting Desired Provider	Similar
Satisfaction With Health Care	
Somewhat Or Very Satisfied	Similar
Very Dissatisfied	Similar

"Big Problems" Getting Desired Primary Provider: KY In Middle Group Of Study States



Percentage Reporting Big Problems Getting Primary Provider They Wanted. Case-Mix Adjusted. Workers With > 7 Days Of Lost Time.

18% Of Workers Reported "Big Problems" Getting Desired Services In Kentucky



Percentage Reporting Big Problems Getting Services That They Or Their Primary Provider Wanted. Case-Mix Adjusted. Workers With > 7 Days Of Lost Time.

WCRI

Thank You!

- For comments/questions about the findings:

Dr. John W. Ruser| President and CEO
jruser@wcrinet.org

- Website: www.wcrinet.org
- I invite you to stay connected with WCRI on:

WCRI

ANNUAL REPORT

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RESEARCH REVIEW

2016

Workers Compensation Research Institute

WCRI

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Workers Compensation Research Institute

ANNUAL REPORT

RESEARCH REVIEW

WCRI Annual Report

2016

OUR MISSION: TO BE A CATALYST FOR SIGNIFICANT IMPROVEMENTS IN WORKERS' COMPENSATION SYSTEMS, PROVIDING THE PUBLIC WITH OBJECTIVE, CREDIBLE, HIGH-QUALITY RESEARCH ON IMPORTANT PUBLIC POLICY ISSUES.

To WCRI Members and Friends:

It is an honor to have taken the helm of such a well-respected organization, whose mission is to be a catalyst for improvements in states' workers' compensation systems. In the short period of time that I have been at WCRI, I have witnessed the tremendous support that the Institute receives from its members and friends, and have been impressed with WCRI's rigorous attention to data analysis and quality.

Looking forward, I am excited about our research agenda, which includes timely issues and topics like worker outcomes, fee schedules, drug formularies, and opioids. As the systems continue to face changes and challenges in states across the country, the need for independent data and research could not be greater. As an objective source of information on the benefit delivery systems across a wide number of states, WCRI fills an important void in providing information to policymakers and other stakeholders regarding the performance of workers' compensation systems.

Before WCRI and other research organizations came into existence, debates regarding workers' compensation system reform were largely based on anecdote. In contrast, the information WCRI provides stakeholders is obtained through research studies and systematic data collection efforts, which conform to recognized scientific methods.

Over the past year, WCRI's work was used often by public officials. Below are some abbreviated examples. More detail on these examples can be found on page 6.

- In California and North Carolina, WCRI's research was used by policymakers as they contemplated adopting a drug formulary.
- In Illinois and Wisconsin, WCRI's CompScope™ Benchmarks were used by legislators to ground debates concerning their workers' compensation systems and help understand the impact of reforms.
- In Virginia, Louisiana, and Minnesota, WCRI's research on fee schedules was used in debates as policymakers sought to control the growth of medical costs in their states.
- In Nevada and Massachusetts, WCRI's opioid research was used in debates to better understand variation and long-term use across the country as well as to put in place measures to slow the opioid epidemic among injured workers.

We are proud of the work we have published to date and look forward to addressing the issues of the future. We stand ready to provide impactful research, and to improve upon the comprehensiveness and delivery of our research.

We thank our members and friends for their generous support of our research through their data, funding, and expertise. WCRI would not be where it is today without your help. With it, we are both well prepared and well positioned to inform the public policy debates ahead, and we look forward to continuing to work together towards this end.

Respectfully yours,

John W. Ruser, Ph.D.
President and CEO

The Institute

"WCRI's research allows stakeholders in Minnesota to more independently evaluate our workers' compensation system. It leads to more informed discussion on system reforms in a balanced, unbiased manner. Over the years, all sides–employers and employees–have made their case for reforms using their individual experiences. WCRI's research cuts through the desire to make decisions based on these individual experiences. The Institute's research is presented in an independent, easy-to-understand format with logical comparisons of states, benefits, payments, medical costs, and others. The research allows us to understand the potential impact of proposed reforms as well as those that have already been implemented, which ultimately benefits all stakeholders."

Brad Lehto,
Chief of Staff of the Minnesota AFL-CIO

The Workers Compensation Research Institute is an independent, not-for-profit research organization providing high-quality, objective information about public policy issues involving workers' compensation systems.

The Institute's work helps those interested in improving workers' compensation systems by providing much-needed data and analyses that help answer the following questions:

- How are workers' compensation systems performing?
- How do various state systems compare?
- How can systems better meet workers' needs?
- What factors are driving costs?
- What is the impact of legislative change on system outcomes?
- What are the possible consequences of proposed system changes? Are there alternative solutions that merit consideration? What are their consequences?

Those who benefit from the Institute's work include public officials, insurers, employers, injured workers, organized labor, and others affected by workers' compensation systems across the United States and around the world.

Organized in late 1983, the Institute is independent, not controlled by any industry or trade group. The Institute does not take positions on the issues it researches; rather, it provides information obtained through studies and data-collection efforts that conform to recognized scientific methods, with objectivity further ensured through rigorous, unbiased quality control procedures.

The Institute's work takes several forms:

- *Original research studies of major issues* confronting workers' compensation systems (for example, permanent partial disability, litigiousness, and medical management)
- *Studies of individual state systems* where policymakers have shown an interest in change and where there is an unmet need for objective information
- *Studies of states that have undergone major legislative changes* to measure the impact of those changes and draw possible lessons for other states
- *Studies to identify those system features* that are associated with positive and negative outcomes
- *Presentations* on research findings to legislators, workers' compensation administrators, industry groups, and others interested in workers' compensation issues

The Need

The reports and testimony of WCRI act as a catalyst for constructive change in improving workers' compensation systems throughout the U.S. and internationally. Too often, public policies are shaped by anecdote and emotion, not by objective evidence about current system performance or the consequences of proposed changes. As a result of WCRI research, policymakers and stakeholders can make information-based decisions that prove to be more enduring because they are more efficient, more equitable, and better designed to meet the needs of workers and employers.

Specifically, WCRI research meets the following important stakeholder needs:

- *Measuring system results* to encourage continuous improvement and move the system away from the historic cycle of crisis-reform-crisis that has frequently characterized workers' compensation in the past.
- *Examining disability and medical management* by evaluating and measuring the outcomes of medical care. These studies provide regulators with information about managing workplace injuries, what regulatory barriers are unnecessary or counterproductive, and what regulatory protections are needed for injured workers to assure quality outcomes. These studies also help guide business decisions.
- *Identifying system features that improve performance* or drive costs and quantifying their impact on system performance. These studies focus attention on system strengths and opportunities for improvement. They also provide lessons from successful states that other states may adopt.

The Workers Compensation Research Institute provides reliable information to legislators, governors, state (provincial) and federal administrators, task forces and study commissions, industry groups, labor organizations, and others interested in improving workers' compensation systems. The Institute's research addresses the major issues confronting these systems today. Its public policy studies are disseminated to all interested parties.

"Data and workers' compensation issues and policy making go hand in hand and WCRI's studies are invaluable in evaluating trends and cost drivers in our workers' compensation system. Whether it's comparing the price per pill in a hydrocodone prescription dispensed from a physician's office with one dispensed from a pharmacy, or comparing the average indemnity payments per claim with average medical payments per claim, the WCRI data reports are a source of valuable information in setting and evaluating medical fee schedules and guiding rulemaking in our state."

Frank R. McKay, Chairman of the Georgia State Board of Workers' Compensation

The Impact

Improvement in workers' compensation systems is a product of many factors. WCRI's research is one important factor. Policymakers continue to look to the Institute as a source of objective information to help them make informed decisions about legislation and administrative changes.

"WCRI's research studies are a crucial component of our business planning process, providing us with objective analysis of the many factors that influence claim outcomes and costs in each jurisdiction and helping to guide our underwriting and claim strategies. This made our decision to become a member organization an easy one because we believe it is incumbent upon us to commit our financial support for the valuable work they do on behalf of all stakeholders. Equally valuable to us is the fact that WCRI membership provides a forum where we can be actively engaged with a diverse group of members of the workers' compensation community who have come together to support research that drives continuous and positive change in our ever-more complex and evolving industry."

Suzanne M. Emmet, Senior Vice President of Claims, Eastern Alliance Insurance Group

Below are some examples from the past year.

- WCRI's study, *Impact of a Texas-Like Formulary in Other States,* examined how a Texas-like closed drug formulary might affect the prevalence and costs of drugs in 23 other state workers' compensation systems that do not currently have a drug formulary. The following are some recent examples of states that used the study as they contemplated adopting a drug formulary:
  - **California:** Legislation (Assembly Bill No. 1124) requiring the administrative director of the Division of Workers' Compensation to adopt a prescription drug formulary for workers' compensation benefits passed both houses on Sept. 11, 2015. In the bill analysis, WCRI research on prescription costs in California and Washington State was cited.
  - **North Carolina:** Gov. Pat McCrory signed a drug formulary study bill into law on Sept. 18, 2015. The provision directs the Industrial Commission to study the state's annual prescription drug expenses in workers' compensation claims and assess the savings that would result from implementing a formulary. Previously, WCRI provided a copy of our study, *Impact of a Texas-Like Formulary in Other States,* to the Industrial Commission chair who recently requested additional assistance.
- WCRI's opioid and physician-dispensing studies identified substantial issues in many states having to do with usage, abuse, cost, and prescribing methods. These studies had and continue to have impact throughout the country. The following are some recent examples:
  - **Nevada:** Gov. Brian Sandoval signed into law Senate Bill 231, limiting the amount of Schedule II and Schedule III drugs that physicians can dispense to a 15-day supply. WCRI's physician dispensing research was used in the debate.
  - **Massachusetts:** WCRI's longer-term use of opioids research was cited in the *Fiscal Year 2014 Annual Report,* prepared by the Massachusetts Workers' Compensation Advisory Council (WCAC). In the report, the WCAC made seven recommendations; the recommendation that "policymakers and stakeholders continue to focus on [opioids] and seek out innovative ways of addressing the problem" cited WCRI research.

- WCRI's fee schedule studies highlight some of the most important design choices public officials face in adopting, reforming, and updating a workers' compensation medical fee schedule. They are well used by public officials and system stakeholders to evaluate their own fee regulations. The following are some recent examples:
  - **Virginia:** In 2015, the legislature passed House Bill 1820, which required the Virginia Workers' Compensation Commission to assemble a stakeholder group to discuss various approaches to determine fees for medical services. The group consisted of payors, providers, employers, and labor representatives. In August 2015, WCRI was invited to share the results of our research for Virginia with the group. Then, in December 2015, the Commission published the *2015 Report on Medical Fee Schedules in Workers' Compensation*, which cited the WCRI briefing to the stakeholder group as well as other WCRI research.
  - **Minnesota:** Gov. Mark Dayton recently signed House File 2193/Senate File 2056 into law, which will transition hospital inpatient reimbursement, currently based primarily on "usual and customary charges," to Medicare's Diagnosis Related Groups (or DRGs). WCRI's research was used in the debate.
  - **Louisiana:** In July, WCRI staff were invited to brief the executive director of the Louisiana Office of Workers' Compensation to inform the process of updating their fee schedule. WCRI staff provided studies (including *Designing Workers' Compensation Medical Fee Schedules* and *Fee Schedules for Hospitals and Ambulatory Surgical Centers: A Guide for Policymakers*).
- CompScope™ Benchmarks studies, published annually, examine the impact of legislative changes and quantify differences in key metrics among study states. They continue to help policymakers identify key leverage points in their systems. The following are some recent examples:
  - **Wisconsin:** In response to provisions of Gov. Scott Walker's proposed 2015-2017 budget bill that would potentially impact the administrative organization and functions of the Division of Workers' Compensation, several system stakeholders reached out to WCRI for information as well as copies of WCRI reports. A report issued by the Wisconsin Legislative Finance Bureau to the legislature's Joint Committee on Finance addressing the impact of the change to the administrative organization cited WCRI CompScope™ Benchmarks.
  - **Illinois:** A hearing was convened by the Illinois Senate Committee of the Whole to discuss their workers' compensation system and the effects of the 2011 reforms. In response to a request from the office of the Illinois Senate President, WCRI provided information about our research findings, including CompScope™ Benchmarks studies, related to several recent policy debates. This information was shared with all the members of the committee and was referenced by others providing testimony to the committee.

"WCRI is a key resource for our team. Their reports provide insights across multiple jurisdictions, which is important to our organization since we have employees in every state. The information is relevant to current issues, steers our strategy, and guides our prioritization. Most valuable to us is the independent and rigorous analysis that WCRI performs to ensure the reports are objective."

Joan Vincenz, Corporate Director for Safety, United Airlines

– **Minnesota:** Findings from WCRI's *CompScope™ Medical Benchmarks for Minnesota, 16th Edition,* were featured in the November 2015 edition of *COMPACT*, a newsletter distributed by the Minnesota Department of Labor and Industry.

To support our research programs, WCRI has developed the largest, most comprehensive, most representative claims database in use today. The Detailed Benchmark/Evaluation (DBE) database contains over 49.5 million claims from insurers, state funds, and self-insurers and represents nearly 75 percent of the workers' compensation benefits paid nationwide. This resource is a unique asset for WCRI and the workers' compensation community and allows WCRI to respond quickly to requests from public officials and other stakeholder groups with detailed, timely analysis of important issues.

Membership

To sustain and strengthen its impact, WCRI continues to expand its active and diverse membership, which elects the board of directors and is the source of representatives serving on key governance committees. Over one hundred fifty organizations support the Institute in 2016. (A list of members and associate members appears on the inside back cover of this report.)

Organizations may join the Institute as members or associate members.

Membership in the Institute is open to insured and self-insured employers, insurers, reinsurers, national trade and professional associations, national labor organizations, universities, insurance brokers, third-party administrators, managed care organizations, other service providers, and law firms. Members have electronic access to key research findings from WCRI studies on WCRI's web site. They also receive all publications from the Institute, preferred rates for registration to WCRI's acclaimed Annual Issues & Research Conference, and preferential invitations to other WCRI briefings. Member representatives participate in the governance of the Institute.

Associate members have electronic access to key research findings from WCRI studies on WCRI's web site. They also receive all publications from the Institute and preferred rates for registration to WCRI's Annual Issues & Research Conference and to other WCRI briefings. Associate memberships are available in several categories:

- *Associate member—public sector:* available to state workers' compensation agencies (except state funds), insurance commissioners, labor departments, and foreign entities
- *Associate member—labor association:* available to state labor organizations
- *Associate member—rating organization:* available to rating organizations

Governance

The responsibility for policymaking rests with the Institute's board of directors—a representative group of members who are elected by the membership for staggered, three-year terms and meet three times a year. (A list of board members and officers appears on the inside front cover of this report.)

Operating responsibility is vested in the president and CEO by the board, with direction from the board and advice from committees established by the board.

The research committee, composed of representatives of member companies, gives the president and CEO guidance on the Institute's research program.

Project advisory committees assist the research staff in the formulation and conduct of specific studies. These committees are made up of representatives of member companies, public officials, academic researchers, and others knowledgeable about the specific topics before them.

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The Research Program

THE INSTITUTE'S RESEARCH PROGRAM FOCUSES ON THE MAJOR PUBLIC POLICY ISSUES CONFRONTING WORKERS' COMPENSATION SYSTEMS. OUR RESEARCH MEASURES SYSTEM PERFORMANCE, IDENTIFIES COST DRIVERS, QUANTIFIES OUTCOMES RECEIVED BY INJURED WORKERS, EVALUATES THE IMPACT OF ALTERNATIVE SOLUTIONS, AND HIGHLIGHTS EMERGING TRENDS. THE LESSONS FROM WCRI STUDIES ARE USED TO FACILITATE ACTION-ORIENTED DECISIONS BY PUBLIC OFFICIALS, EMPLOYERS, INSURERS, WORKER REPRESENTATIVES, AND OTHERS AFFECTED BY WORKERS' COMPENSATION, BOTH NATIONALLY AND INTERNATIONALLY.

Our current research programs are:

CompScope™ Benchmarks Research Program

System Evaluation Research Program

Disability and Medical Management Research Program

COMPSCOPE™ BENCHMARKS RESEARCH PROGRAM

CompScope™, WCRI's multistate benchmarking program, measures and benchmarks the performance of a growing number of state workers' compensation systems. Each year, CompScope™ studies quantify performance trends, benchmark improvement opportunities, and assess the effectiveness of policy changes. Using CompScope™, stakeholders and public officials can better manage change and avoid the historic pattern of crisis-reform-crisis that has frequently characterized workers' compensation in the past.

Using special statistical methods, the Institute has created performance measures and interstate comparisons that are comparable across otherwise diverse states. By identifying either incremental or sudden large changes in system performance—trends that may signal either improvement or possible deterioration in system performance—goals for system performance can be set, improvements accomplished, and crises avoided.

The CompScope™ program is funded by employers, state governments, rating organizations, and insurers seeking to help achieve a more cost-efficient, stable, and equitable workers' compensation system. To achieve the ambitious goals outlined above, continued, broad support and expanded funding are needed.

Among the diverse organizations that have provided funding for this important program are the following:

ACE USA

Advocate Health Care

AIG

Archer Daniels Midland Company

Ascential Care Partners

AT&T

Chevron Corporation

CNA Foundation

Compensation Advisory Organization of Michigan

Costco Wholesale

Country Insurance & Financial Services

Florida Department of Insurance

Ford Motor Company

Gallagher Bassett Services, Inc.

Georgia State Board of Workers' Compensation

The Hartford Insurance Group

Indiana Compensation Rating Bureau

International Truck and Engine Corporation

Kentucky Association of Counties

Kentucky Department of Workers' Claims

Kentucky Employers Mutual Insurance

Kentucky League of Cities

Kentucky Personnel Cabinet

Levi Strauss & Co.

Liberty Mutual Group

Louisiana Department of Insurance

Louisiana Department of Labor, Office of Workers' Compensation Administration

Marriott International, Inc.

Massachusetts Workers' Compensation Rating and Inspection Board

Minnesota Workers' Compensation Insurers' Association, Inc.

Mitsubishi Motors North America, Inc.

Molloy Consulting, Inc.

New Jersey Compensation Rating & Inspection Bureau

New York Compensation Insurance Rating Board

Nordstrom, Inc.

North Carolina Rate Bureau

Pennsylvania Compensation Rating Bureau

Pubic Policy Institute of California

Safeway, Inc.

Sedgwick Claims Management Services, Inc.

State of Maryland Workers' Compensation Commission

Target Corporation

Tennessee Department of Labor and Workforce Development

Texas Department of Insurance

The Travelers Companies, Inc.

United Airlines, Inc.

United Parcel Service

Virginia Workers' Compensation Commission

The Walt Disney Company

Wisconsin Compensation Rating Bureau

Zenith Insurance Company

Zurich North America

SYSTEM EVALUATION RESEARCH PROGRAM

The System Evaluation Research Program focuses on the major current public policy issues and long-term challenges confronting workers' compensation systems. The breadth and diversity of this research adds significantly to the base of knowledge about workers' compensation systems.

- The objectives of this program are to
  - evaluate workers' compensation systems and identify best practices;
  - identify leverage points and quantify opportunities for system improvement;
  - measure outcomes experienced by injured workers;
  - provide comprehensive reference books to help understand key system features; and
  - measure the impact of reform.

- The current research agenda includes the following topics:
  - Ambulatory surgical centers
  - Benefit adequacy
  - Fee schedule benchmarks
  - Workers' compensation laws
- Recently published studies include the following:
  - *Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition*
  - *Predictors of Worker Outcomes*
  - *WCRI Medical Price Index for Workers' Compensation, Seventh Edition (MPI-WC)*
  - *Workers' Compensation Medical Cost Containment: A National Inventory, 2015*

The research in this program is funded by members and associate members of the Institute. Representatives of member organizations serve on the board of directors and on key governance committees. A list of current members and associate members appears on the inside back cover of this report.

DISABILITY AND MEDICAL MANAGEMENT RESEARCH PROGRAM

As the cost of medical care continues to rise rapidly, many are asking how to identify high-cost medical care that may be delivering less than optimal benefits. The innovative Disability and Medical Management Research Program provides funds and establishes priorities for objective research that will improve public policy decisions about the management of work injuries.

The following are among the current topics for evaluation:

- Impact of a closed drug formulary
- Impact of mental health interventions on costs and patient outcomes
- Impact of physician dispensing
- Treatment guidelines and utilization review

Examples of studies published in the program include the following:

- *Are Physician Dispensing Reforms Sustainable?*
- *Will the Affordable Care Act Shift Claims to Workers' Compensation Payors?*
- *Why Surgery Rates Vary*

Funding for this program comes from organizations committed to improving public policies on disability and medical management to help policymakers and others make more informed decisions about managing work injuries. Research priorities are established by a program advisory board that is composed of leaders in their fields.

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- WCRI benchmarks of system performance and utilization

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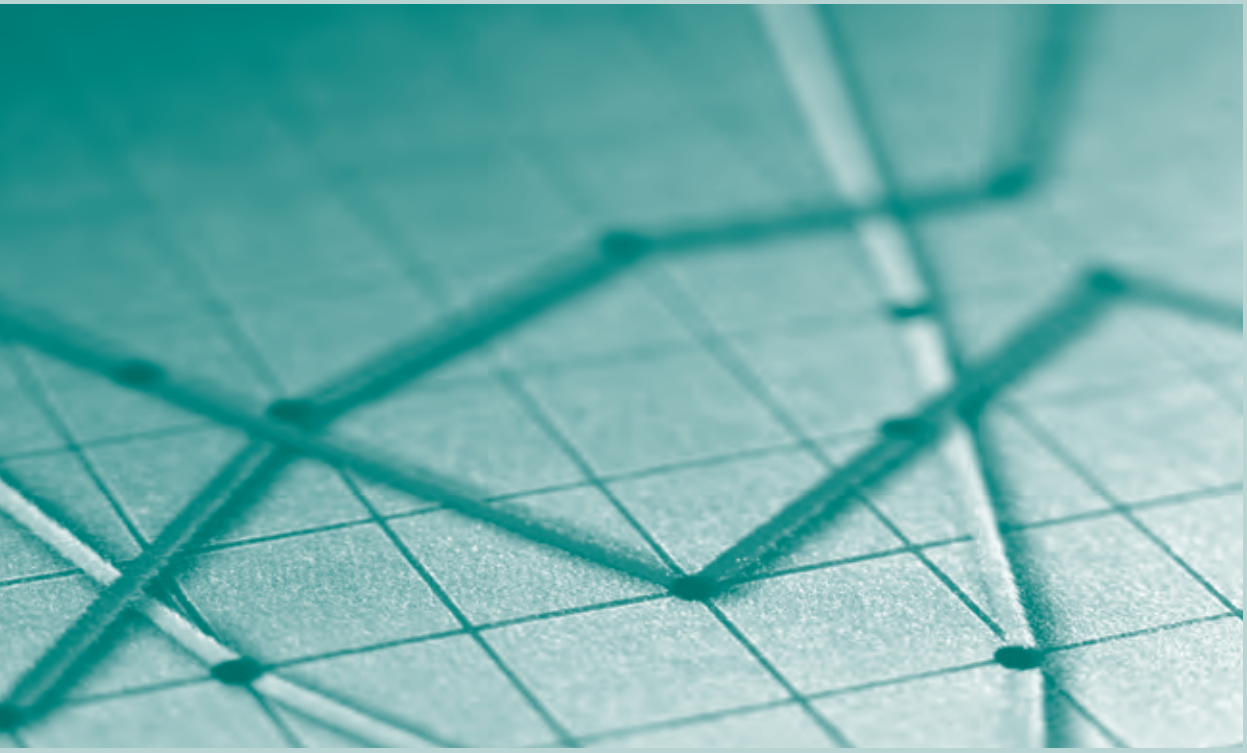
Research Review



In its 32nd year, the Institute published 41 major studies on a broad range of topics. This brings the Institute's total to over 500 books on a wide variety of important workers' compensation issues affecting a growing number of states.

WILL THE AFFORDABLE CARE ACT SHIFT CLAIMS TO WORKERS' COMPENSATION PAYORS?

According to this study, hundreds of millions of dollars could shift from group health to workers' compensation as Accountable Care Organizations (ACOs) expand under the Affordable Care Act (ACA).

Although many have written about "cost shifting" to workers' compensation, a significant underappreciated effect of the ACA is "case-shifting" from group health to workers' compensation. The ACA seeks to greatly expand the use of ACOs—where providers are rewarded for meeting cost and quality goals. This will expand the use of "capitated" health insurance plans. Under these plans, providers are paid a fixed insurance premium per insured regardless of the amount of care provided to a given patient during the year. Under traditional fee-for-service insurance plans, providers are paid for each individual service rendered.

The question the study addresses is to what extent do the financial incentives facing providers and their health care organizations that arise out of capitation (given that workers' compensation pays fee for service) influence whether or not a case is deemed to be work-related.

The study found that a back injury was as much as 30 percent more likely to be called "work-related" (and paid by workers' compensation) if the patient's group health insurance was capitated rather than fee for service. The study can be extrapolated to different states—for example, the study predicts about a $100 million increase in workers' compensation costs in a state like Illinois if the share of capitated patients rises from 12 to 42 percent.

When a patient is covered by a capitated group health insurance plan, the doctor and the health care organization to which that doctor belongs have very different financial incentives about key decisions, compared with treating a patient covered by a fee-for-service plan. For example, when the capitated patient has back pain, the provider and his or her health organization generally do not get paid for additional care since they were paid a fixed amount for that patient at the outset of the policy year. By contrast, if a group health fee-for-service patient has back pain, the provider and health care organization are paid for each new service rendered.

Case-shifting was more likely in states where a higher percentage of workers were covered by capitated group health plans. In a state where at least 22 percent of workers had capitated group health plans, the odds of a soft tissue case being called work-related were 31 percent higher if the patient was covered by such a plan compared with similar workers covered by fee-for-service group health plans. By contrast, in states where capitation was less common, there was no case-shifting seen.

This is more than just the result of having fewer capitated patients seeking care. It also appears that when capitation was infrequent, the providers were less aware of the financial incentives.

This study relies on workers' compensation and group health medical data coming from a large commercial database. This database is based on a large sample of health insurers and self-insured employers. It includes individuals employed by mostly large employers and insured or administered by a variety of health plans. The database is unique in that, for a given employee, it contains information on both the group health services used and the workers' compensation services used.

Will the Affordable Care Act Shift Claims to Workers' Compensation Payors?
Richard A. Victor, Olesya Fomenko, and Jonathan Gruber. September 2015. WC-15-26.

ARE PHYSICIAN DISPENSING REFORMS SUSTAINABLE?

After 18 states enacted reforms to limit the prices paid to doctors for prescriptions they write and dispense, this WCRI study finds that physician-dispensers in Illinois and California discovered a new way to continue charging and to get paid two to three times the price of a drug when compared with pharmacies.

According to the authors, when prices are reduced by regulation, the regulated parties—in this case physician-dispensers—sometimes find new ways to retain the higher revenues they had prior to the reforms. Although this study provides data from two large states, it raises questions for all states where physician-dispensing prices are regulated.

The study identifies the mechanism that allows doctors in Illinois and California to dispense drugs from their offices at much higher prices when compared with pharmacies. It involves the creation of an opportunity to, once again, assign a much higher average wholesale price (AWP) to a physician-dispensed drug—a practice targeted by the earlier reforms enacted in many states using language limiting reimbursement to a price based on the AWP assigned by the manufacturer of the original drug.

The study answers the question of how a new and higher AWP can be set for physician-dispensed drugs by asking the reader to consider a drug where the most common strengths are 5 milligrams and 10 milligrams. If a new strength, say 7.5 milligrams, comes to market, the manufacturer of that new strength can assign a new AWP that is much higher than the 5-milligram and 10-milligram AWPs set by their original manufacturers.

In Illinois, the average prices paid for cyclobenzaprine HCL of 5 and 10 milligrams ranged from $0.99 to $1.74 per pill. Prior to 2012, 7.5-milligram cyclobenzaprine HCL was rarely seen in the market. The 7.5-milligram product was introduced in 2012 and almost all prescriptions for the product were dispensed by physicians at an average price of $3.79 per pill in post-reform Illinois. The market share of physician-dispensed cyclobenzaprine HCL of 7.5 milligrams increased from 0 percent in the third quarter of 2012 to 21 percent in the first quarter of 2013.

Similarly in California, prior to 2012, 7.5-milligram cyclobenzaprine HCL was rarely seen in the market. The average prices paid for 5- and 10-milligram cyclobenzaprine HCL, the two common strengths, ranged from $0.35 to $0.70 per pill. Since the introduction of the 7.5-milligram product in 2012, the market share of physician-dispensed cyclobenzaprine HCL of 7.5 milligrams increased from 0 percent in the fourth quarter of 2011 to 47 percent in the first quarter of 2013, when it became the strength of the drug most commonly dispensed by physicians. The average price paid for the new strength was $2.90 to $3.45 per pill.

From these patterns, the study's authors infer that the shift in strength was unlikely to be driven by new evidence about superior medical practices. Rather, it is likely that financial incentives drove some physicians to choose the strength for their patients. The study cites several reports that provide evidence of behavioral changes in response to price regulations.

The data used for this report came from payors that represented 46 and 51 percent of all medical claims, respectively, for California and Illinois. The detailed prescription transaction data were organized by calendar quarter so that for each quarter, all prescriptions filled for claims with dates of injury within 24 months of the observation quarter were included. On average for each of the quarters reported, WCRI included 219,572 prescriptions paid for 60,448 claims in California. The same figures were 43,034 prescriptions paid for 12,714 claims in Illinois. The detailed prescription data cover calendar quarters from the first quarter of 2010 though the first quarter of 2013.

Are Physician Dispensing Reforms Sustainable? Dongchun Wang, Vennela Thumula, and Te-Chun Liu. January 2015. WC-15-01.

HOSPITAL OUTPATIENT COST INDEX FOR WORKERS' COMPENSATION, 4TH EDITION

Rising hospital costs have been a concern and focus of recent public policy debates in many states. To assist policymakers and business decision makers in managing this growth, WCRI has created this unique study, which is updated regularly, to compare hospital outpatient costs across states, identify key cost drivers, and measure the impact of reforms.

The hospital outpatient cost indices compare payments per surgical episode for common outpatient surgeries under workers' compensation from state to state in each study year and the trends within each state from 2005 to 2013. To capture only payments for services provided and billed by hospitals, the indices exclude professional services billed by nonhospital medical providers (such as physicians, physical therapists, and chiropractors) and transactions for durable medical equipment and pharmaceuticals billed by providers other than hospitals. This study also excludes payments made to ambulatory surgery centers.

The following are some sample findings from the study:

- States with percent-of-charge-based fee regulations or no fee schedules had the highest payments to hospitals for outpatient surgical episodes for knee and

shoulder surgeries. In particular, states with no hospital outpatient fee schedules had 60 to 141 percent higher hospital outpatient payments per episode compared with the typical state with fixed-amount fee schedules.

- There was tremendous variation in the rates of change in hospital payments per surgical episode across states. From 2006 to 2013, South Carolina saw a reduction of 31 percent in this metric while in Alabama the average hospital payment per surgical episode grew by 81 percent. States with percent-of-charge-based fee regulations or no fee schedules had more rapid growth in hospital outpatient payments per episode than states with other regulatory approaches. In particular, most percent-of-charge-based fee regulation states that did not have updates to the reimbursable percentage of charges experienced growth in hospital payments per surgical episode that was 157–286 percent faster than the median of states with fixed-amount fee schedules.
- States with cost-to-charge ratio fee regulations had similar levels and growth rates in hospital outpatient payments per episode to states with fixed-amount fee schedules. Hospital outpatient payments per episode in states with cost-to-charge ratio regulations grew 10–25 percent from 2006 to 2013.

This study covers 33 large states that represent 86 percent of the workers' compensation benefits paid in the United States. They are geographically diverse and represent a wide range of industries and a variety of regulation choices for hospital payments under workers' compensation. These states are Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin.

Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition. Olesya Fomenko and Rui Yang. February 2015. WC-15-23.

WORKERS' COMPENSATION MEDICAL COST CONTAINMENT: A NATIONAL INVENTORY, 2015

This study provides policymakers and system stakeholders with an inventory of the cost containment initiatives employed by 51 jurisdictions. This study updates the tables from the previous edition with the statutory provisions, administrative rules, and administrative procedures as of January 1, 2015. However, it does not provide written explanations of the initiatives in use by each state.

The report contains key features of each state's cost containment initiatives, including

- medical fee schedules;
- regulation of hospital charges;
- choice of provider;
- treatment guidelines;

- utilization review/management;
- managed care;
- pharmaceutical regulations;
- urgent care and ambulatory surgical center fee schedules; and
- medical dispute regulations.

These initiatives aim to curb the cost of a particular service or to reduce the amount of services provided. Cost containment regulatory initiatives entail a balancing act of limiting the cost of services and inappropriate or unnecessary treatment without negatively affecting the quality of treatment or access to care for injured workers.

Workers' Compensation Medical Cost Containment: A National Inventory, 2015. Ramona P. Tanabe. April 2015. WC-15-27.

IMPACT OF A TEXAS-LIKE FORMULARY IN OTHER STATES

As policymakers and other system stakeholders seek to contain medical costs, part of the focus is on prescription drug costs. This study examines how a Texas-like closed drug formulary might affect the prevalence and costs of drugs in 23 other state workers' compensation systems that do not currently have a drug formulary. With an evidence-based closed formulary, states have the potential to contain pharmaceutical costs while encouraging evidence-based care.

According to the study, physicians in the other 23 states may have similar or different responses to the closed formulary from Texas physicians. A Texas-like closed formulary limits access to some drugs by requiring prior-authorization for drugs not included in the formulary. The study provides multiple scenarios to the readers to illustrate the impact of the formulary based on how physicians respond.

One of the scenarios finds if physicians in the 23 other study states were to change their prescribing patterns like physicians in Texas, they could reduce their total prescription costs by an estimated 14–29 percent. Non-formulary drug prevalence is estimated to drop from 10–17 percent to 3–5 percent of all prescriptions. Larger effects can be expected in Connecticut, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, and Virginia.

The study found non-formulary drugs were as prevalent in the 23 study states as they were in pre-reform Texas. They accounted for 10–17 percent of all prescriptions and 18–37 percent of total prescription costs. The comparable numbers for pre-reform Texas were 11 percent and 22 percent, respectively. Non-formulary drugs were most common in New York (17 percent) and Louisiana (16 percent). The most commonly prescribed non-formulary drugs in the majority of study states were Lidoderm®, OxyContin®, Soma®, Valium®, and Voltaren®.

The data for the study are based on utilization and costs of non-formulary drugs among newly injured workers in Texas and 23 other states that represent over 70

percent of workers' compensation benefits in the United States. The study looks at prescription utilization for injuries arising from October 1, 2010, to September 30, 2011, with prescriptions filled through March 31, 2012, and paid for by a workers' compensation payor. The data reflect an average 12 months of experience for claims included in the analysis.

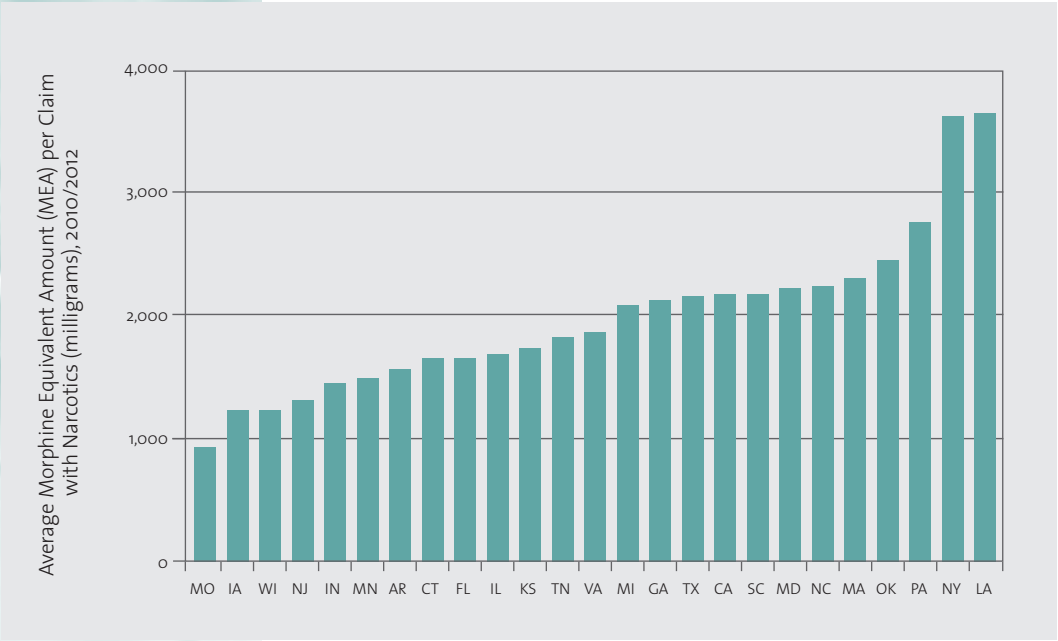
The 23 states included in this study are Arkansas, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Tennessee, Virginia, and Wisconsin.

Impact of a Texas-Like Formulary in Other States. Vennela Thumula and Te-Chun Liu. June 2014. WC-14-31.

INTERSTATE VARIATIONS IN USE OF NARCOTICS, 2ND EDITION

The dangers of narcotic misuse resulting in death and addiction constitute a top priority public health problem in the United States and are shared by the workers' compensation community. This study gives public officials, employers, worker advocates, and other stakeholders the ability to see how the use and prescribing of narcotics in their state compares with others.

The study examines interstate variations and trends in the use of narcotics and prescribing patterns of pain medications in the workers' compensation system across 25 states. The study found that the amount of narcotics used by an average injured worker in Louisiana and New York was striking.



According to the study, the average injured worker in New York and Louisiana received over 3,600 milligrams of morphine equivalent narcotics per claim (double the number in the typical state). To illustrate, this amount is equivalent to an injured worker taking a 5-milligram Vicodin® tablet every four hours for four months continuously, or a 120-milligram morphine equivalent daily dose for an entire month.

Besides New York and Louisiana, the amount of narcotics per claim was also higher in Pennsylvania and Oklahoma (32–48 percent higher than the typical state). Michigan had the highest

amount of narcotics per claim among the Midwest states included in this study. It is worth noting that Michigan was among the states with lower use of narcotics per claim compared with the typical state in 2008/2010.

The study found that narcotics are frequently used in the workers' compensation system. In 2010/2012, about 65 to 85 percent of injured workers with pain medications received narcotics for pain relief in most states. A slightly higher proportion of injured workers with pain medications in Arkansas (88 percent) and Louisiana (87 percent) received narcotics. The study also reported a small reduction in the percentage of claims with pain medications that received narcotics in several study states, between 2008/2010 and 2010/2012.

The study is based on approximately 264,000 workers' compensation claims and 1.5 million prescriptions associated with those claims from 25 states. The claims represent injuries arising from October 1, 2007, to September 30, 2010, with prescriptions filled up to March 31, 2012. The underlying data reflect an average of 24 months of experience.

The following states are included in this study: Arkansas, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.

Interstate Variations in Use of Narcotics, 2nd Edition. Vennela Thumula, Dongchun Wang, and Te-Chun Liu. May 2014. WC-14-18.

LONGER-TERM USE OF OPIOIDS, 2ND EDITION

The issue this study addresses is very serious, which is how often doctors followed recommended treatment guidelines for monitoring injured workers who are longer-term users of opioids. It helps public officials, employers, and other stakeholders understand as well as balance providing appropriate care to injured workers while reducing unnecessary risks to patients and costs to employers.

According to the study, there has been little reduction in the prevalence of longer-term opioid use in most states studied. In most states, the percentage of claims with opioids that received opioids on a longer-term basis changed little, within 2 percentage points, between 2008/2010 and 2010/2012.

The study examined the prevalence of longer-term use of opioids in 25 states and how often the services recommended by medical treatment guidelines were used for monitoring and managing chronic opioid therapy. The recommended services include drug testing and psychological evaluations and treatment, which may help prevent opioid misuse resulting in addiction and even overdose deaths.

The study found a sizable increase across states in the use of drug testing over the study period. However, in some states, the percentage of longer-term opioid users who received these services was still low. The study also reported low use of psychological evaluations, which remained low over the study period.

The study found longer-term opioid use was most prevalent in Louisiana, where 1 in 6 injured workers with opioids were identified as having longer-term use of opioids in 2010/2012. The numbers were 1 in 8 or 9 in New York, Pennsylvania, and pre-reform Texas. By contrast, fewer than 1 in 20 injured workers with opioids received opioids on a longer-term basis in several Midwest states (Indiana, Missouri, and Wisconsin) and New Jersey.

The study is based on approximately 264,000 workers' compensation claims and 1.5 million prescriptions associated with those claims from 25 states. The claims represent injuries arising from October 1, 2007, to September 30, 2010, with prescriptions filled up to March 31, 2012. The underlying data reflect an average of 24 months of experience.

The following states are included in this study: Arkansas, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.

Longer-Term Use of Opioids, 2nd Edition. Dongchun Wang. May 2014. WC-14-19.

COMPSCOPE™ BENCHMARKS

COMPSCOPE™ MEDICAL BENCHMARKS, 16TH EDITION

The factors behind trends of medical payments per claim in 17 state workers' compensation systems and the impact of legislative and regulatory changes on those costs are examined in this edition of CompScope™ Medical Benchmarks.

The studies examine trends in payments, prices, and utilization of medical care for injured workers. They provide a baseline of current costs and trends for policymakers and other system stakeholders, reporting how medical payments per claim and cost components vary over time and from state to state.

The reports are useful to identify where medical cost and care patterns may be changing. They also help identify where medical payments per claim or utilization may differ from other states. In addition, where there may be concerns about restrictions on access to care, the studies can help identify potential underutilization of medical services.

The following are among some of the findings:

- **California:** Medical payments per claim decreased 5 percent in 2013, likely reflecting the early impact of the 2012 workers' compensation reform legislation, including reduced reimbursement rates for ambulatory surgery centers and elimination of separate reimbursement for implantables.
- **Illinois:** Medical payments per claim rose 4.1 percent in 2013, following decreases between 2010 and 2012 due to a 30 percent reduction in the fee schedule rates. Part of the 2013 growth in medical payments per claim was related to annual

updates in the fee schedule rates, which are tied to the changes in the Consumer Price Index.

- **Indiana:** Medical payments per claim were higher than in most states studied and rising faster, mainly driven by higher and growing prices.
- **Louisiana:** Growth in medical payments per workers' compensation claim slowed from 2011 to 2013, in part due to a decrease in utilization of hospital and nonhospital care.
- **New Jersey:** Medical payments per workers' compensation claim were stable from 2010 to 2013, in contrast to rapid growth in the prior two years, due to a number of factors including increased use of networks, stable utilization of services by non-hospital providers, and decreased percentage of inpatient episodes.
- **Texas:** Medical payments per workers' compensation claim rose 7 percent in 2013, largely driven by an increase in payments for hospital inpatient episodes. The trend in Texas was about twice the average annual increase from 2008 to 2012.
- **Virginia:** Driven primarily by prices, medical payments per claim were among the highest of the study states.

The studies cover the period from 2008 through 2013, with claims experience through March 2014. The 17 states in the study—Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, New Jersey, North Carolina, Pennsylvania, Texas, Virginia, and Wisconsin—represent more than 60 percent of the nation's workers' compensation benefit payments. There are individual reports for every state except Arkansas and Iowa.

CompScope™ Medical Benchmarks, 16th Edition. Sharon E. Belton, Roman Dolinschi, Evelina Radeva, Karen Rothkin, Bogdan Savych, Carol A. Telles, and Rui Yang. October 2015. WC-15-31 to 45.

COMPSCOPE™ BENCHMARKS, 15TH EDITION

The factors behind changing costs in state workers' compensation systems, including the impact of legislative and regulatory reform on those costs, are examined in this study. This comprehensive reference report measures the performance of 17 different state workers' compensation systems, how they compare with each other, and how they have changed over time.

The report is designed to help policymakers and others benchmark state system performance or a company's workers' compensation program. The benchmarks provide an excellent baseline for tracking the effectiveness of policy changes and identifying important trends. They examine how income benefits, overall medical payments, costs, use of benefits, duration of disability, litigiousness, benefit delivery expenses, timeliness of payment, and other metrics of system performance have changed from 2008 to 2013, for claims with experience through March 2014.

COMPSCOPE™ BENCHMARKS, CONT.

The following is a sample of the key findings across the 17 states:

- Provisions from California Senate Bill 863 may have helped decrease medical payments per claim by 5 percent—an early impact of the reforms that was seen in 2013.
- Louisiana total costs per claim changed little from 2011 to 2013, following three years of 5 percent annual growth.
- The cost of Texas claims grew more slowly than the typical state.
- The average cost per claim was relatively stable in Michigan between 2009 and 2012, keeping total costs per claim among the lowest of the 17 states studied.
- Both medical and indemnity costs per claim in North Carolina changed little since 2009, and both had grown 8 percent annually between 2003 and 2009.

The 17 states in the study—Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, New Jersey, North Carolina, Pennsylvania, Texas, Virginia, and Wisconsin—represent nearly 60 percent of the nation's workers' compensation benefit payments. Separate state reports are available for 15 of the 17 study states.

CompScope™ Benchmarks, 15th Edition. Sharon E. Belton, Roman Dolinschi, Evelina Radeva, Karen Rothkin, Bogdan Savych, Carol A. Telles, and Rui Yang. April 2015. WC-15-07 to 21.

OTHER STUDIES BY WCRI

WCRI MEDICAL PRICE INDEX FOR WORKERS' COMPENSATION, SEVENTH EDITION (MPI-WC)

Increasing costs for medical care for treating injured workers have been a focus of public policymakers and system stakeholders. This 31-state study will help them understand how prices paid for medical professional services for injured workers in their states compare with other states and know if prices in their state are rising rapidly or relatively slowly. They can also learn if the reason for price growth in their state is part of a national phenomenon or whether the causes are unique to their state and, hence, subject to local management or reform.

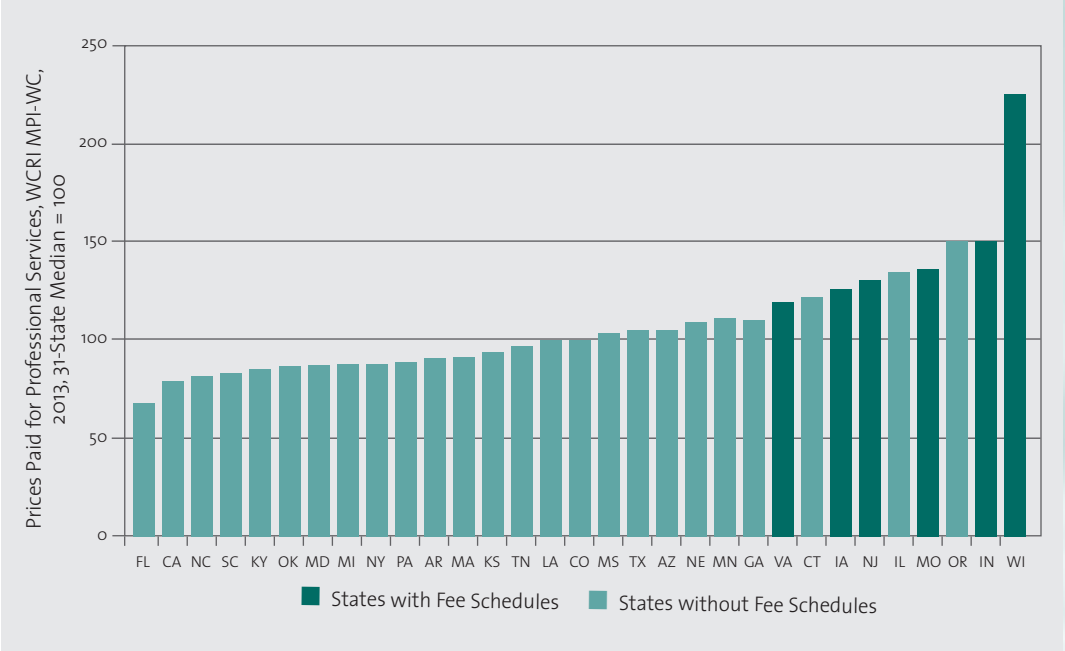
The following are among the study's findings:

- Prices paid for a similar set of professional services varied significantly across states, ranging from 33 percent below the 31-state median in Florida to 124 percent above the 31-state median in Wisconsin in 2013.
- Medical professional prices in states with fee schedules were relatively lower—the prices paid in states with no fee schedules were 27 to 139 percent higher than the median of the study states with fee schedules.
- Growth in prices paid for professional services exhibited tremendous variation across states, spanning between negative 20 percent in Illinois and positive 28 percent in Wisconsin over the time period from 2008 to 2014.

➢ States with fee schedules experienced slower growth in prices paid for professional services compared with most states with no fee schedules—the median growth rate among the fee schedule states was 6 percent from 2008 to 2014 compared with the median growth rate of 17 percent among the non-fee schedule states.

The MPI-WC tracked medical prices paid for professional services billed by physicians, physical therapists, and chiropractors. The medical services fall into eight major groups: evaluation and management, physical medicine, surgery, major radiology, minor radiology, neurological and neuromuscular testing, pain management injections, and emergency care.

The 31 states included in the MPI-WC, which represent nearly 85 percent of the workers' compensation benefits paid in the United States, are Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Wisconsin.



WCRI Medical Price Index for Workers' Compensation, Seventh Edition (MPI-WC). Rui Yang and Olesya Fomenko. November 2015. WC-15-47.

COMPARING WORKERS' COMPENSATION AND GROUP HEALTH HOSPITAL OUTPATIENT PAYMENTS

This study compares hospital payments for the same surgical procedure when paid for by group health versus workers' compensation in 16 states. According to this study, in a majority of the study states, workers' compensation incurred substantially higher hospital payments than group health for the same surgical procedure. Some speculate that there is an additional burden associated with taking care of a worker injured on their job, such as uncertainty or delay in payments. If so, the question for policymakers and other stakeholders is, what additional reimbursement is necessary to get quality care for injured workers?

Rising hospital payments have been a focus of recent policy debates in many states.

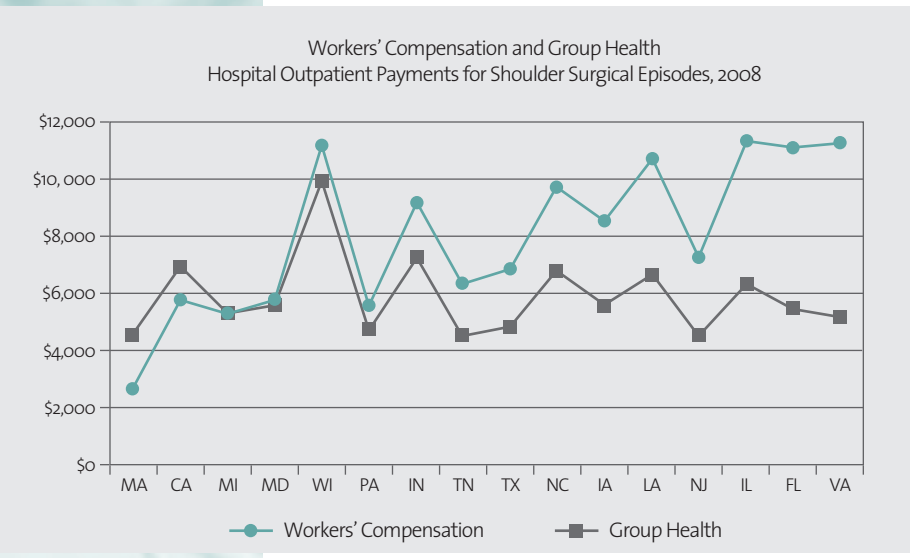
OTHER STUDIES BY WCRI, CONT.

Policymakers and stakeholders have considered various means of cost containment, with special attention devoted to implementation of and updates to workers' compensation fee schedules. To set fee schedule levels, policymakers often seek a reference point or benchmark to which they can tie the state's reimbursement rates.

Increasingly, states rely on Medicare rates as a benchmark, while other states use some form of usual and customary charges in the area. This study uses group health reimbursement levels as an alternative benchmark. Group health has some important advantages as a benchmark for workers' compensation fee schedules, including being the largest provider of health insurance with the most widely accepted reimbursement rates by medical providers.

Among the study's findings are the following:

- In two-thirds of the study states, workers' compensation hospital outpatient payments related to common surgeries were higher than those paid by group health, and, in half of the study states, the workers' compensation and group health difference for shoulder surgeries exceeded $2,000 (or at least 43 percent).
- The workers' compensation payment premiums over group health were highest in the study states with percent-of-charge-based fee regulation or no fee schedule.
- States with high workers' compensation hospital outpatient payments were rarely states with above-typical group health hospital payments.
- The hospital outpatient payments per surgical episode demonstrated substantially greater interstate variation in workers' compensation than in group health.



This study compares hospital outpatient payments incurred by workers' compensation and group health for treatment of similar common surgical cases in 16 large states, which represented 60 percent of the workers' compensation benefits paid in the United States, and covers hospital outpatient services delivered in 2008. Given that most study states, except Illinois, North Carolina, and Texas, did not have substantial changes in their fee schedule regulations after 2008, the interstate comparisons should provide a reasonable approximation for current state rankings in workers' compensation/group health payment differences.

Comparing Workers' Compensation and Group Health Hospital Outpatient Payments. Olesya Fomenko. June 2013. WC-13-18.

PREDICTORS OF WORKER OUTCOMES

Four state-specific studies identified new predictors of worker outcomes that can help public officials, payors, and health care providers improve the treatment and communication an injured worker receives after an injury–leading to better outcomes. The states examined were Arkansas, Connecticut, Iowa, and Tennessee. The studies represent Phase 2 of a multi-phase study to examine worker outcomes.

All four studies found trust in the workplace to be one of the more important predictors that has not been examined before. To describe the level of trust or mistrust in the work relationship, the study asked workers if they were concerned about being fired as a result of the injury. Between 39 and 45 percent of injured workers reported that they were somewhat or very concerned that they would be fired or laid off after they were injured. The rest reported no such concern.

The studies also identified workers with specific comorbid medical conditions (existing simultaneously with but usually independent of the work injury) by asking whether the worker had received treatment for hypertension, diabetes, lung conditions, and heart problems in the year prior to the injury. A sample of the findings for this predictor is as follows:

Arkansas:

- Hypertension was the most common comorbid medical condition reported (28 percent).
- Diabetes and lung conditions were reported by 8 and 6 percent of workers, respectively.
- Sixty-three percent of injured Arkansas workers reported having at least one comorbid medical condition or having smoked for 10 years or more; 22 percent of workers reported having more than one significant comorbid medical condition.

Connecticut:

- Hypertension was the most common comorbid medical condition reported (27 percent).
- Diabetes and lung conditions were reported by 11 and 10 percent of workers, respectively.
- Fifty-eight percent of injured Connecticut workers reported having at least one comorbid medical condition or having smoked for 10 years or more; 20 percent of workers reported having more than one significant comorbid medical condition.

Iowa:

- Hypertension was the most common comorbid medical condition reported (24 percent).

OTHER STUDIES BY WCRI, CONT.

- Diabetes and lung conditions were reported by 9 and 7 percent of workers, respectively.
- Sixty-six percent of injured Iowa workers reported having at least one comorbid medical condition or having smoked for 10 years or more; 22 percent of workers reported having more than one significant comorbid medical condition.

Tennessee:

- Hypertension was the most common comorbid medical condition reported (36 percent).
- Diabetes and lung conditions were reported by 13 and 8 percent of workers, respectively.
- Sixty-six percent of injured Tennessee workers reported having at least one comorbid medical condition or having smoked for 10 years or more; 29 percent of workers reported having more than one significant comorbid medical condition.

The studies are based on telephone interviews with 4,915 injured workers across the following 12 states: Arkansas, Connecticut, Indiana, Iowa, Massachusetts, Michigan, Minnesota, North Carolina, Pennsylvania, Tennessee, Virginia, and Wisconsin. The surveys were conducted in 2013 and 2014 for injuries in 2010 and 2011. All workers who were interviewed had received workers' compensation benefits and experienced more than seven days of lost time from work. On average, the injuries for the workers surveyed had occurred between 2.8 and 3.3 years prior to the interviews.

Predictors of Worker Outcomes. Bogdan Savych, Vennela Thumula, and Richard A. Victor. January 2015. WC-15-02 to 05.

AVOIDING LITIGATION: WHAT CAN EMPLOYERS, INSURERS, AND STATE WORKERS' COMPENSATION AGENCIES DO?

One goal of a workers' compensation program is to deliver necessary medical care and income benefits to workers injured on the job without the uncertainty, delay, and expense of litigation. In many states, however, disputes and attorney involvement in the benefit delivery process are common.

Policy debates about attorney involvement have common themes from state to state. Workers' attorneys argue that they help workers receive benefits that these workers would not be able to obtain themselves, help workers navigate a sometimes complex system, and protect workers from retaliation by the employer or insurer. Advocates for employers and insurers contend that attorneys are involved more often than necessary, that workers can often receive the benefits they are entitled to without representation, and that attorneys may even reduce the total amount of benefits that workers take home.

Some of the existing attorney involvement is inevitably unnecessary, such as cases where the worker would have received the statutory entitlement without resorting

to hiring an attorney. If unnecessary attorney involvement can be avoided, this would be a win-win-win scenario. Workers would receive benefits without the expense of paying an attorney and the delays of dispute resolution; employers and insurers would save the costs of defending the case; and increasingly resource-short state workers' compensation agencies would have smaller caseloads to manage and would have to provide fewer dispute-resolution services.

This study identifies and quantifies some of the more important factors that lead injured workers to seek representation by an attorney, providing some key elements for employers, claims organizations, and state agencies to take away.

Major findings:

The study found that workers were more likely to seek attorneys when they felt threatened. Sources of perceived threats were found in two areas:

- *The employment relationship.* Workers believed they would be fired as a result of the injury, and/or workers perceived that the supervisor did not think the injury was legitimate.
- *The claims process.* The worker perceived that his or her claim had been denied, although it was later paid. This perception may have stemmed from a formal denial, delays in payment, or communications that the worker deemed to be a denial.

Potential implications for employers, claims organizations, and state agencies:

It is possible that attorney involvement can be decreased if employers, claims organizations, and state agencies reduce or eliminate *unnecessary actions* that workers interpret as threats. The suggested actions below, while logical implications of this study, are not themselves the findings of the empirical research:

- *Train supervisors.* Help supervisors create timely communications that focus on trust, job security, and entitlement to medical care and income benefits.
- *Create state agency education materials and help lines.* Provide written materials and an accessible help line that answers workers' questions to help ease feelings of vulnerability and uncertainty.
- *Communicate in a clear and timely fashion about the status of the claim.* Prevent misunderstandings through unambiguous, timely communication from the claims manager so the worker does not mistakenly conclude that the claim has been denied.
- *Eliminate system features that encourage denials or payment delays.* Eliminating system features that discourage timely payments may help prevent a worker's misconstruing a delay as a denial.

Avoiding Litigation: What Can Employers, Insurers, and State Workers' Compensation Agencies Do? Richard A. Victor and Bogdan Savych. July 2010. WC-10-18.

MONITORING TRENDS IN THE NEW YORK WORKERS' COMPENSATION SYSTEM

This is the seventh annual report to regularly track key metrics of the performance of the state's workers' compensation system following the implementation of the 2007 reforms. The study helps policymakers and system stakeholders focus on objectives that are being met, objectives that are not being met, and any unintended consequences that have emerged.

The key reform measures increased maximum statutory benefits, limited the number of weeks of permanent partial disability (PPD), created medical treatment guidelines, adopted a fee schedule for pharmaceuticals, established networks for diagnostic services and thresholds for preauthorization, and enacted administrative changes to increase speed of case resolution.

The report noted that the changes have various effective dates and have been instituted over time. As a result, it will be several more years before the full impact of the reforms will be realized.

The following are among the study's key findings:

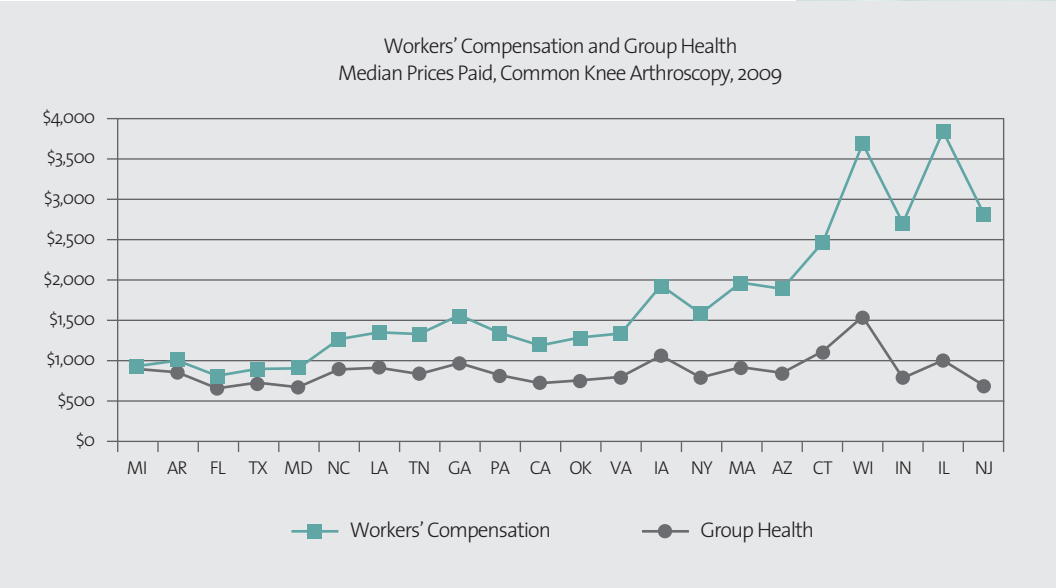
- In 2011 claims evaluated in 2012 (reflecting 16 months of experience under the treatment guidelines), the number of visits per indemnity claim decreased notably for chiropractors and physical/occupational therapists compared with the prior year. There was a smaller decrease for physicians.
- From 2007 to 2010, for PPD/lump-sum cases at an average 24 months of experience, there was a nearly 15 percentage point decrease in cases that received PPD payments only (with no lump-sum payment) and a nearly 12 percentage point increase in cases with a lump-sum settlement only (with no PPD payments).
- From 2007 to 2011 (for claims at an average 12 months of experience), there was a 4 percent increase in the number of visits for major radiology services by nonhospital providers. The percentage of indemnity claims with major radiology services also grew over that same period, from 45 percent to 52 percent.
- There was little change in the average defense attorney payment per claim from 2009 to 2010, but an increase of nearly 9 percent in 2011.

The study uses open and closed indemnity and medical-only claims with dates of injury from October 2005 through September 2011, with experience as of March 2012. The data are representative of the New York system.

Monitoring Trends in the New York Workers' Compensation System. Carol A. Telles and Ramona P. Tanabe. September 2014. WC-14-33.

A NEW BENCHMARK FOR WORKERS' COMPENSATION FEE SCHEDULES: PRICES PAID BY COMMERCIAL INSURERS?

In a typical year, 5 to 10 states have significant public policy debates about enacting new fee schedules or making major revisions to existing ones to regulate prices paid in workers' compensation. Often, the central question debated is what price level is too low—that is, at which point good health care providers will not provide timely treatment to injured workers. In making such decisions, providers consider what they are paid by other payors. Prices paid by Medicare and commercial insurers are plausible benchmarks for policymakers to use since they are usually the largest payors in a given state.



This study provides the basic comparative data that policymakers can use to ground the debate. For example, if the maximum prices proposed were double those paid by commercial insurers, policymakers might be skeptical of testimony by providers that they would stop treating injured workers if the maximum fees were lowered by a modest amount. Similarly, if the maximum workers' compensation fees were lower than what commercial insurers are paying, policymakers might be skeptical of testimony of payor representatives that the prices are too high and can be lowered without adversely affecting access to care for injured workers.

The following is a sample of major findings:

- Workers' compensation prices are very much shaped by the state fee schedules or their absence. In states with higher (lower) fee schedules, workers' compensation prices paid were typically higher (lower). In states without fee schedules, prices paid were generally higher. States without fee schedules in this study include Indiana, Iowa, New Jersey, Virginia, and Wisconsin.
- For common surgeries performed on injured workers, the prices paid under workers' compensation were higher than the prices paid by group health insurers for the same surgery in almost all study states. In some states, the workers' compensation prices paid were 2–4 times higher than the prices paid by group health insurers in the same state.

OTHER STUDIES BY WCRI, CONT.

- For office visits, the prices paid under workers' compensation were typically within 30 percent of the prices paid by group health insurers. In nearly half of the states studied, the prices paid under workers' compensation were within 15 percent of the group health price.

This study focuses on the median nonhospital price paid for five common surgeries and four common established patient office visits in 22 large states for services delivered in 2009. These are the prices actually paid for professional services billed under a specific Current Procedural Terminology (CPT) code. This study also discusses how to generalize these results to later years.

The 22 states included in this study are Arizona, Arkansas, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, and Wisconsin.

A New Benchmark for Workers' Compensation Fee Schedules: Prices Paid by Commercial Insurers? Olesya Fomenko and Richard A. Victor. June 2013. WC-13-17.

WORKERS' COMPENSATION LAWS AS OF JANUARY 1, 2014

An essential tool for researching and understanding the distinctions among workers' compensation laws in all U.S. states and certain Canadian provinces is done as a joint venture of the International Association of Industrial Accident Boards and Commissions (IAIABC) and the Workers Compensation Research Institute (WCRI).

This report is a key resource for policymakers and other stakeholders to identify the similarities and distinctions between workers' compensation regulations and benefit levels in multiple jurisdictions in effect as of January 1, 2014.

The publication is best used to understand macro-level differences and general tendencies across jurisdictions:

- How many states/provinces allow individual or group self insurance?
- How do the maximum and minimum payments for temporary and permanent total disability benefits vary?
- How many states cover mental stress claims, hearing loss, and cumulative trauma?
- How many jurisdictions allow the worker to choose the treating physician and how many allow the employer to do so?

In Canada and the United States, workers' compensation is entirely under the control of sub-national legislative bodies and administrative agencies. As a result, it is easy to misunderstand subtle differences between jurisdictional laws and regulations. This survey gives you the ability to understand those differences.

Workers' Compensation Laws as of January 1, 2014. April 2014. WC-14-28.

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CompScope™ Benchmarks: Multistate Comparisons, 13th Edition (October 2012) WC-12-25 to WC-12-38

CompScope™ Benchmarks: Multistate Comparisons, 12th Edition (December 2011) WC-11-41 to WC-11-54

CompScope™ Benchmarks: Multistate Comparisons, 11th Edition (January 2011) WC-11-02 to WC-11-16

CompScope™ Benchmarks: Multistate Comparisons, 10th Edition (December 2009) WC-09-32 to WC-09-44

CompScope™ Benchmarks: Multistate Comparisons, 9th Edition (January 2009) WC-09-01 to WC-09-12

CompScope™ Benchmarks: Multistate Comparisons, 8th Edition (January 2008) WC-08-01 to WC-08-11

CompScope™ Benchmarks: Multistate Comparisons, 7th Edition (February/March 2007) WC-07-15 to WC-07-25

CompScope™ Benchmarks: Multistate Comparisons, 6th Edition (February 2006) WC-06-02 to WC-06-11

CompScope™ Benchmarks: Multistate Comparisons, 5th Edition (February 2005) WC-05-01 to WC-05-09

CompScope™ Benchmarks: Multistate Comparisons, 4th Edition (February 2004) WC-04-1

CompScope™ Benchmarks: Multistate Comparisons, 1994–2000 (April 2003) WC-03-2

CompScope™ Benchmarks: Massachusetts, 1994–1999 (January 2002) CS-01-3

CompScope™ Benchmarks: Florida, 1994–1999 (September 2001) CS-01-1

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Benchmarking the Performance of Workers' Compensation Systems: CompScope™ Measures for Massachusetts (December 1999) CS-99-3

Benchmarking the Performance of Workers' Compensation Systems: CompScope™ Measures for California (December 1999) CS-99-2

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Evaluation of the 2015 Professional Fee Schedule Updates for Florida—A WCRI FLASHREPORT (November 2015) FR-15-01

CompScope™ Medical Benchmarks, 16th Edition (October 2015) WC-15-31 to WC-15-45

Will the Affordable Care Act Shift Claims to Workers' Compensation Payors? (September 2015) WC-15-26

Why Surgery Rates Vary (June 2015) WC-15-24

Workers' Compensation Medical Cost Containment: A National Inventory, 2015 (April 2015) WC-15-27

Hospital Outpatient Cost Index for Workers' Compensation, 4th Edition (February 2015) WC-15-23

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The Impact of Physician Dispensing on Opioid Use (December 2014) WC-14-56*Hospital Outpatient Cost Index for Workers' Compensation, 3rd Edition* (December 2014) WC-14-66

Early Impact of Tennessee Reforms on Physician Dispensing (December 2014) WC-14-55

Research Review

PUBLICATION LIST, CONT.

Early Impact of South Carolina Reforms on Physician Dispensing (November 2014) WC-14-54

Early Impact of Connecticut Reforms on Physician Dispensing (November 2014) WC-14-53

Estimating the Effect of California's Fee Schedule Changes: Lessons from WCRI Studies (October 2014) WC-14-19

CompScope™ Medical Benchmarks, 15th Edition (October 2014) WC-14-35 to WC-14-48

Impact of Physician Dispensing Reform in Georgia, 2nd Edition (September 2014) WC-14-50

Physician Dispensing in Pennsylvania, 2nd Edition (September 2014) WC-14-51

WCRI Medical Price Index for Workers' Compensation, Sixth Edition (MPI-WC) (July 2014) WC-14-34

Impact of a Texas-Like Formulary in Other States (June 2014) WC-14-31

Comparing Payments to Ambulatory Surgery Centers and Hospital Outpatient Departments (June 2014) WC-14-29

Payments to Ambulatory Surgery Centers (June 2014) WC-14-30

Interstate Variations in Use of Narcotics, 2nd Edition (May 2014) WC-14-18

Longer-Term Use of Opioids, 2nd Edition (May 2014) WC-14-19

CompScope™ Medical Benchmarks, 14th Edition (February 2014) WC-14-02 to WC-14-15

The Effect of Reducing the Illinois Fee Schedule (January 2014) WC-14-01

The Prevalence and Costs of Physician-Dispensed Drugs (September 2013) WC-13-39

Physician Dispensing in the Pennsylvania Workers' Compensation System (September 2013) WC-13-23

Physician Dispensing in the Maryland Workers' Compensation System (September 2013) WC-13-22

Impact of Reform on Physician Dispensing and Prescription Prices in Georgia (July 2013) WC-13-21

Impact of Banning Physician Dispensing of Opioids in Florida (July 2013) WC-13-20

A New Benchmark for Workers' Compensation Fee Schedules: Prices Paid by Commercial Insurers? (June 2013) WC-13-17

WCRI Medical Price Index for Workers' Compensation, Fifth Edition (MPI-WC) (June 2013) WC-13-19

Comparing Workers' Compensation and Group Health Hospital Outpatient Payments (June 2013) WC-13-18

CompScope™ Medical Benchmarks, 13th Edition (February 2013) WC-13-03 to WC-13-16

Workers' Compensation Medical Cost Containment: A National Inventory, 2013 (February 2013) WC-13-02

Hospital Outpatient Cost Index for Workers' Compensation, 2nd Edition (January 2013) WC-13-01

Longer-Term Use of Opioids (October 2012) WC-12-39

Impact of Treatment Guidelines in Texas (September 2012) WC-12-23

Physician Dispensing in Workers' Compensation (July 2012) WC-12-24

Designing Workers' Compensation Medical Fee Schedules (June 2012) WC-12-19

CompScope™ Medical Benchmarks, 12th Edition (May 2012) WC-12-02 to WC-12-16

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PUBLICATION LIST, CONT.

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State Policies Affecting the Cost and Use of Pharmaceuticals in Workers' Compensation: A National Inventory (June 2006) WC-06-30

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Evidence of Effectiveness of Policy Levers to Contain Medical Costs in Workers' Compensation (November 2003) WC-03-8

WCRI Medical Price Index for Workers' Compensation (October 2003) WC-03-5

The Anatomy of Workers' Compensation Medical Costs and Utilization: Trends and Interstate Comparisons, 1996-2000 (July 2003) WC-03-4

Where the Medical Dollar Goes? How California Compares to Other States—A WCRI FLASHREPORT (March 2003) FR-03-3

Patterns and Costs of Physical Medicine: Comparison of Chiropractic and Physician-Directed Care (December 2002) WC-02-7

Provider Choice Laws, Network Involvement, and Medical Costs (December 2002) WC-02-5

Analysis of Payments to Hospitals and Surgery Centers in Florida Workers' Compensation—A WCRI FLASHREPORT (December 2002) FR-02-3

Changes in Michigan's Workers' Compensation Medical Fee Schedules: 1996-2002—A WCRI FLASHREPORT (December 2002) FR-02-2

Benchmarks for Designing Workers' Compensation Medical Fee Schedules: 2001-2002 (August 2002) WC-02-2

Targeting More Costly Care: Area Variation in Texas Medical Costs and Utilization (May 2002) WC-02-3

The Anatomy of Workers' Compensation Medical Costs and Utilization: Trends and Interstate Comparisons, 1996-1999 (February 2002) WC-02-1

Benchmarking Pennsylvania's Workers' Compensation Medical Fee Schedule— A WCRI FLASHREPORT (Updated February 2002) FR-01-6

Managed Care and Medical Cost Containment in Workers' Compensation: A National Inventory, 2001-2002 (December 2001) WC-01-4

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The Impact of Workers' Compensation Networks on Medical Costs and Disability Payments (November 1999) WC-99-5

Managed Care and Medical Cost Containment in Workers' Compensation: A National Inventory, 1998-1999 (December 1998) WC-98-7

Fee Schedule Benchmark Analysis: Ohio (December 1996) FS-96-1

The RBRVS as a Model for Workers' Compensation Medical Fee Schedules: Pros and Cons (July 1996) WC-96-5

Benchmarks for Designing Workers' Compensation Medical Fee Schedules: 1995-1996 (May 1996) WC-96-2

Fee Schedule Benchmark Analysis: North Carolina (December 1995) FS-95-2

Fee Schedule Benchmark Analysis: Colorado (August 1995) FS-95-1

Benchmarks for Designing Workers' Compensation Medical Fee Schedules: 1994-1995 (December 1994) WC-94-7

Review, Regulate, or Reform: What Works to Control Workers' Compensation Medical Costs (September 1994) WC-94-5

Fee Schedule Benchmark Analysis: Michigan (September 1994) FS-94-1

Medicolegal Fees in California: An Assessment (March 1994) WC-94-1

Benchmarks for Designing Workers' Compensation Medical Fee Schedules (December 1993) WC-93-4

How Choice of Provider and Recessions Affect Medical Costs in Workers' Compensation (June 1990) WC-90-2

Medical Costs in Workers' Compensation: Trends & Interstate Comparisons (December 1989) WC-89-5-1

WORKER OUTCOMES

Predictors of Worker Outcomes in Arkansas (February 2015) WC-15-02

Predictors of Worker Outcomes in Connecticut (February 2015) WC-15-03

Predictors of Worker Outcomes in Iowa (February 2015) WC-15-04

Predictors of Worker Outcomes in Tennessee (February 2015) WC-15-05

Predictors of Worker Outcomes in Indiana (June 2014) WC-14-20

Predictors of Worker Outcomes in Massachusetts (June 2014) WC-14-21

Predictors of Worker Outcomes in Michigan (June 2014) WC-14-22

Predictors of Worker Outcomes in Minnesota (June 2014) WC-14-23

Predictors of Worker Outcomes in North Carolina (June 2014) WC-14-24

Predictors of Worker Outcomes in Pennsylvania (June 2014) WC-14-25

Predictors of Worker Outcomes in Virginia (June 2014) WC-14-26

Predictors of Worker Outcomes in Wisconsin (June 2014) WC-14-27

How Have Worker Outcomes and Medical Costs Changed in Wisconsin? (May 2010) WC-10-04

Comparing Outcomes for Injured Workers in Michigan (June 2009) WC-09-31

Comparing Outcomes for Injured Workers in Maryland (June 2008) WC-08-15

Comparing Outcomes for Injured Workers in Nine Large States (May 2007) WC-07-14

Comparing Outcomes for Injured Workers in Seven Large States (January 2006) WC-06-01

Worker Outcomes in Texas by Type of Injury—A WCRI FLASHREPORT (February 2005) FR-05-02

Outcomes for Injured Workers in California, Massachusetts, Pennsylvania, and Texas (December 2003) WC-03-7

Outcomes for Injured Workers in Texas (July 2003) WC-03-2

The Workers' Story: Results of a Survey of Workers Injured in Wisconsin (December 1998) WC-98-5

Workers' Compensation Medical Care: Effective Measurement of Outcomes (October 1996) WC-96-7

ADMINISTRATION/ LITIGATION

Workers' Compensation Laws as of January 1, 2014 (April 2014) WC-14-28

Workers' Compensation Laws as of January 2012 (March 2012) WC-12-18

Workers' Compensation Laws, 3rd Edition (October 2010) WC-10-52

Avoiding Litigation: What Can Employers, Insurers, and State Workers' Compensation Agencies Do? (July 2010) WC-10-18

Workers' Compensation Laws, 2nd Edition (June 2009) WC-09-30

Did Florida Reforms Reduce Attorney Involvement? (June 2009) WC-09-16

Lessons from the Oregon Workers' Compensation System (March 2008) WC-08-13

Workers' Compensation in Montana: Administrative Inventory (March 2007) WC-07-12

Workers' Compensation in Nevada: Administrative Inventory (December 2006) WC-06-15

Workers' Compensation in Hawaii: Administrative Inventory (April 2006) WC-06-12

Workers' Compensation in Arkansas: Administrative Inventory (August 2005) WC-05-18

Workers' Compensation in Mississippi: Administrative Inventory (May 2005) WC-05-13

Workers' Compensation in Arizona: Administrative Inventory (September 2004) WC-04-05

Workers' Compensation in Iowa: Administrative Inventory (April 2004) WC-04-02

Measuring the Complexity of the Workers' Compensation Dispute Resolution Processes in Tennessee—A WCRI FLASHREPORT (April 2004) FR-04-02

PUBLICATION LIST, CONT.

Are Higher Chiropractic Visits per Claim Driven by "Outlier" Providers?—A WCRI FLASHREPORT (April 2004) FR-04-03

Benchmarking the 2004 Pennsylvania Workers' Compensation Medical Fee Schedule—A WCRI FLASHREPORT (March 2004) FR-04-02

Evidence of Effectiveness of Policy Levers to Contain Medical Costs in Workers' Compensation (November 2003) WC-03-8

WCRI Medical Price Index for Workers' Compensation (October 2003) WC-03-5

The Anatomy of Workers' Compensation Medical Costs and Utilization: Trends and Interstate Comparisons, 1996-2000 (July 2003) WC-03-4

Where the Medical Dollar Goes? How California Compares to Other States—A WCRI FLASHREPORT (March 2003) FR-03-3

Patterns and Costs of Physical Medicine: Comparison of Chiropractic and Physician-Directed Care (December 2002) WC-02-7

Provider Choice Laws, Network Involvement, and Medical Costs (December 2002) WC-02-5

Analysis of Payments to Hospitals and Surgery Centers in Florida Workers' Compensation—A WCRI FLASHREPORT (December 2002) FR-02-3

Changes in Michigan's Workers' Compensation Medical Fee Schedules: 1996-2002—A WCRI FLASHREPORT (December 2002) FR-02-2

Benchmarks for Designing Workers' Compensation Medical Fee Schedules: 2001-2002 (August 2002) WC-02-2

Targeting More Costly Care: Area Variation in Texas Medical Costs and Utilization (May 2002) WC-02-3

The Anatomy of Workers' Compensation Medical Costs and Utilization: Trends and Interstate Comparisons, 1996-1999 (February 2002) WC-02-1

Benchmarking Pennsylvania's Workers' Compensation Medical Fee Schedule— A WCRI FLASHREPORT (Updated February 2002) FR-01-6

Managed Care and Medical Cost Containment in Workers' Compensation: A National Inventory, 2001-2002 (December 2001) WC-01-4

Comparing the Pennsylvania Workers' Compensation Fee Schedule with Medicare Rates: Evidence from 160 Important Medical Procedures—A WCRI FLASHREPORT (November 2001) FR-01-7

Benchmarking California's Workers' Compensation Medical Fee Schedules—A WCRI FLASHREPORT (August 2001) FR-01-4

Benchmarking Florida's Workers' Compensation Medical Fee Schedules—A WCRI FLASHREPORT (August 2001) FR-01-3

The Impact of Initial Treatment by Network Providers on Workers' Compensation Medical Costs and Disability Payments (August 2001) DM-01-1

The Anatomy of Workers' Compensation Medical Costs and Utilization: A Reference Book (December 2000) WC-00-8

The Impact of Workers' Compensation Networks on Medical Costs and Disability Payments (November 1999) WC-99-5

Managed Care and Medical Cost Containment in Workers' Compensation: A National Inventory, 1998-1999 (December 1998) WC-98-7

Fee Schedule Benchmark Analysis: Ohio (December 1996) FS-96-1

The RBRVS as a Model for Workers' Compensation Medical Fee Schedules: Pros and Cons (July 1996) WC-96-5

Benchmarks for Designing Workers' Compensation Medical Fee Schedules: 1995-1996 (May 1996) WC-96-2

Fee Schedule Benchmark Analysis: North Carolina (December 1995) FS-95-2

Fee Schedule Benchmark Analysis: Colorado (August 1995) FS-95-1

Benchmarks for Designing Workers' Compensation Medical Fee Schedules: 1994-1995 (December 1994) WC-94-7

Review, Regulate, or Reform: What Works to Control Workers' Compensation Medical Costs (September 1994) WC-94-5

Fee Schedule Benchmark Analysis: Michigan (September 1994) FS-94-1

Medicolegal Fees in California: An Assessment (March 1994) WC-94-1

Benchmarks for Designing Workers' Compensation Medical Fee Schedules (December 1993) WC-93-4

How Choice of Provider and Recessions Affect Medical Costs in Workers' Compensation (June 1990) WC-90-2

Medical Costs in Workers' Compensation: Trends & Interstate Comparisons (December 1989) WC-89-5-1

WORKER OUTCOMES

Predictors of Worker Outcomes in Arkansas (February 2015) WC-15-02

Predictors of Worker Outcomes in Connecticut (February 2015) WC-15-03

Predictors of Worker Outcomes in Iowa (February 2015) WC-15-04

Predictors of Worker Outcomes in Tennessee (February 2015) WC-15-05

Predictors of Worker Outcomes in Indiana (June 2014) WC-14-20

Predictors of Worker Outcomes in Massachusetts (June 2014) WC-14-21

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Mitsui Sumitomo Insurance Co. of America
New Jersey Manufacturers Insurance Company
The PMA Group
Property Casualty Insurers Association of America
Safety National
Selective Insurance Company of America, Inc.
Sentry Insurance a Mutual Company
Society Insurance
The Travelers Companies, Inc.
Zenith Insurance Company
Zurich North America

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JLT Towers Re

RATING BUREAUS

Compensation Advisory Organization of Michigan
Indiana Compensation Rating Bureau
Massachusetts Workers' Compensation Rating & Inspection Bureau
Minnesota Workers' Compensation Insurers Association
New Jersey Compensation Rating & Inspection Bureau
New York Compensation Insurance Rating Board
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Pennsylvania Compensation Rating Bureau
Wisconsin Compensation Rating Bureau

CONTRIBUTOR

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Idaho Industrial Commission
Illinois Workers' Compensation Commission
Iowa Division of Workers' Compensation
Kansas Department of Human Resources/Division of Workers' Compensation
Kentucky Department of Workers' Claims
Louisiana Office of Risk Management
Louisiana Office of Workers' Compensation Administration
Maine Workers' Compensation Board
Maryland Workers' Compensation Commission
Massachusetts Center for Health Information and Analysis
Massachusetts Department of Industrial Accidents
Massachusetts State Rating Bureau, Division of Insurance
Massachusetts Human Resources Division, Workers' Compensation Section
Michigan Workers' Compensation Agency
Minnesota Department of Labor and Industry
Mississippi Workers' Compensation Commission
Montana Department of Labor & Industry
National Institute for Occupational Safety and Health (NIOSH)
Nebraska Workers' Compensation Court
Nevada Department of Business and Industry, Division of Industrial Relations, Workers' Compensation Section
New Hampshire Department of Labor
New Jersey Compensation Rating & Inspection Bureau
New Mexico Workers' Compensation Administration
New York State Workers' Compensation Board
Oklahoma Workers' Compensation Court
Oregon Department of Consumer & Business Services
Pennsylvania Department of Labor and Industry
Rhode Island Department of Labor and Training
South Carolina Workers' Compensation Commission
South Dakota Department of Labor and Regulation
Tennessee Department of Labor
Texas State Office of Risk Management
Texas Department of Insurance, Division of Workers' Compensation
United States Department of Labor
Utah Department of Industrial Accidents
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Virginia Workers' Compensation Commission
West Virginia Offices of the Insurance Commissioner
Wisconsin Department of Workforce Development

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New Brunswick Workplace Health, Safety and Compensation Commission
New Zealand Accident Compensation Corporation
Ontario Workplace Safety and Insurance Board
ReturnToWorkSA
Safe Work Australia
Victorian WorkCover Authority
WorkCover Authority of New South Wales

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Cambridge, Massachusetts 02139
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Appendix F

Jason Bailey, Executive Director, Kentucky Center for Economic Policy

F.1 Jason Bailey Biography
F.2 Financial Condition of the Workers' Compensation Insurance Industry in Kentucky, Handout
E.3 Financial Condition of the Workers' Compensation Insurance Industry in Kentucky, PowerPoint

Jason Bailey

Jason Bailey is founder and Executive Director of the Kentucky Center for Economic Policy. He is the author of numerous reports and analyses of economic and fiscal issues facing the Commonwealth going back to 1998. Jason appears frequently in the media and is a regular speaker to civic organizations on policies that would move Kentucky forward. His public service includes appointments to the Governor's Blue Ribbon Commission on Tax Reform, the Kentucky Teachers' Retirement System Funding Work Group and the Kentucky Commission on Small Business Advocacy. He has a master's in public administration with a specialization in public finance from New York University and a bachelor's degree from Carson-Newman College.

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November 18, 2016

The Financial Condition of the Workers' Compensation Insurance Industry in Kentucky

State legislation enacted in recent decades has limited workers' compensation benefits in Kentucky. As a result, workers' compensation insurers have benefited, which has translated into both income for the industry and lower premiums for employers. Strong profitability for the industry and rising fund balances suggest significant financial health for many insurers providing workers' compensation coverage.

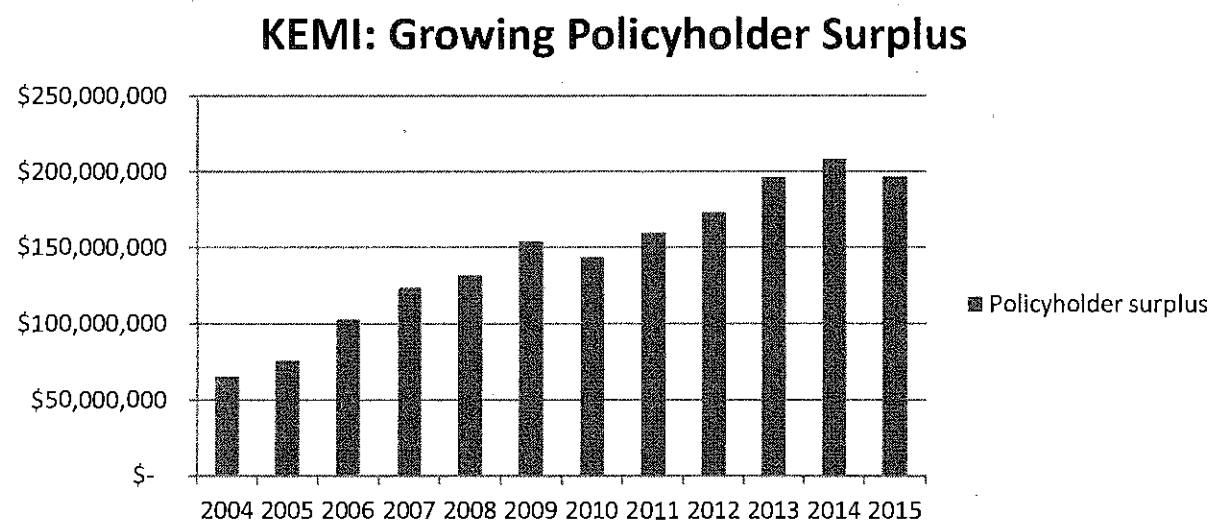
Commercial insurers are earning consistent profit

The commercial workers' compensation insurance industry makes up about three-fourths of Kentucky's workers' compensation market.[1] The Kentucky Employers Mutual Insurance Authority (KEMI), the quasi-public workers' compensation insurance provider, has about 31 percent of the commercial market. Private for-profit insurers make up the balance, and no individual for-profit insurer currently has more than 3.71 percent of the commercial market. [2]

As workers' compensation laws have changed in Kentucky, the direct losses paid for injured workers have declined. Losses in the commercial market decreased 22 percent in Kentucky between 2005 and 2010, from $510 million to $400 million. The amount of direct premiums earned also declined by 22 percent over that period as competition within the industry forced insurers to share some of the benefits with employers.[3]

A favorable environment for workers' compensation insurers in recent years has translated into growing net assets for the biggest insurer, KEMI. KEMI's net income averaged $11.2 million a year between 2004 and 2015. KEMI in turn built up a policyholder surplus that totaled $196 million in 2015, an amount more than its total underwriting expenses of $171 million that year and an increase in its surplus of 159 percent since 2005 (see Figure 1).

Figure 1

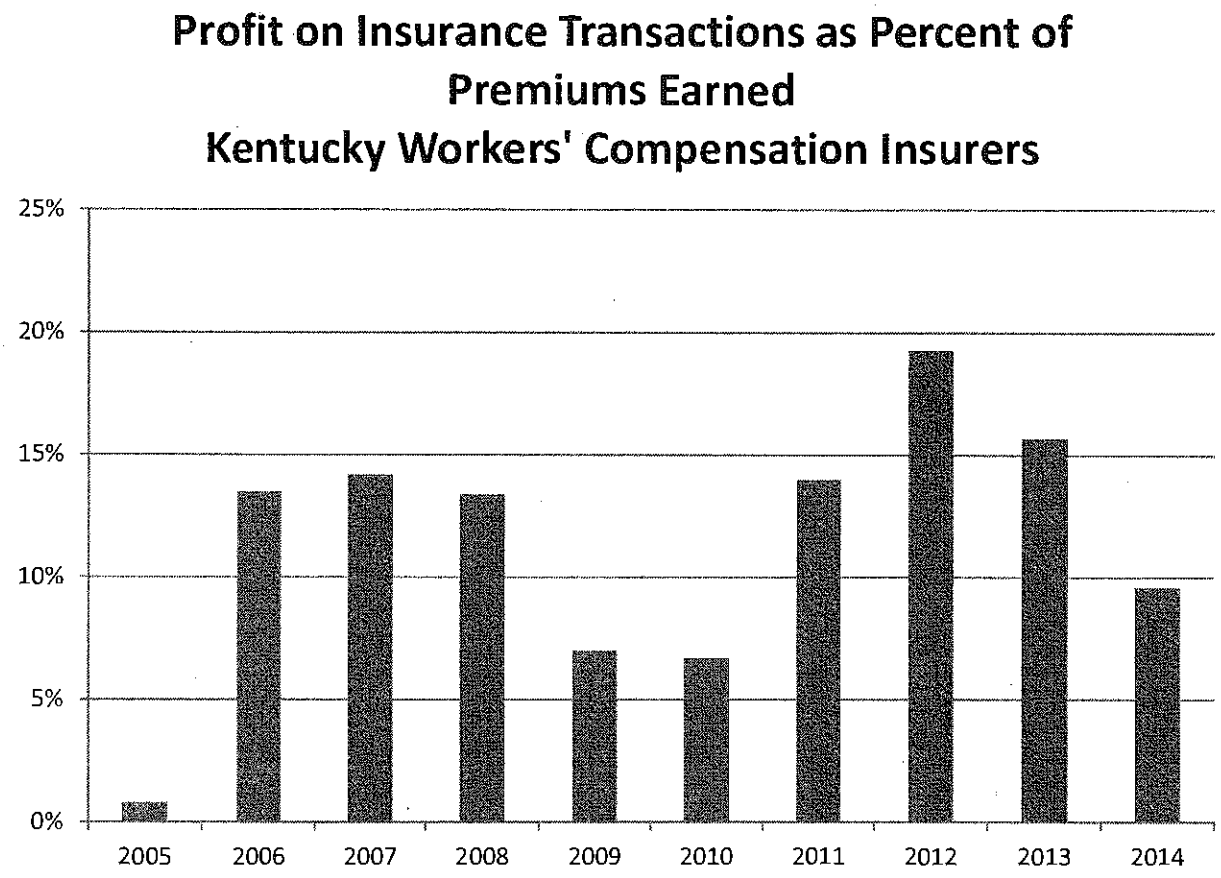


Source: Analysis of KEMI annual audited financial statements

In part because of public pressure in response to its large fund balance, KEMI paid a $30.8 million dividend to policyholders in 2010, and paid additional dividends of $4.7 million in 2012, $6.4 million in 2013 and $3.4 million in 2014. Still, its surplus has continued to rise most years.[4]

Overall, the commercial market has demonstrated consistent profitability in recent years. The National Association of Insurance Commissioners' profitability report indicates profits as a percent of premiums earned of between 13 and 14 percent for 2006-2008 and between 6 and 7 percent in 2009 and 2010 (NAIC reports a profitability rate of 0.2 percent for 2010, but that number is artificially reduced because of KEMI's policyholder dividend, which was equal to 6.5 percent of premiums earned that year. Taking out the policyholder dividend, profits were 6.7 percent of premiums earned in 2010). In 2011, profitability rose to 14 percent and it was 19 percent in 2012, 16 percent in 2013 and 10 percent in 2014 (See Figure 2).[5]

Figure 2



Source: Analysis of National Association of Insurance Commissioners Report on Profitability by Line by State. Graph subtracts the impact of KEMI's policyholder dividend for 2010.

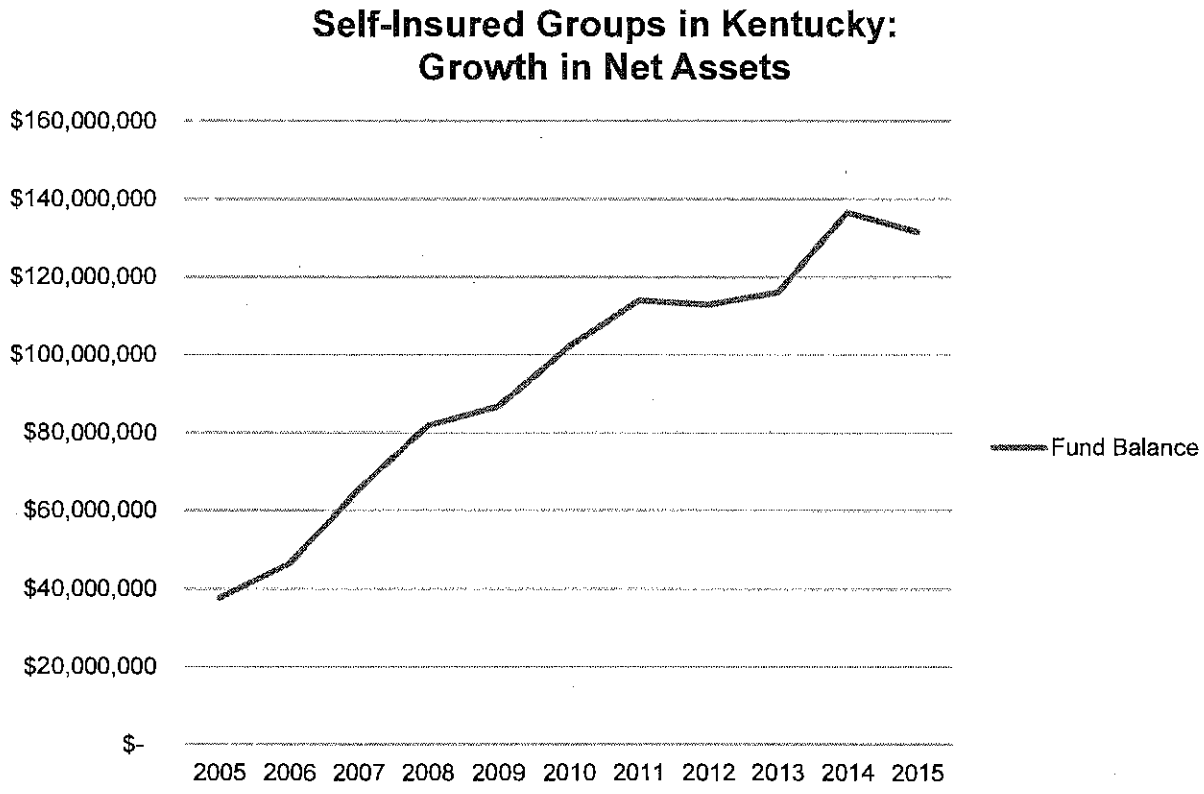
The growing net assets of the industry as a whole can be seen also in the premiums earned as a percent of net worth. In 2014, premiums were only 26.2 percent of the net worth of Kentucky workers compensation insurers, a lower ratio than all but three other states—indicating that net worth is substantial.[6]

Self-insurance groups also have substantial net assets

The financial condition of the self-insured groups provides another window into industry trends. The six self-insured groups make up one-fourth of the Kentucky workers' compensation market (excluding individual self-insureds, as above).[7] As with KEMI, the improved workers' compensation environment for

insurers has translated into growth in net assets for these funds. The aggregate fund balance of the six groups has grown from $38 million in 2005 to $132 million in 2015 (see Figure 3).[8]

Figure 3



Source: Analysis of Department of Insurance reports

Conclusion

An improved underwriting environment for the workers' compensation insurance industry has led to consistent profitability for the industry, reductions in premiums for employers, and evidence of the accumulation of net assets for the workers' compensation insurance industry.

---

[1] This estimate does not include workers' compensation written on a surplus lines basis or through individual self-insureds, amounts for which are not readily available. Department of Insurance, Status Report on Workers' Compensation Self-Insured Groups, December 15, 2015.

[2] Market share within the commercial segment is indicated in the National Association of Insurance Commissioners market share report as excerpted in the annual status reports on workers' compensation self-insured groups. The market shares reported in the most recent report are as follows:

KEMI	30.78%
Zurich American	3.71%
American Zurich	3.16%
Bridgefield Casualty	3.05%
LMS	3.00%
BrickStreet Mutual	2.61%
Praetorian	1.98%
Continental	1.72%
New Hampshire	1.67%
Travelers	1.50%
All Others	46.82%

[3] National Association of Insurance Commissioners market share report.
[4] Annual audited financial statements of the Kentucky Employers' Mutual Insurance Authority, 1995-2015.
[5] National Association of Insurance Commissioners, "Report on Profitability by Line by State."
[6] National Association of Insurance Commissioners, "Report on Profitability by Line by State."
[7] The current self-insured groups are KESA, Kentucky Association of Counties, Kentucky Associated General Contractors, Kentucky League of Cities, Kentucky Retail Federation, and Forest Industry of Kentucky.
[8] Department of Insurance, Status Reports on Workers' Compensation Self-Insured Groups.

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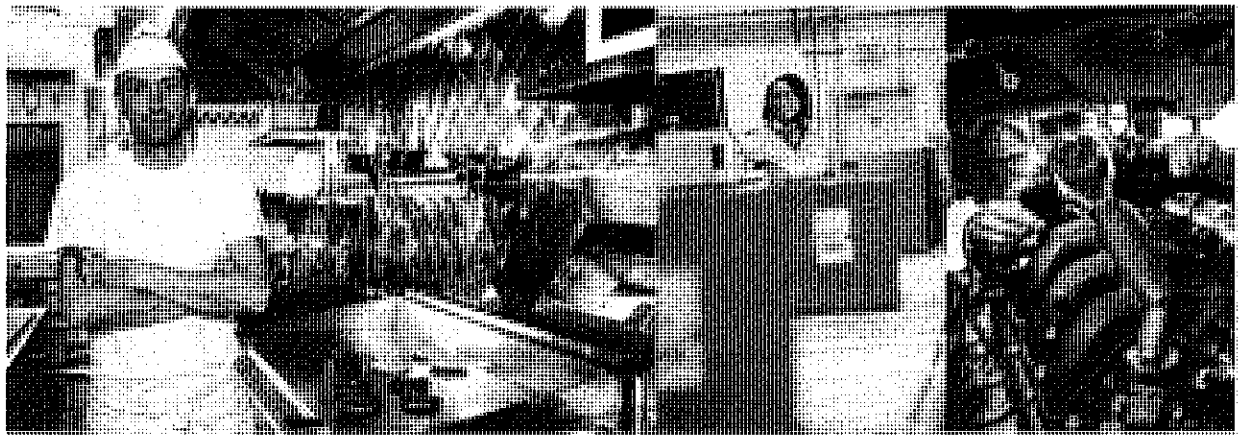
The Financial Condition of the Workers' Compensation Insurance Industry in Kentucky



November 18, 2016

- Commercial insurers = ~75% of market
- Group self-insureds = ~25% of market
- Estimates do not include individual self-insureds

Insurer	Share of Commercial Market
KEMI	30.78%
Zurich American	3.71%
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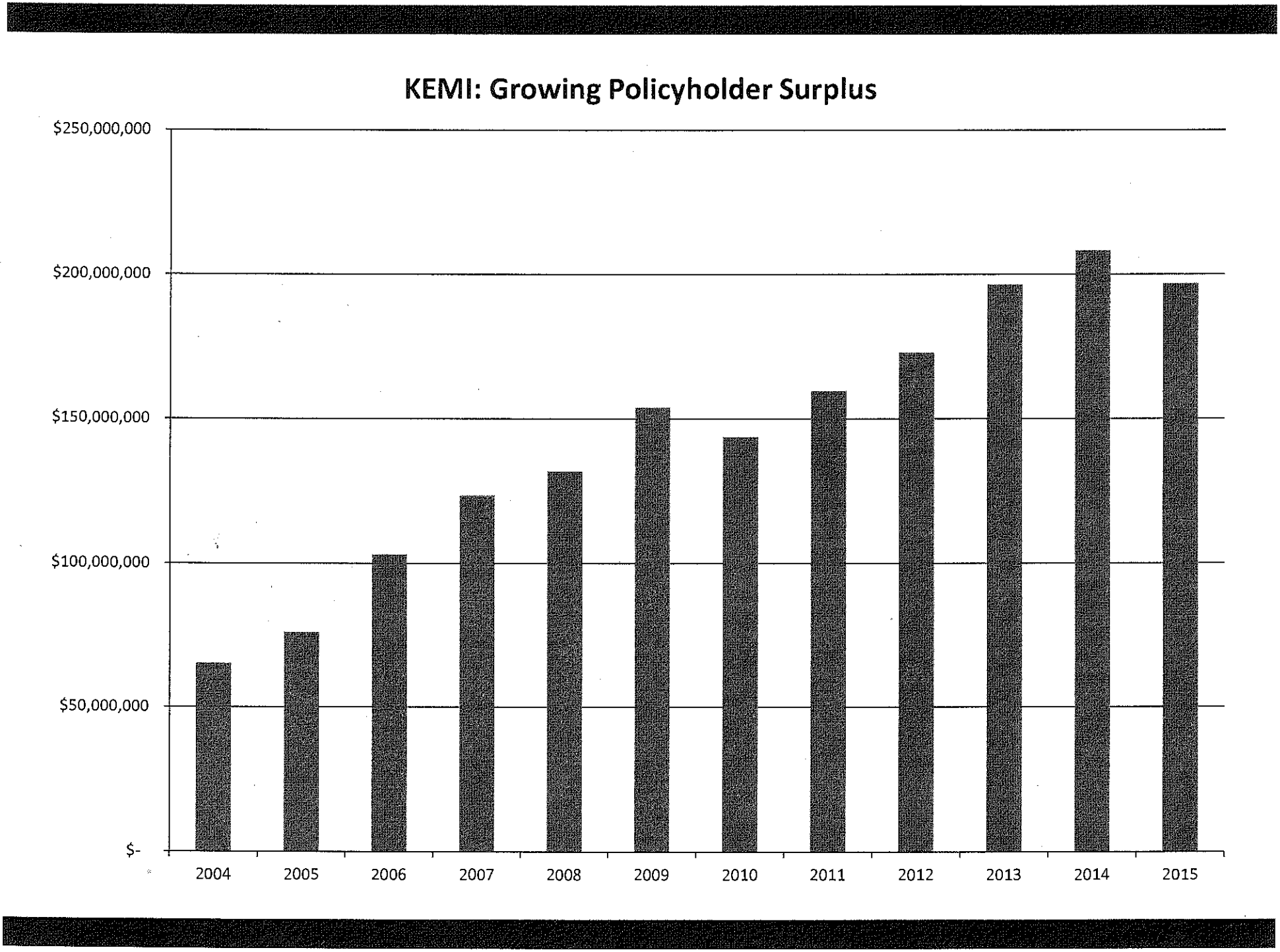
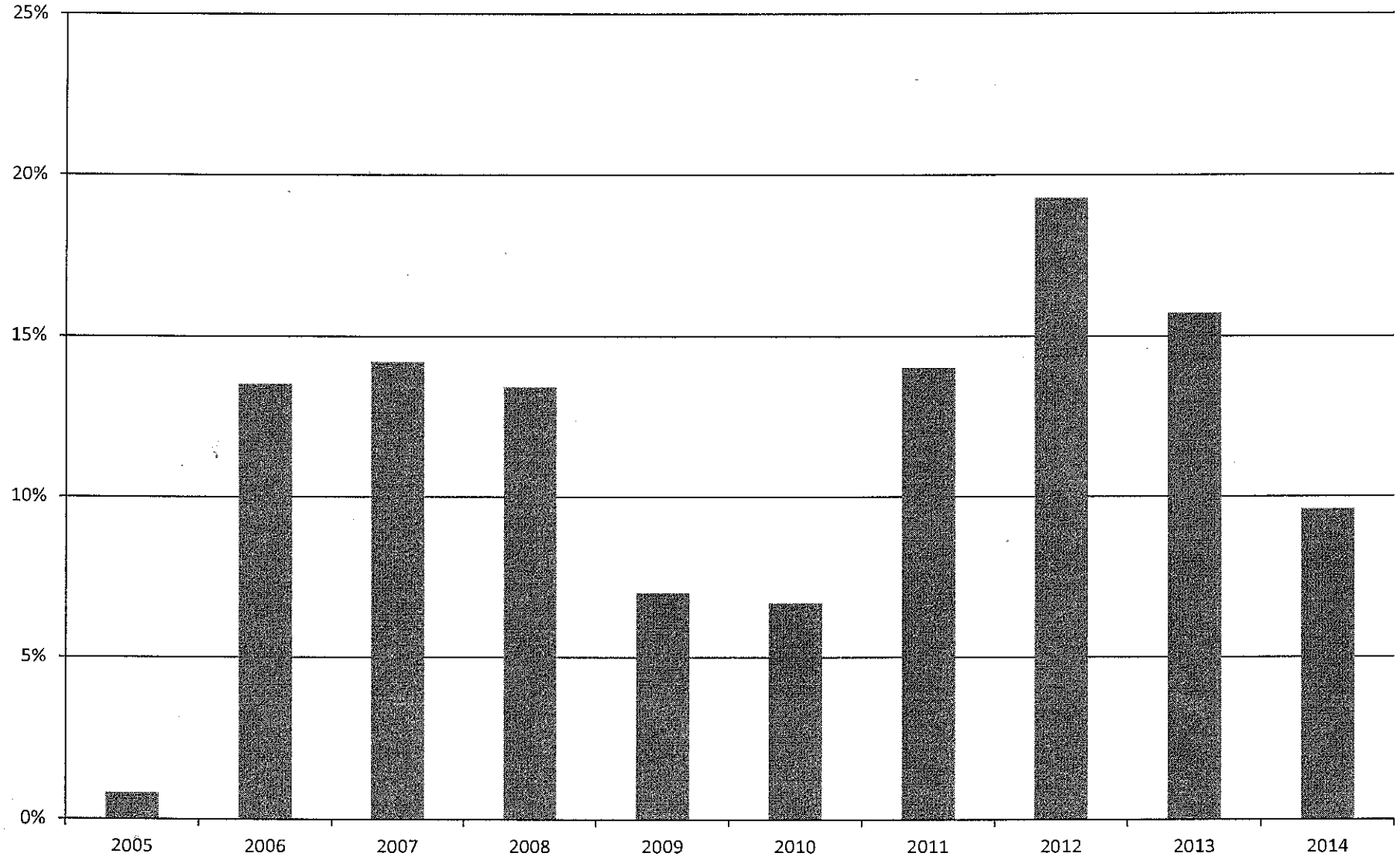
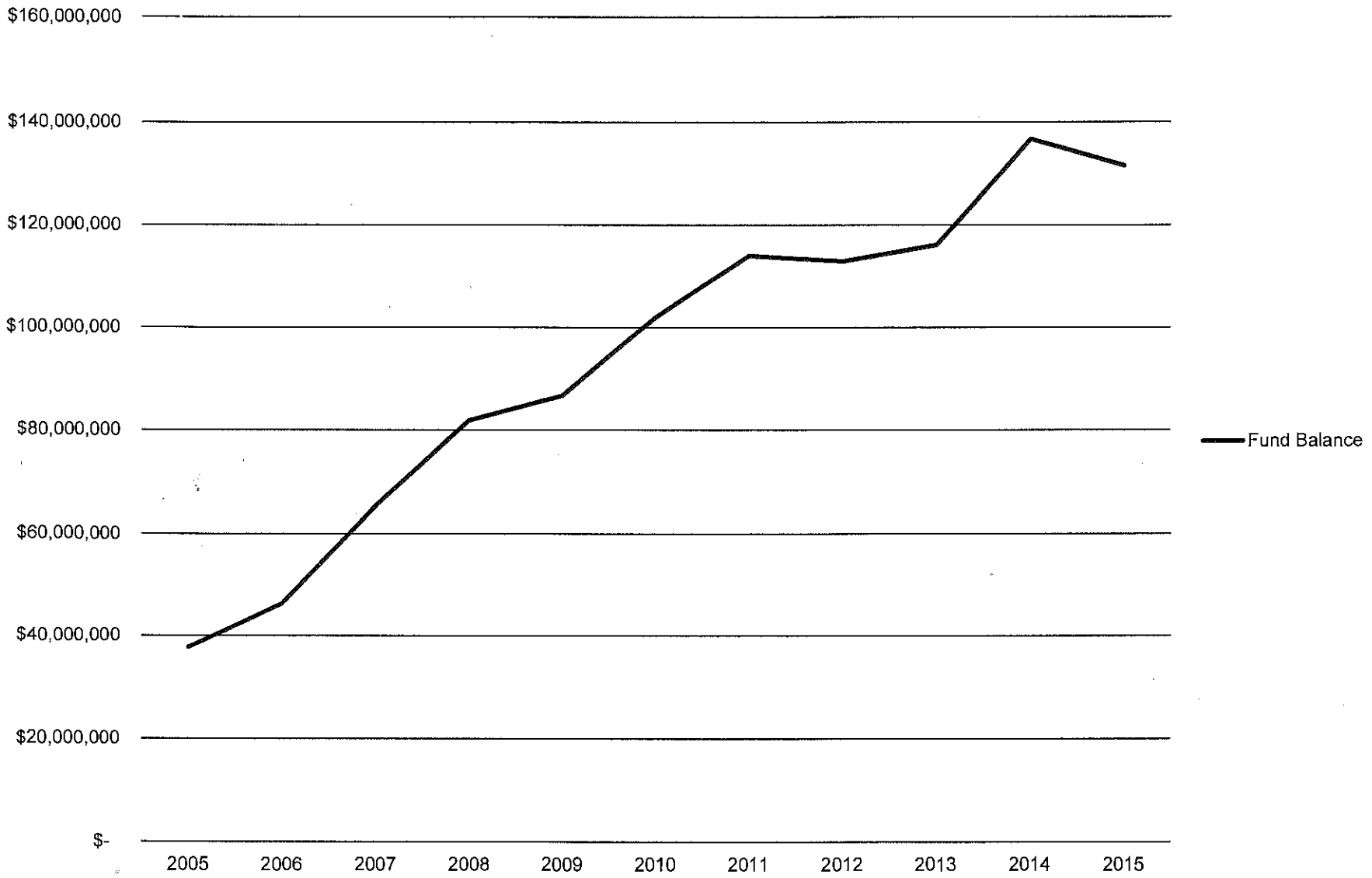
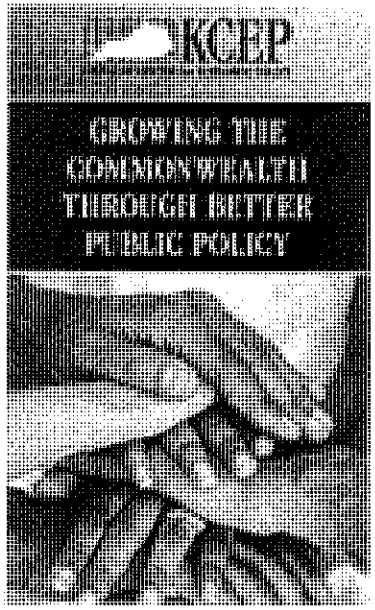

KEMI: Growing Policyholder Surplus
$250,000,000
$200,000,000
$150,000,000
$100,000,000
$50,000,000
$-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015

Profit on Insurance Transactions as Percent of Premiums Earned
Kentucky Workers' Compensation Insurers



Self-Insured Groups in Kentucky: Growth in Net Assets





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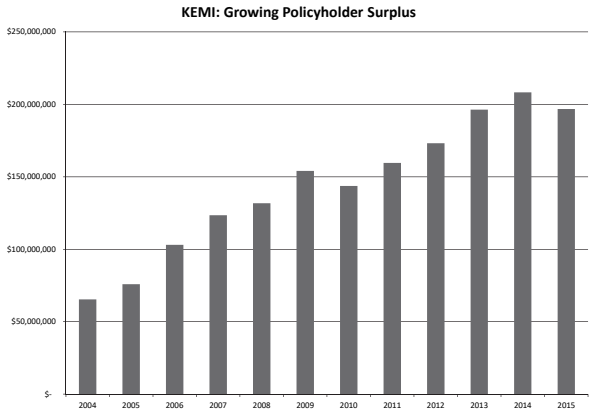
The Financial Condition of the Workers' Compensation Insurance Industry in Kentucky

November 18, 2016



- Commercial insurers = ~75% of market
- Group self-insureds = ~25% of market
- Estimates do not include individual self-insureds

Insurer	Share of Commercial Market
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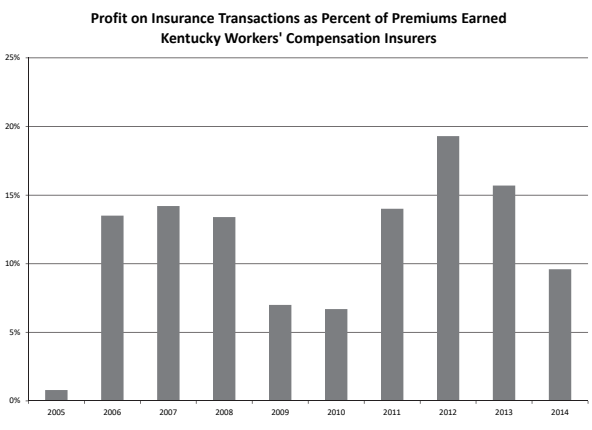

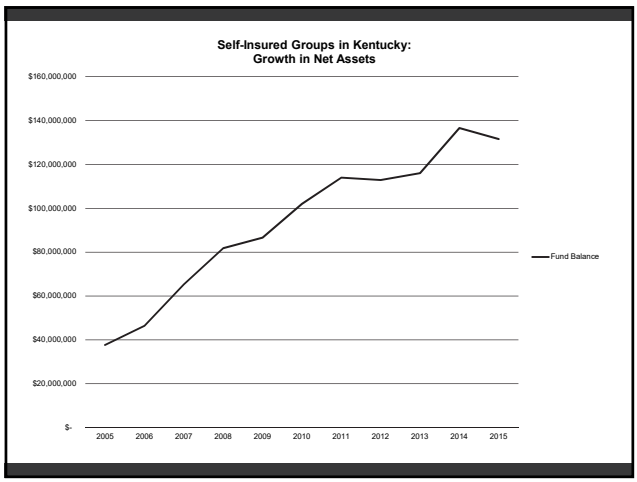

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Appendix G

Ed O'Daniel, Attorney and Former Legislator

G.1 H. Edward (Ed) O'Daniel, Jr., Biography
G.2 Ed O'Daniel Presentation Kentucky Workers' Comp Task Force

H. EDWARD (ED) O'DANIEL, JR.
O'Daniel Law Office
110 West Main Street
Springfield, KY 40069
859-336-9611
odaniel@odanielconsulting.com

EDUCATION

Xavier University, Cincinnati, Ohio, BS Degree 1960, English major, Economics minor

University of Louisville Law School, JD Degree 1968

EMPLOYMENT

Attorney in private practice, Springfield, Kentucky, 1970 to present.

Government relations counsel and administrative law practice currently representing American Insurance Association, Kentucky Trucking Association, Liberty Mutual Insurance Group, National Council on Compensation Insurance, Travelers Insurance and Underwriters Safety and Claims.

President, Kentucky Distillers Association, 1991 to 2008 - Organized and developed Kentucky Bourbon Trail beginning 1999.

Kentucky State Senator 1978-1990, representing 14th Senate District counties of Anderson, Boyle, Marion, Nelson and Washington.

Brown and Williamson Tobacco Corp., Louisville, Kentucky, 1962-1970, national sales promotion advertising manager and purchasing agent.

Military service, Kentucky's 100th Division (Army Reserve) 1960-1967 and active duty 1960-1962.

LEGISLATIVE ASSIGMENTS

Senate chair of Judiciary Committee (1982-1990), House-Senate Joint chair of Ethics Committee of General Assembly (1983-1990), Small Business Committee (1981-1982), Municipal Task Force (1979-1980), Senate member Education Committee (1978-1990) Appropriations and Revenue Committee (1980-1990), Capital Projects Committee (1979-1990) and Program Review Committee (1980-1989).

OTHER

Author *1987 Kentucky Workers' Compensation Law,* Banks-Baldwin Publishing Co. (1988)

Kentucky Bar Association member

Awarded honorary doctor of laws degree from Bellarmine University (1989) in recognition of legislative activities on behalf of education

Recipient of Veritas Award from St. Catharine College (1988) and member of St. Catharine College Board of Trustees (1972-1996)

Director, Springfield State Bank (1973-present)

Springfield City Attorney (1970-1977)

Past president Springfield-Washington County Chamber of Commerce, Springfield Rotary Club, Washington County Association for the Mentally Retarded, Eleventh Judicial District Bar Association

Co-founder of radio station WMQQ 102.7 FM, Springfield, Kentucky and co-owner 1988-1996

Born March 12, 1938, in Bowling Green, Kentucky, spent most childhood years on the family farm where five generations of O'Daniels have lived since the early 1800's in Marion County, Kentucky, attended elementary and high school there.

Resides on farm in Washington County near Lincoln Homestead State Park. Restored Federal style home is originally four-room log cabin with additions.

Ed O'Daniel

Presentation

Kentucky Workers' Comp

Task Force

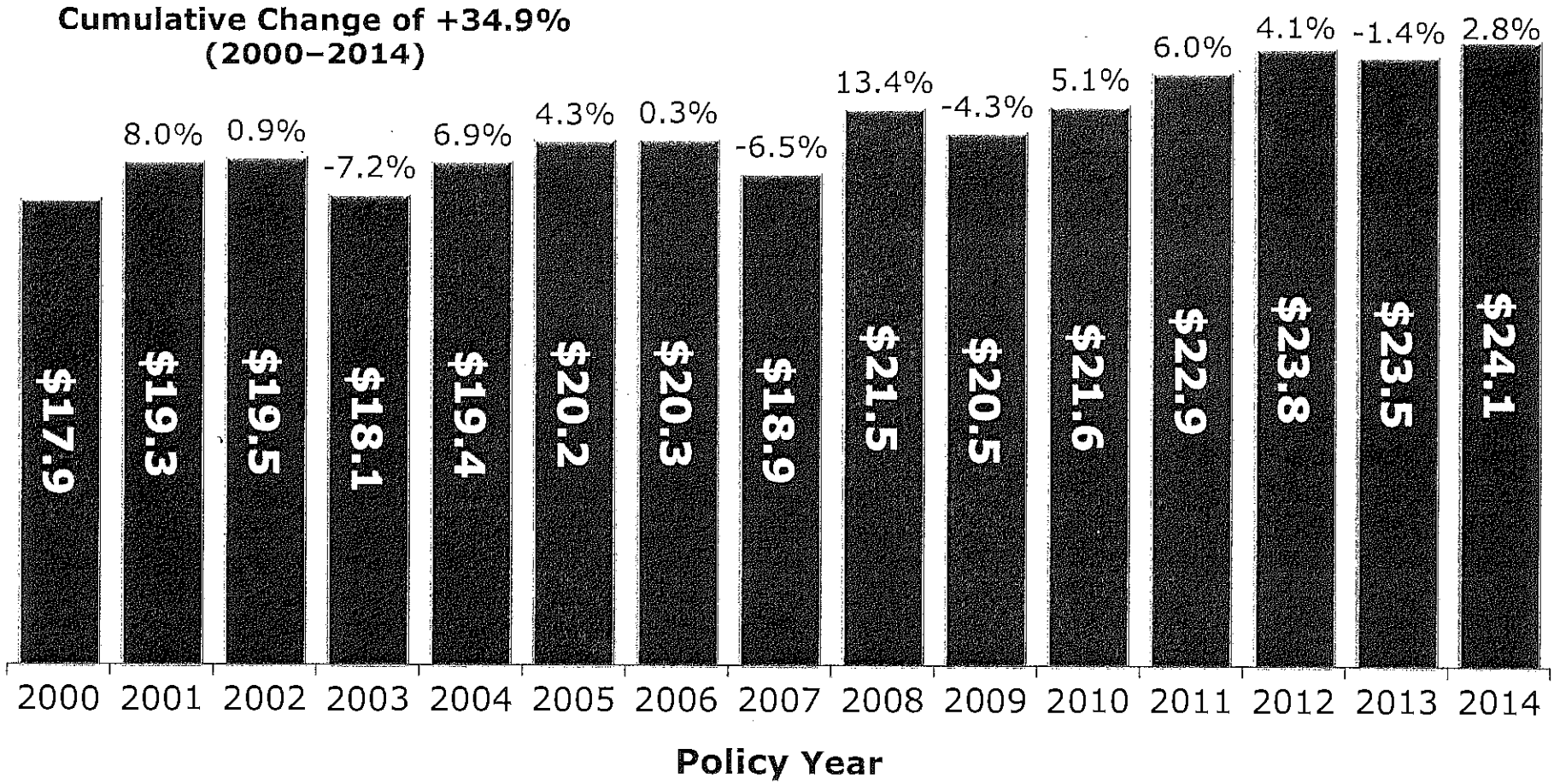
NCCI LOSS COST FILINGS

2006 TO 2016

YEAR	APPROVED CHANGE
2006	-9.3%
2007	-6.1%
2008	-5.1%
2009	-6.4%
2010	-10.3%
2011	-7.5%
2012	-7.9%
2013	-7.9%
2014	-6.9%
2015	-3.4%
2016	-5.0%

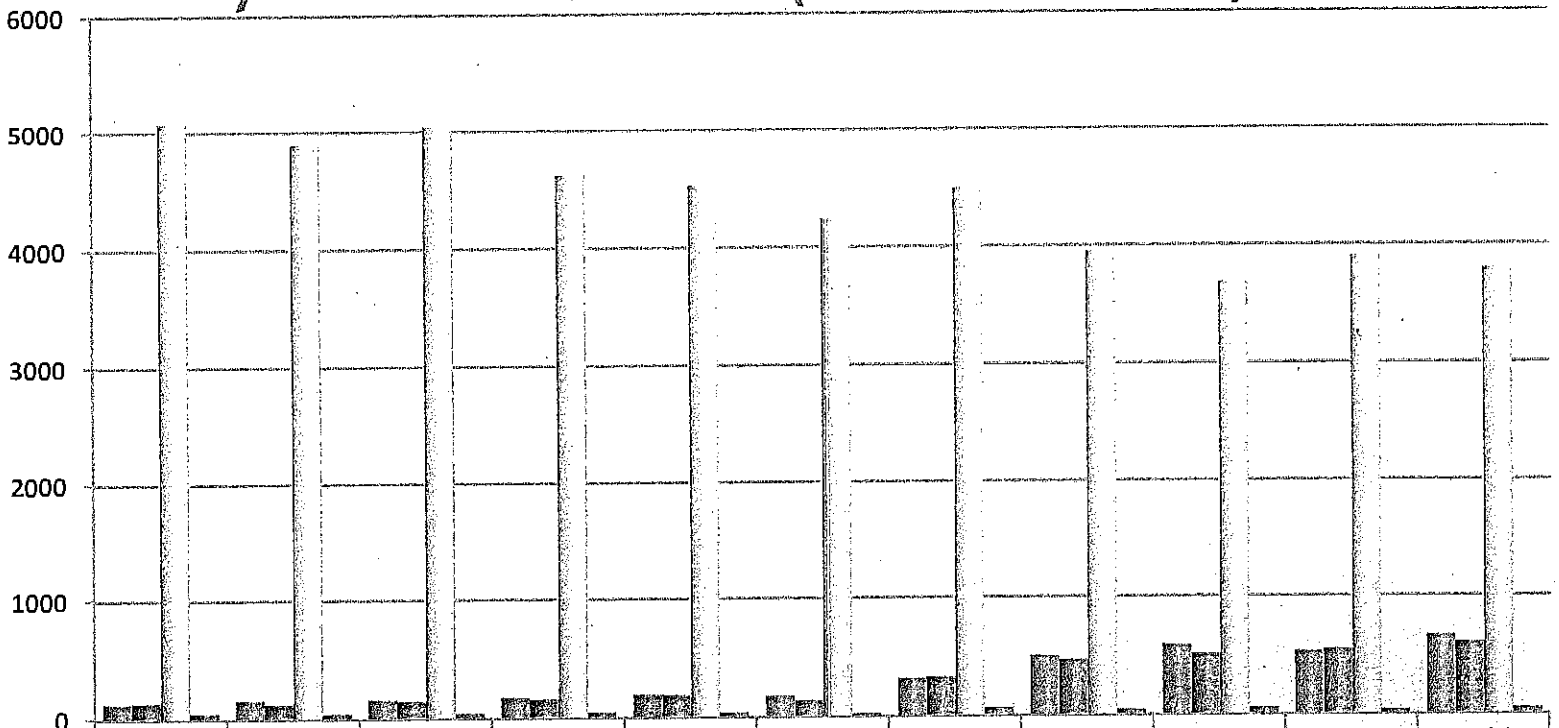
Kentucky's Average Indemnity Claim Severity

Lost-Time Claim Severity in $ Thousands



Based on data through 12/31/2015, on-leveled and developed to ultimate

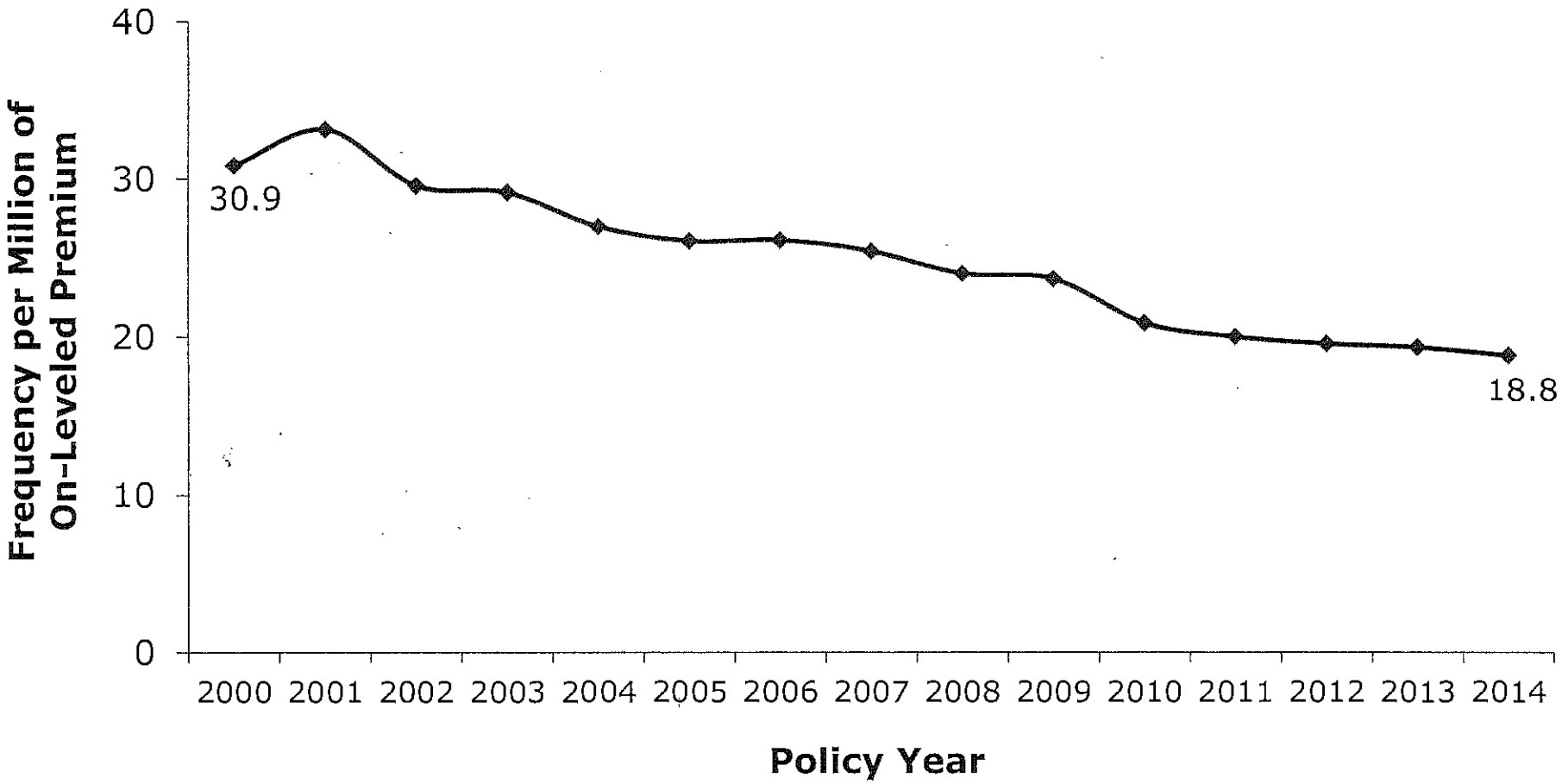
Nature of Claims filed by Calendar Year (2006-2016*)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CWP	137	164	164	179	193	179	308	499	587	533	668
Hearing Loss	138	127	150	158	183	136	318	461	510	545	606
Injury	5074	4884	5039	4622	4533	4239	4497	3948	3679	3902	3791
Other OD	54	46	45	44	41	27	69	49	59	39	54

Claims by File Date of the application and sorts by nature type specified on the application.
*2016 data contains information from 1/1/2016 thru 8/31/2016. Run date: 9/13/2016. Source: Fran Davis

Kentucky's Lost-Time Claim Frequency



Based on NCCI's financial data
Frequency of lost-time claims adjusted to a common wage level

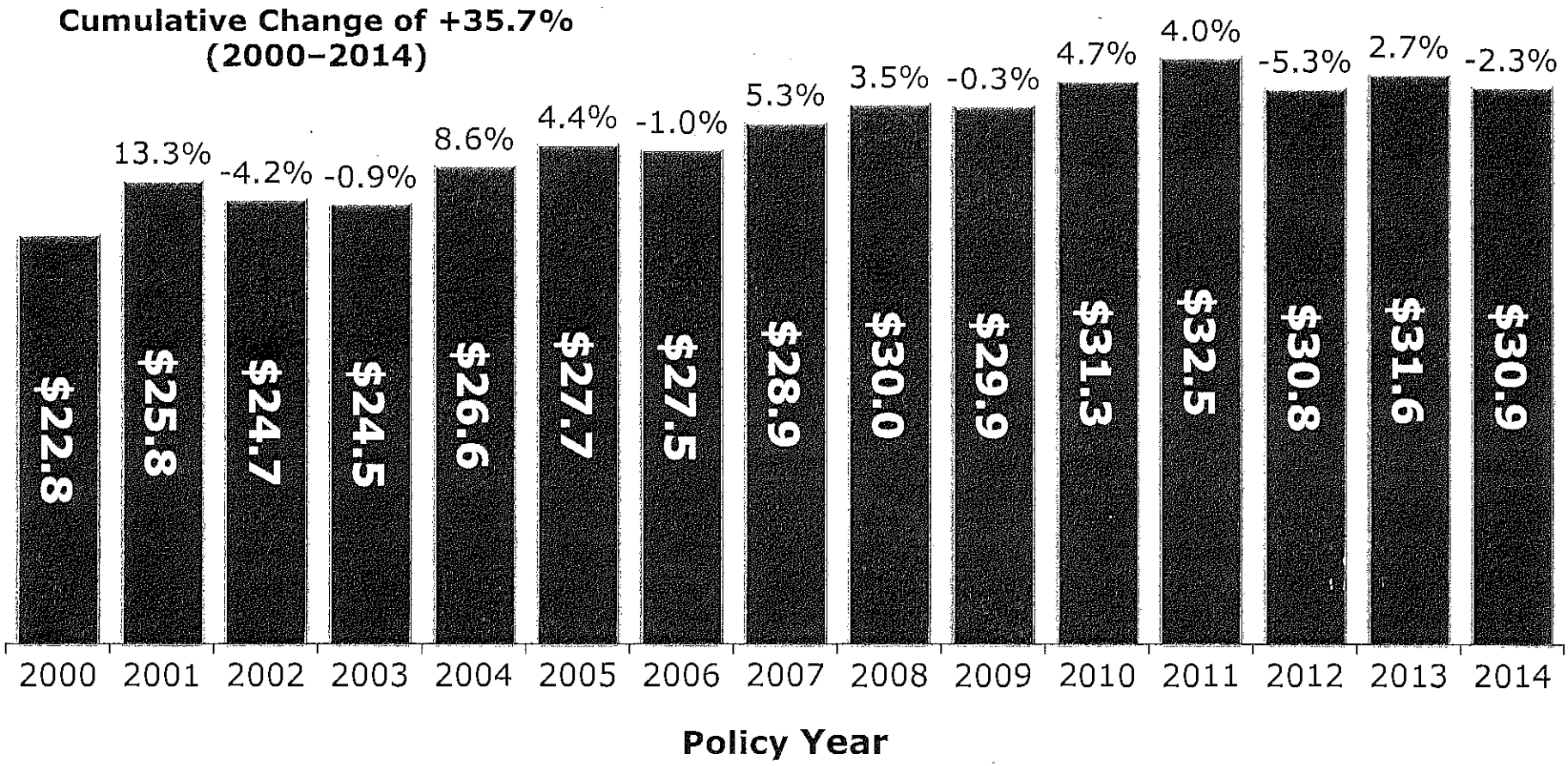
APPLICABLE AVERAGE WEEKLY WAGE OF THE STATE

YEAR	STATE AVERAGE WEEKLY WAGE
2001	$571.42
2002	$588.43
2003	$607.23
2004	$631.22
2005	$646.47
2006	$670.02
2007	$694.30
2008	$711.79
2009	$721.97
2010	$736.19
2011	$752.69
2012	$769.06
2013	$773.61
2014	$798.63
2015	$835.04

Beginning in calendar year 1997 and annually thereafter, the average weekly wage shall be calculated based upon the state average weekly wage in effect two (2) years prior to that calculation. Therefore, the 2015 state average weekly wage is applicable for injuries occurring in 2017.

Kentucky's Average Medical Claim Severity

Lost-Time Claim Severity in $ Thousands



Based on data through 12/31/2015, on-leveled and developed to ultimate

INVESTMENT SUMMARY OF WORKERS COMPENSATION FUNDING COMMISSION FY 1994 - 2012

FISCAL YEAR ENDING	NET INCOME AND CAPITAL GAIN (LOSS)
6/30/1994	$ 2,585,622.00
6/30/1995	41,809,505.00
6/30/1996	21,253,472.00
6/30/1997	44,456,716.00
6/30/1998	51,538,447.00
6/30/1999	35,001,109.00
6/30/2000	39,319,369.00
6/30/2001	(9,480,515.00)
6/30/2002	(13,212,152.00)
6/30/2003	14,299,950.00
6/30/2004	24,025,863.00
6/30/2005	16,656,558.00
6/30/2006	17,698,603.00
6/30/2007	49,633,121.00
6/30/2008	(13,291,917.00)
6/30/2009	(43,936,138.00)
6/30/2010	39,075,355.00
6/30/2011	51,698,875.00
6/30/2012	49,462,339.00
TOTAL	**$ 418,594,182.00**

Appendix H

Gen. Reuben Jones, Executive Director
Kentucky Workers' Compenation Funding Commission

REUBEN JONES
102 Lakeview Court
Georgetown, KY, 60324
(571) 332-3454
Security Clearance: Current Top Secret
Home Phone: (571) 332-3454
Home Email: reuben56@gmail.com

PROFESSIONAL PROFILE

Exceptional leader and change agent with over 20 years of strategic leadership experience and a progressive and proven record in high-demand and fast-paced environments. Expertise in managing large-scale operations and building loyal staffs that exceed organizational expectations. Skilled in strategic planning, managing financial and human resources, individual and organizational training and maintaining quality objectives. Provided engaged leadership in organizations ranging in size from 3,000 to over 80,000. A polished public speaker with congressional testimony experience.

EXPERIENCE

Strategic Planning - As Deputy Commanding General for Operations, Installation Management Command, when faced with the reality of losing between $30-61 billion dollars in fraud and waste in base operations accounts, developed strategic plans and launched operations to control cost and waste at the point of execution in support of U.S. forces in Afghanistan.

Financial Management - As Commanding General of the Family, Morale, Welfare and Recreation Command and faced with a new fiscal reality, successfully executed the $3.2 billion budget and reduced the need for appropriated funds by $150 million. This effort ensured the Army's Non-Appropriated banking, investment, insurance, retirement fund and resort hotel entities were solvent and very healthy. As Executive Director, Kentucky Workers' Compensation Funding Commission, developed new strategies to invest and manage of $650million in funds collected from the Special and Coal Workers Pneumoconiosis Funds. Proactively set annual assessment rates on all workers' compensation premiums to amortize unfunded liability. Audit all assessed entities to ensure proper remittances of assessments. Act as the fiduciary in the investment of agency funds.

Human Resources/Innovation – As the Adjutant General of the Army, I developed and executed a plan to modernize antiquated Human Resource systems. This effort resulted in revolutionary changes in a wide range of HR systems that support professional development, selection processes, and records management. These enterprise-wide improvements streamlined HR policy and processes and resulted in millions of dollars in costs and manpower savings.

Public Relations - In several positions, when clear and well defined messages were required in response to congressional and media inquiry for the Army's position, presented the Army's response during congressional testimony, national media interviews, and general public engagements. All engagements received very positive reviews and enhanced relations with congress, media, and the general public.

Program Management – Developed, managed and energized several high profile programs that ensured support to families of fallen warriors, Families with special needs, and wounded Soldiers. Proactively engaged government and non-profit stakeholders to enhance delivery of programs and services. These programs assisted in increasing the resiliency of Soldiers and their families. Ensured each program was appropriately resourced and contained supporting strategic communications plans.

WORK HISTORY

Executive Director, Kentucky Workers' Compensation Funding Commission/ May 2016-Present
Control, invest, and mange funds collected from the Special and Coal Workers Pneumoconiosis Funds. Responsibly set annual assessment rates on all workers' compensation premiums to amortize unfunded liability. Audit all assessed entities

to ensure proper remittances of assessments. Act as the fiduciary in the investment and management of $650 million in agency funds. Present actuarial soundness and adequacy of funding.

Vice President, Strategy and Government Relations, Strategic Resources Inc. / September 2013-February 2016
Developed business strategies and led government relations activities. In addition, led the implementation of SRI strategic initiatives designed to strengthen crucial military support programs and develop relationships that enhance the capabilities which make SRI an innovator in the federal government and Army program sectors. Led a successful business development effort which resulted in a $40m win for SRI. Energized an effort to establish an SRI Board of Advisors to assist in growing SRI into a billion dollar business. Authored the organization's Strategy and Support Plan to locate opportunities to pursue based on the government's budget.

Deputy Commanding General for Operations, Installation Management Command / June 2011- December 2012
Developed and implemented guidance, policies, and programs supporting the operations at 72 installations worldwide. Major focus areas include: developing strategic plans for complex contingency operations, informational technology, anti-terrorism and force protection, safety, emergency services and operational planning. Synchronized and de-conflicted the staff action process. Lead agent for the implementation of the Commander's operational decisions. Integrated guidance for planning and executing mission support programs that enabled Army installations to meet military commanders' training, readiness, and operational mission requirements.

Commanding General, Family, Morale, Welfare, and Recreation Command / July 2009-June 2011
A 3,000 person subordinate command of the Installation Management Command. Responsible for the daily oversight of the $3.2B Global Morale, Welfare, Recreation Program; primarily the $1.7B Army Family Programs and the $1.3B Army Banking, Investment Fund and Retirement Fund. Responsible for providing equitable, effective and efficient hospitality and Recreation support to the 72 Army installations worldwide. Portfolio contained Resort Hotels, Child Care and Youth Activity Centers, and programs that support the resiliency of Soldiers and Families.

The Adjutant General of the United States Army / June 2006-June 2009
A 900-plus person organization with several diverse divisions. Served as the Adjutant General of the Army; Commanding General Physical Disability Agency; and Executive Director, Military Postal Service Agency. Developed and executed $600M annual budget focused on readiness, force management and Soldier welfare. Portfolio contained the Army Continuation Education System; Casualty and Memorial Affairs; the Wounded Warrior Program (AW2); Personnel Automation Systems; DA Selection Boards; Officer/Enlisted Records and Evaluations; DA Awards; and over 45 Personnel Service Support functions and programs.

EDUCATION

Master of Science in National Security and Strategic Studies, U.S. Army War College, Carlisle, PA
Master of Arts in Administration, Central Michigan University, Mount Pleasant, MI
Bachelor of Arts in Sociology, Jackson State University, Jackson, MS
Harvard University, Kennedy School of Executive Training, Cambridge, MA

PROFESSIONAL AFFILIATIONS

- Board of Directors, U.S. Center for Safe Sport, a U.S. Olympic Committee created non-profit focused on addressing abuse in sports. Colorado Springs, CO.
- Board of Directors, Veterans Moving Forward, a non-profit that provides service dogs to wounded warriors. Alexandria, VA.
- Board of Directors, ROCKS, Inc., a mentorship organization serving the youth of America, Forestville, MD.
- Board of Directors, Army and Air Force Exchange System, a global retail sales and service chain serving the United States Army and Air force, with over $10B in annual sales, Dallas, TX.
- Board Member, Department of Defense, Dependent Education Board, Washington, DC

2017 Assessment Rates Update

Reuben Jones

Executive Director
Kentucky Workers' Compensation Funding Commission

21 October 2016

"People First…Mission Always"

Purpose

- Provide an update of the 2017 Assessment Rates
- Background behind the results
- Legal Requirements

Special Fund Legal Basis

342.122 Special fund assessments -- Annual adjustments -- Reports -- Central claim registry. (1) (b) The funding commission shall, for calendar year 1998 and thereafter, establish for the special fund an assessment rate to be assessed against all premium received during that calendar year which **shall produce enough revenue to amortize on a level basis the unfunded liability of the special fund as of June 30 preceding January 1 of each year, for the period remaining until December 31, 2029.** The interest rate to be used in this calculation shall reflect the funding commission's investment experience to date and the current investment policies of the commission. This assessment shall be imposed upon the amount of workers' compensation premiums received by every insurance carrier writing workers' compensation insurance in the Commonwealth, by every self-insured group operating under the provisions of KRS 342.350(4) and Chapter 304, and against the premium, as defined in KRS 342.0011, of every employer carrying its own risk. On or before October 1 of each year, the commission shall notify each insurance carrier writing workers' compensation insurance in the Commonwealth, every group of self-insured employers, and each employer carrying its own risk, of the rates which shall become effective on January 1 of each year, unless modified by the General Assembly.

Special Fund

Special Fund Assessment Rate
Through 2029

	Calculated As of…	
	6/30/15	6/30/16
Optimistic	5.51%	5.39%
Point	6.31%	6.29%
Adopted	5.51%	6.29%

CWPF Legal Basis

342.1242 Kentucky coal workers' pneumoconiosis fund -- Liability for and manner of making payments for awards for coal workers' pneumoconiosis -- Assessments to finance fund

(3) (c) As of June 30, 2006, and each year thereafter, the funding commission shall determine the assets of the fund and the claim and administrative expense liability incurred by the fund for all previous years and shall establish the rates under the provisions of paragraphs (a) and (b) of this subsection necessary as of January 1 of the next year **to fully fund and prefund all claim liabilities and administrative expenses through December 31 of the next year of operations.** The assessment rate authorized by this section for premiums received and tons of coal severed shall be set so as to receive fifty percent **(50%) of the needed revenue from each assessment**. Notice of any rate changes shall be provided no later than October 1 of the year preceding the rate change.

CWPF

Indicated and Selected Assessment Rates

Assessment on Coal Employers Premium

Scenario	@ 6/30/14	@ 6/30/15	@ 6/30/16 10/1/16 Coal Loss Cost Change Not Reflected	@ 6/30/16 10/1/16 Coal Loss Cost Change Reflected
Pessimistic	13.04%	41.64%	171.81%	171.81%
Point	9.22%	26.22%	104.27%	83.63%
Optimistic	5.18%	14.82%	62.12%	49.50%
Selected	5.18%	14.82%	???	???

Perfect Storm

BL: Industry decline

- CWP assessments history
- Drop in employers
- Drop in severance tonnage
- Drop in employees
- Increase in claims & awards
- CWP investment returns
- EPA regulations
- Coal purchases are down
- China influences
- Political influences

Assessments 1997-2016

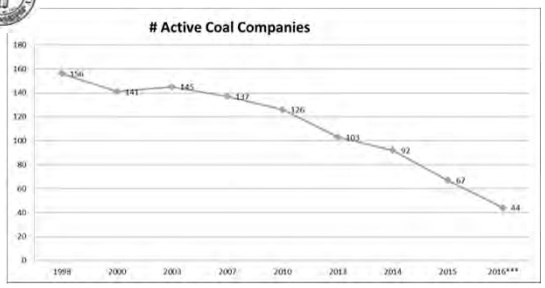
Special Fund Assessments

Year	Base Rate	Additional Coal
On or before 3/31/1989	23.30%	40.00%
1989 thru 1991	16.90%	47.00%
1992 thru 1993	11.68%	47.28%
1994	12.30%	48.90%
1995	9.70%	25.70%
1996	9.00%	24.00%
1997	9.00%	N/A
1998	9.00%	N/A
1999	9.00%	N/A
2000	9.00%	N/A
2001	9.00%	N/A
2002	11.50%	N/A
2003	11.50%	N/A
2004	11.50%	N/A
2005	9.00%	N/A
2006	6.50%	N/A
2007	6.50%	N/A
2008	6.50%	N/A
2009	6.50%	N/A
2010	6.50%	N/A
2011	6.50%	N/A
2012	6.28%	N/A
2013	6.28%	N/A
2014	6.28%	N/A
2015	6.17%	N/A
2016	5.51%	N/A

Coal Workers' Pneumoconiosis Assessments

Year	Coal Employers	Coal Severance Per Ton
1997	2.00%	$0.025
1998	1.00%	$0.01
1999	1.00%	$0.01
2000	1.00%	$0.01
2001	1.00%	$0.0025
2002	1.00%	$0.0025
2003	1.00%	$0.0025
2004	.50%	$0.0025
2005	.50%	$0.0025
2006	.50%	$0.0025
2007	.50%	$0.0025
2008	.00%	$0.00
2009	.00%	$0.00
2010	.50%	$0.00435
2011	.50%	$0.00435
2012	.00%	$0.00
2013	.00%	$0.00
2014	2.14%	$0.0254
2015	5.18%	$0.0492
2016	14.82%	$0.13

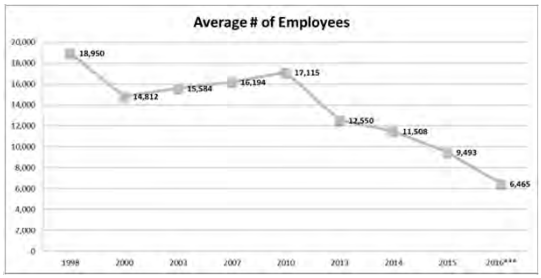
Active Coal Companies



46.83% decrease since 2010

* Report to KWCFC

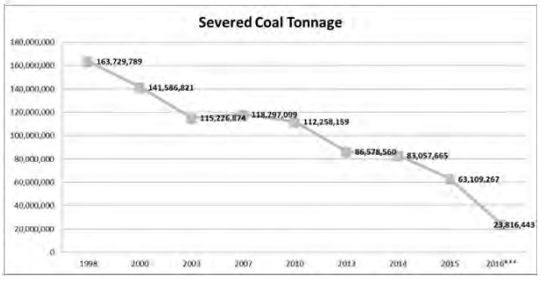
Coal Employees



44.53% decrease since 2010

* Reported by Energy and Environment Cabinet

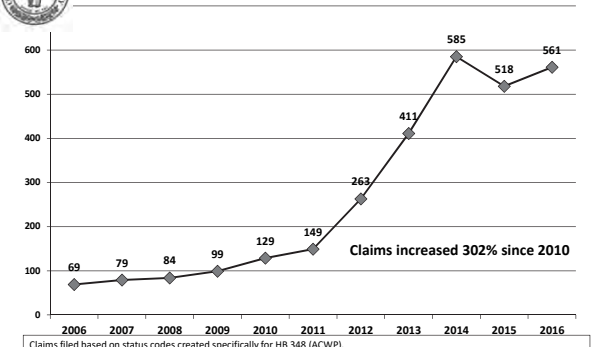
Tonnage



43.78% decrease since 2010

* Reported by Revenue Cabinet

CWP Claims Filed by Calendar Year



Claims filed based on status codes created specifically for HB 348 (ACWP).
2016 data contains information from 1/1/16 through 8/31/2016. Run date: 9/8/16; Source: Fran Davis

CWP Awards

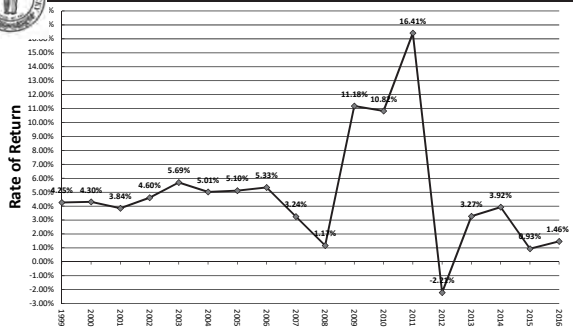
CWPF Table 10

	Number of Awards								
	2010*	2011	2012	2013	2014	2015	2016**	Pending Claims Likely to Be Awarded	6 Year Totals
Expected Awards	15	34	35	37	153***	348***	214***	N.A.	836
Actual Awards	5	10	6	39	251	330	189	71	901

* 2nd Half
** 1st Half
*** Based on data through June 30, 2014 and June 30, 2015

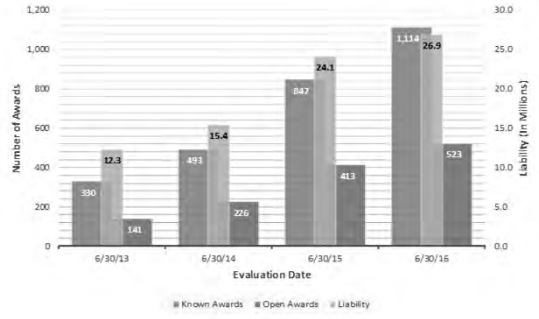
6500% increase in actual awards since 2010

CWP Fund Investment Returns



CWPF

Known Awards



CWP Options

CWPF

Indicated 2017 Assessment Rates from the June 30, 2016 Analysis

Scenario	Assessment on Coal Employers Premium	Assessment on Coal Tonnage
Pessimistic	171.81%	$1.1656
Point	104.27%	0.7080
Alternative Point*	83.63%	0.7029
Optimistic	62.12%	0.4221
Alternative Optimistic*	49.50%	0.4174
Adopted	49.50%	0.4174

* Reflects an increase in coal written premium of 23.9% on and after 10/1/16 based on the assumption that carriers immediately adopt NCCI's 10/1/16 proposed loss cost change and that the premium increase and assessment increase do not cause additional mine closings beyond what is anticipated by the exposure estimates.

Selected Assessments

- **Special Fund**
  - **Point 6.29%**
- **CWP Fund**
- Alternative **Optimistic** Estimate Coal Premium
  - **49.50%**
- Alternative **Optimistic** Estimate Coal Tonnage
  - **$0.4174**

Summary

- The coal industry has experienced a perfect storm
- Assessment rates meet legal requirements
- 2017 assessments were approved on 30 Sep 2016
- 2017 assessments become effective 1 Jan 2017

Matthew G. Bevin
Governor

KENTUCKY WORKERS' COMPENSATION FUNDING COMMISSION

Reuben Jones
Executive Director

42 Millcreek Park
P.O. Box 1128
Frankfort, Kentucky 40602-1128
502-573-3505
www.kwcfc.ky.gov

November 15, 2016

Carla H. Montgomery
Legislative Research Commission
Committee Staff Administrator
Labor and Industry Committee
700 Capitol Ave
Capitol, RM. 433A
Frankfort, KY 40601

RE: WC TF Questions

Ms. Montgomery,

KWCFC is pleased to provide the following answers in response to your October 31, 2016 email:

1. How many claims or cases are on the books for weekly payments of disability benefits?

    a. Special Fund – 6,979 Claims
    b. CWP Fund - 488 Claims
    c. South East Coal- 19 Claims
    d. Green Coal - 3 Claims

2. How much is the liability to be paid off in the next 30 years? $60,935,144.80*

3. How many claims are less than $100.00 per week? 331**

4. How many claims are less than $200.00 per week: 411**

5. Has there been an effort to get rid of liability be moving the liability to the private sector?

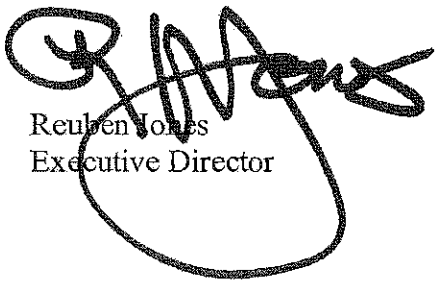
    No, to the best of our knowledge, there has not been an attempt to get rid of the liability.

* This represents an approximate amount which will be effected by (1) the rate of death of the claimants (2) those Claimants living beyond their life expectancy who will continue to draw; (3) the number of dependents who will draw after the death of the Claimant (children and disabled children;) (4) the rate files are submitted per year over the next 30 years; (5) claims suspended for recoupment of attorney fee and (6) claims commencing after recouping of attorney fee.

** These number include both Special Fund and CWP Funds.

If you have any questions please let me know.

Regards,



Reuben Jones
Executive Director

Matthew G. Bevin
Governor

KENTUCKY WORKERS' COMPENSATION FUNDING COMMISSION

Reuben Jones
Executive Director

42 Millcreek Park
P.O. Box 1128
Frankfort, Kentucky 40602-1128
502-573-3505
www.kwcfc.ky.gov

December 9, 2016

Carla H. Montgomery
Legislative Research Commission
Committee Staff Administrator
Labor and Industry Committee
700 Capitol Ave
Capitol, RM. 433A
Frankfort, KY 40601

RE: WC TF Questions

Ms. Montgomery,

KWCFC is pleased to provide the following update in response to your October 31, 2016 email:

1. How many claims or cases are on the books for weekly payments of disability benefits?
    a. Special Fund - 6,960 Claims
    b. CWP Fund- 491 Claims
    c. South East Coal- 19 Claims
    d. Green Coal - 3 Claims

2. How much is the liability to be paid off in the next 30 years? $840,728,064.00
    The liability of the Special Fund on an undiscounted basis as of June 30, 2016 is determined to be approximately $859.9 million. Approximately $840,728,064.00 of the Special Fund liability will be paid off over the next 30 years.

3. How many claims are less than $100.00 per week? 868**

SF Claims paying under $100.01:	$15,097,098.92
CWP Claims	2,507,384.43
TOTAL:	17,604,483.35

4. How many claims are less than $200.00 per week: 1152**
   SF Claims paying over $100.01 to $200.00: $62,265,860.24
   CWP Claims 3,242,518.35
   TOTAL: $65,508,378.59

5. Has there been an effort to get rid of liability be moving the liability to the private sector?
   No, to the best of our knowledge, there has not been an attempt to get rid of the liability.

If you have any questions please our POC Judith Erickson, Esq., Director Workers' Compensation Fund, Department of Workers' Claims, .

Regards,

Reuben Jones
Executive Director

Appendix I

Kentucky Workers' Compensation Insurance Notes From Terri Smith Walters

Kentucky Worker's Compensation Insurance

Workers' compensation is the oldest social insurance program in the United States. 2016 represents a legal, social and financial milestone for Kentucky as this is the 100th birthday of the Workers' Compensation Act in this state.

TASK FORCE COMMITTEE REQUEST: IMPROVING DELIVERY OF INCOME, MEDICAL AND VOCATION BENEFITS.

There are three basic parts to the workers' compensation system: Benefit structure, benefit delivery and benefit financing.

Benefit Structure

The benefit structure explains what the injured worker is entitled to receive under the workers' compensation program when an injury occurs "arising out of and in the course of employment." The Kentucky Workers' Compensation Act provides for five basic forms of compensation: Medical benefits (KRS 342.020); Temporary Total Disability Benefits (KRS 342.730); Permanent Disability Benefits (KRS 342.730/.7305/732); Vocational Rehabilitation Benefits (KRS 342.710 and KRS 342.732); and Death Benefits (KRS342.750).

The Benefit Delivery System

In Kentucky, workers' compensation benefits are administered by authorized insurers and by employers who participate in a self-insured workers' compensation liability program. Some self-insured groups and individual self-insured employers secure the services of third party administrators. The Workers' Compensation Act provides for self-insurance guaranty funds to continue benefits delayed or terminated due to the default of a self-insured employer to meet obligations after insolvency.

When an on-the-job injury is reported, the process of delivery of the benefits the injured workers is entitles to receive under the law begins.

The Benefit Financing System

Employers may finance their liability for workers' compensation benefits through a corporation, association, or organization authorized to transact the business of workers' compensation insurance in this state or by self-insurance.

DEFENSE PROPOSALS FOR IMPROVEMENT OF INCOME BENEFITS PAID

1. **Amend 342.040(1) as to percentage amount on interest payable and add provision regarding relief from interest when claim is delayed due to unreasonable failure of employee to participate:**

Except as provided in KRS 342.020, no income benefits shall be payable for the first seven (7) days of disability unless disability continues for a period of more than two (2) weeks, in which case income benefits shall be allowed from the first day of disability. All income benefits shall be payable on the regular payday of the employer, commencing with the first regular payday after seven (7) days after the injury or disability resulting from an occupational disease, with interest at the rate of twelve percent (six percent) per annum on each installment from the time it is due until paid, except that if the administrative law judge determines that a denial, delay, or termination in the payment of income benefits was without reasonable foundation, the rate of interest shall be eighteen percent (twelve percent) per annum. In no event shall income benefits be instituted later than the fifteenth day after the employer has knowledge of the disability or death. Income benefits shall be

due and payable not less often than semimonthly. If the employer's insurance carrier or other party responsible for the payment of workers' compensation benefits should terminate or fail to make payments when due, that party shall notify the commissioner of the termination or failure to make payments and the commissioner shall, in writing, advise the employee or known dependent of right to prosecute a claim under the chapter.

Add a provision to KRS 342.040(1) that no interest shall be payable during that period of time when a claim is abated due to the employee's unreasonable failure to participate in the proceedings.

2. **Add to KRS 342.185 a provision for a statute of repose for cumulative trauma claims:**

The right to compensation for any cumulative traumatic injury claim shall be forever barred unless a claim is filed with the commissioner within two (2) years from the last injurious exposure to the occupational condition.

3. **Add to KRS 342.185 a provision for a statute of repose for hearing loss claims:**

The right to compensation for any occupational hearing loss claim brought as a result of repetitive exposure to hazardous noise shall be forever barred unless a claim is filed with the commissioner within two (2) years from the last injurious workplace exposure.

4. **Add provision to KRS 342.730:**

In the event of any award with a present value of $25,000.00 or less, the employee may elect to receive the award in a lump sum of that amount and a lump sum for medical in the amount of 25% of the of the indemnity value of the award.

5. **Amend the wording of KRS 342.125 (3) regarding the timeline for reopening of a claim.**

...No claim shall be reopened more than four (4) years following the date of the original award or order granting or denying benefits and no party may file a motion to reopen within one (1) year of a previous motion to reopen by the same party. Change to: or in the event of an appeal therefrom, the date of the final determination granting or denying relief.

6. **Amend 342.730(4) to add an offset provision regarding wages paid during a period of TTD:**

All income benefits otherwise payable for temporary total disability shall be offset by regular wages paid by the employer during the period of temporary total disability as compensation for work performed which is of the nature previously performed for the employer and for which the employee has been previously trained.

7. **Amend KRS 342.700 (subrogation statute):**

If compensation is awarded under this chapter, the employer, his insurance carrier, the special fund, and the uninsured employer's fund, or any of them, having paid the compensation or having become liable therefor, may recover in his or its own name or that of the injured employee from the other person in whom legal liability for damages exists, not to exceed the indemnity *and medical benefits* paid and payable to the injured employee[, less the employee's legal fees and expense].

DEFENSE PROPOSALS FOR IMPROVEMENT OF MEDICAL BENEFITS PAID

1. **Add to KRS 342.020(1) a provision regarding restriction on the use of drug screening test. Language modeled from Kentucky Board of Medical Licensure guidelines.**

A medical provider shall not perform urine drug screening of patients in excess of once a year for a patient considered "low risk" based upon the screening done by the physician and other factors or no more than twice a year for a patient considered "moderate risk" based upon the screening done by the physician and other factors. With a statement of medical necessity and pre-approval, the medical provider can perform urine drug screening at least three to four times a year for "high risk" patients based on the screening done by the physician and other factors or at each office visit if the patient has exhibited aberrant behavior documented by multiple lost prescriptions, multiple requests for early refills, opioids from multiple providers showing up on KASPER, unauthorized dose escalation, and apparent intoxication.

2. **Amend 342.035(7) to add/include a timeline for delivery of medical records.**

For purposes of this chapter, any medical provider shall charge only its customary fee for photocopying requested documents. However, in no event shall a photocopy fee of a medical provider or photocopying service exceed fifty cents ($.50) per page. In addition, there shall be no charge for reviewing any records of a medical provider, during regular business hours, by any party who is authorized to review the records and who request a review pursuant to this chapter. A medical provider shall submit medical records to any authorized party within thirty days of receipt of the request and in the event of a requirement for pre-payment for records, the provider shall notify the requesting party of the costs within fifteen days of the request and records shall be mailed within fifteen days of receipt of payment.

3. **Add provision to KRS 342.020 limiting medical payments based on award**

Amend the Act to provide lifetime medical only to those injured workers who meet the criteria of permanent disability under 342.0011 (11)(c). In all other cases limit medical to the lifetime of the award with a limitation on the employer's liability for payment of Schedule II narcotics after an employee has attained MMI by requiring that the medical indication must be shown by clear and convincing evidence.

DEFENSE PROPOSALS FOR IMPROVEMENT OF VOCATIONAL BENEFITS PAID

Add language to KRS 342.700: Provide for the request for vocational retraining to be filed by either party within 45 days of the filing of the claim so that the issue is litigated fully and if the ALJ orders a referral for evaluation in his award, he retains jurisdiction over the claim until the report is received and a vocational conference is then scheduled with mandatory attendance by the parties.

Appendix J

J. Landon Overfield, Biography

Biographical Information Sheet

Name: J. Landon Overfield

Firm: Overfield Law Office

Mailing Address: 802 South Adams Street, Henderson, KY 42420

Email: landonoverfielf@hotmail.com; landon@overfiedlawoffice.com

Education: University of Kentucky Juris Doctor 1972
University of Kentucky Bachelor of Arts (Pol Sci) 1970

J. Landon Overfield recently retired as Chief Administrative Law Judge of the Kentucky Department of Workers Claims. Mr. Overfield received Bachelor of Arts (political science) and Juris Doctor Degrees from the University of Kentucky. He was admitted to the practice of law in the Commonwealth of Kentucky in April 1973 and is a member of the Kentucky and Henderson County Bar Associations. Mr. Overfield is admitted to practice before all Courts of Justice and all administrative tribunals of the Commonwealth Kentucky; the United States Court of Appeals, Sixth Circuit; and the United States District Court for the Western District of Kentucky.

Mr. Overfield is a native of Henderson, Kentucky, where he established his law practice and was in private practice from April of 1973 until November 14, 1994. His practice concentrated on personal injury and workers compensation law. In both arenas he represented both plaintiffs and defendants. Mr. Overfield was appointed as an Administrative Law Judge and has served in that position since November 15, 1994.

As an Administrative Law Judge, Mr. Overfield administered thousands of Kentucky workers compensation claims and has written hundreds of opinions. He presided over dockets from Pikeville to Paducah, from Ashland to Bowling Green and in multiple other hearing sites in Kentucky. From January 1, 2009 through July 31, 2009 Mr. Overfield served as the "acting" Chief Administrative Law Judge. He was appointed Chief Administrative Law Judge effective September 1, 2010 and served in that capacity until his retirement on December 31, 2014.

Mr. Overfield is a member of the planning committee of the UK/CLE Worker's Compensation Institute, an *ex officio* member of the Board of Directors of the Kentucky Worker's Compensation Education Association and a member of the Kentucky Bar Association/Workers Compensation Section's *Workers Compensation Act Centennial Committee*. He is a frequent presenter in Kentucky workers compensation seminars.

Following his retirement Mr. Overfield established a "part-time" law practice and serves as a contract attorney for workers compensation matters docketed in Western Kentucky. He also provides mediation services in Kentucky workers compensation claims.

Appendix K

James R. Bean, MD, FACS, FAANS (L) Biography

James R. Bean, M.D.

(Updated 10/18/16)

Office:
1760 Nicholasville Rd., Suite B301
Lexington, Kentucky, 40503
Phone: 859-277-6143
Fax: 859-277-8659
e-mail: jbeanlex@gmail.com

Home:
1248 Eldemere Rd.
Lexington, Ky., 40502
Phone: 859-269-3937
Cell: 859-327-8166

Birthdate: April 24, 1948

Birthplace: Coshocton, Ohio

Spouse: Deborah R. Bean

Children: Jeffrey Bean (1974), Alison Griffith (1976), Lucy Bean (1983)

Education:
Benjamin Franklin High School, New Orleans, La., 1963-66
University of Virginia, Charlottesville, Va., 1966-70; BA 1970
Tulane University School of Medicine, New Orleans, La. 1970-73; MD Nov. 1973

Postgraduate professional training
Intern (Internal Medicine), Touro Infirmary, New Orleans, La. 11/73 – 5/74
Intern (General Surgery), University of Kentucky Medical Center, Lexington, Ky. 6/74 – 6/75
Residency (Neurological Surgery), University of Kentucky Medical Center, Lexington, Ky. 7/75 – 6/80
Research Fellow, Institute of Neurology, National Hospital for Nervous Diseases, Gough Cooper Department of Neurological Surgery, Queen Square, London, England
- Brain tumor immunology (David Thomas) 6/78 – 12/78
- Cerebrovascular ischemia (Prof. Lindsay Simon) 1/79 – 5/79

Academic appointments:
Assistant professor, Division of Neurosurgery, Department of Surgery, University of Kentucky Medical Center 7/80 – 6/82

Hospital Staff appointments:
Good Samaritan Hospital, Lexington, Ky. 1982 – 2007
Central Baptist Hospital, Lexington, Ky., 1982 – present
St. Joseph Hospital, Lexington, Ky. 1984 – present
St. Joseph East Hospital, Lexington, Ky. 1982 – 2008

Professional Society Memberships

American Association of Neurological Surgeons
American College of Surgeons
American Medical Association
Congress of Neurological Surgeons
Kentucky Medical Association
Kentucky Neurosurgical Society
Lexington Medical Society
Society of Neurological Surgeons
Southern Neurosurgical Society

Licensure and Certification

Kentucky Medical License: Registry # 17799 (1975)
Board certification: American Board of Neurological Surgery (1983)

Offices and appointments

Neurosurgical Associates, PSC, Lexington, Ky.
President 2000 – 2012
Managing Director 1990 – 2000

Kentucky Neurosurgical Society
President 1989 – 90
Secretary-Treasurer 1985 – 89
Delegate, Council of State Neurosurgical Societies 1992 – 99
Executive Committee 1989 – 97

Kentucky Medical Association
Chairman, ad hoc Committee on Prehospital DNR 1992 – 94
[redacted]
KMA Physicians Plan (PPO) Board of Directors 1996 – 99
- Vice-Chairman 1996 – 97
- Chairman 1998 – 99

Organized Medical Staff Section 1992 – 97
- OMSS Executive Committee 1996 – 97

Delegate (Fayette County) 1992 – 2002
Medicaid Managed Care Committee 1997 – 2000
Nominating Committee 1995
Reference Committee 1993, 1997, 1998
- Chairman 1998

Committee to Investigate Changing Trends in Medicine 1999 – 2007
- Chairman 1999 – 2007

Committee on Managed Care 1999 – 2008
Technical Advisory Committee on Physician Services (Title XIX) 2000 – 2008

Lexington Medical Society
President 2001
President-elect 2000
Vice-President 1999
Executive Committee 1994, 1996 – 2007

Service Council 1984 – 86
Kentucky Medical Association delegate 1992 – 2002
Central Kentucky Regional Provider Entity (Kentucky Region 5 Medicaid Managed Care Partnership) delegate 1998 – 2000
Fayette County ad hoc Region 5 Medicaid Managed Care Steering Committee 1995 – 96
KMA Alternate Trustee 2003 - 06

American Association of Neurological Surgeons
President 2008 – 09
President-elect 2007 – 08
Treasurer 2004 – 2007
Committees & appointments:
Professional Conduct Committee 2009 – Chairman 2012 –
Washington Committee Review Work Group (ad hoc Committee to Review the PARC) 2011 (Chairman)
Executive Committee 2004 – 10 (Chairman 2008 – 09)
Finance Committee 2004 – 10 (Chairman 2004 – 07)
Long Range Planning Committee 2004 – 10 (Chairman 2007 – 08)
Neurosurgery Research and Education Foundation Executive Council 2004 – 2009
Future Meeting Sites Committee 2004 – 09
Distinguished Service Award Committee 2007 – 09
Annual Meeting Committee (ex officio) 2004 – 09
Honorary Membership Committee 2004 – 09
Course Director, *Neurosurgeon as CEO*: 2007 (Chicago), 2008 (Chicago), 2010 (New York City), 2011 (Boston)
AMA delegate 2005 – 06; alternate delegate 2006 – 07
AMA Relative Value Update Committee (RUC) advisor 1999
AANS Appointee – Council of State Neurosurgical Societies 1999 – 2008
AANS Nominating Committee 1998 – 99
Reimbursement Committee 1998 – 99
AANS Bulletin
- Editor 2003 – 05
- Associate Editor 1998 – 2003

HCFA Clinical Practice Expert Panel (CPEP) representative 1997
Task Force on Fellowships 1997
Bylaws Committee 1996 – 99
- Chairman 1998 – 09

Task Force on Quality of Neurosurgical Practice 1995 – 96
- Chairman 1995 – 96

Socioeconomic fax newsletter ("Changing Times") editor 1994 – 2000
Guidelines and Outcomes Committee 1993 – 96
Committee on Managed Care 1993 – 99
Peer Review Committee 1992 – 95
Awards:
AANS Distinguished Service Award 2012

Congress of Neurological Surgeons
Executive Committee (ex officio) 1996 – 99
- Strategic Planning Committee 1997 – 99

Leadership Development Committee 1997 – 99
Nominating Committee 1999 – 2000
Washington Committee appointee 1999 – 2004
Concepts in Neurosurgery Volume Editor: *Neurosurgery in Transition*, 1997 – 98

AMA Alternate Delegate 2003 – 04

AANS/CNS Joint Coding and Reimbursement Committee 2000 – 2002
- Chairman 2000 – 02

AANS/CNS Washington Committee 1999 - 2004
- Chairman 2002 – 04

AANS/CNS Council of State Neurosurgical Societies
- Chairman 1997 – 99
  - AANS Board of Directors (ex officio)
  - CNS Executive Committee (ex officio)
  - Washington Committee (ex officio)
- Vice-chairman 1994 – 97
- Executive Committee 1992 – 2001
- Southeast Quadrant chairman 1993 – 96
- Ad hoc Health Care Reform Committee 1992 – 95
  - Chairman 1992 – 95
- Medical Practices Committee 1990 – 97
  - Chairman 1992 – 94
- Speaker of the Assembly 1999 – 2001

NPHCA (Neurosurgeons to Preserve Health Care Access)
- Secretary – Treasurer 2003 - 04

American Board of Neurological Surgery
- Guest examiner May 1999
- Guest examiner November 2003

World Neurosurgery Journal
Section Editor (Socioeconomics, Political, Legal) 2015 –

Samaritan Hospital, Lexington, Ky
- President - Medical Staff 1991
- Medical Staff Executive Committee member 1990 – 2000
- Representative, KMA/AMA Organized Medical Staff Section 1992 – 2000
- Neurosurgery Section Chairman 1990 – 96
- Critical Care Committee Chairman 1993 – 94
- Credentials Committee 1990 – 96
  - Chairman 1996
- Bylaws Committee 1996 – 97
- Representative, Columbia Hospital Kentucky Regional Strategic Planning Committee 1997

Central Baptist Hospital, Lexington, Ky.
- Operating Room Committee 1986 – 89

St. Joseph Hospital, Lexington, Ky.
- Quality Assurance Committee 1995 – 99

St. Joseph Hospital East
- Neurosurgery Section Chairman 1994 – 99

The Physicians Network (TPN), LLC – IPA, Lexington, Ky.

- Founding member 1994
- President 1994 – 96, 2002 – 2007
- Vice-president 1996 – 2002, 2007 – 09
- Board of Managers 1994 – 2009
- Utilization Management Committee 1996 – 2000

Medicaid Region 5 Provider Partnership (Central Kentucky Regional Provide Entity - CKRPE)

- President and Chairman of the Board 1997 – 2000
- Steering committee member 1996 – 97

Kentucky Health Policy Board

- Chairman, Acute Low Back Pain Practice Parameters Committee 1995

Kentucky Department of Workers Claims

- Managed Care Administrative Regulations Advisory Committee 1994
- Utilization Review Treatment Guidelines Advisory Committee 2006

Lexington Chamber of Commerce

- Bluegrass Health Purchasing Alliance
  - Steering Committee 1994 – 95
  - Board of Directors 1995
  - Vice-chairman 1995
- Health Care Advisory Committee 1996 – 97
  - Vice-chairman 1996 – 97

Kentucky Medicare Carrier Advisory Committee 1992 – present

Central Kentucky Blood Center
Board of Directors 1999, 2001

Samaritan Foundation Fayette County Indigent Care Task Force 2000 – 01

Lexington Health United (Chamber of Commerce-sponsored health-related business organization)

- Co-chair 2001 – 02
- Vice-chair 2003 – 04

Awards & Honors

University of Virginia

- Honors graduate 1970
- Honors Award Scholarship 1966 – 70
- Echols Scholar 1966 – 70
- Phi Beta Kappa 1970

Tulane University School of Medicine

- Alpha Omega Alpha (AOA) 1974
- Tulane Medical Alumni Association Award 1974
- Louisiana Pathology Award 1974

Lexington, Ky.

- The Lane Report Leaders Award (Healthcare) 1998

Peer-Reviewed Publications

Bean JR, "Defensive Medicine: Rational Response to Irrational Risk", *World Neurosurgery* 94: 568-69, October 2016

Bean, JR, "Pediatric Head Injury: A Global tragedy and a Public Policy Challenge", *World Neurosurgery* 91: 618-19, July 2016

Bean JR, "Academic Output and Social Media: A Marriage of Opposites", *World Neurosurgery* 90: 651-53, June 2016

Bean JR, "Neurosurgical Clinical Guidelines: Better Late than Never", *World Neurosurgery* 90: 665-67, June 2016

Bean JR, "Neurorehabilitation in Pakistan: Is Home Family Care Feasible?", *World Neurosurgery* 90: 613-14, June, 2016

Bean JR, "Defensive Medicine: A Game in Which Perception Trumps Reality", *World Neurosurgery* 90: 646-47, June 2016

Bean JR, "Medical Malpractice and Hollywood: Liability Magnified by the Lens of Celebrity", *World Neurosurgery* 86: 52-53, February 2016

Bean JR, "Neurosurgical Innovation in the Developing World: Where Will It Come From?" *World Neurosurgery* 84: 1522-24, December 2015

Bean JR, "Futility and Human Endeavor: The Treatment of Cerebral Metastases", *World Neurosurgery* 84: 1211-1212, November 2015

Bean JR, "Neurosurgical Quality Metrics: Seeking the Right Question", *World Neurosurgery* 84: 891-3, October, 2015

Bean JR, "The Search for Sanctuary", *World Neurosurgery* 81:242-3, February 2014

Bean JR, "Response to Economic Forces Buffeting the Community of Neurosurgery", in *Clinical Neurosurgery*, Vol. 56, 2009, p. 70-71.

Bean JR, "Neurosurgical Emergency and Trauma Services: Legal, Regulatory, and Socioeconomic Barriers", in *Clinical Neurosurgery*, Vol. 54, Chapter 25, 2007, p. 149 – 152.

Perez-Cruet MJ, Bean JR, Fessler RG, "Microendoscopic Lumbar Discectomy" in *An Anatomical Approach in Minimally Invasive Spine Surgery*, Perez-Cruet MJ, Khoo LT, Fessler RG (Volume Editors), Quality Medical Publishing, Inc., April 2006, p. 539 – 556.

Bean JR, "National Healthcare Spending in the U.S. and Japan: National Economic Policy and Implications for Neurosurgery", *Neurologia Medico-Chirurgia (Tokyo)*, 45 (1), January 2005.

Pelofsky S, Bean JR, Blaylock K, Benzel EC, Shields C, "Economics and Practice Management", in *Spine Surgery*, Vol. 2, Chap. 170, Benzel E - Editor, Elsevier, 2005

Bean JR "Valuing neurosurgery services: Part II. The interdependence of Current Procedural Technology and federal Medicare payment policy" *Neurosurgical Focus*, 12 (4), April 2002.

Bean JR "Valuing neurosurgery services: Part I. The historical development and historical relationships of Current Procedural Technology and the Medicare Fee Schedule", *Neurosurgical Focus*, 12 (4), April 2002.

Bean JR, Volume Editor, Volume 9; *Concepts in Neurosurgery: Neurosurgery in Transition – The Socioeconomic transformation of Neurological Surgery*, Williams & Wilkins, 1998.

Holladay FP, Bean JR, Young B, Todd EP, Roy MW "Cerebral vascular response to moderate blood loss: modification by hypertension", *Stroke* 14 (5), 1983, p. 765 – 8.

Rapp, RP, Young B, Twyman D, Bivins BA, Haack D, Tibbs PA, Bean JR "The favorable effect of early parenteral feeding on survival in head-injured patients" *Journal of Neurosurgery* 58 (6), 1983, p. 906 – 12.

Young B, Haack D, Norton JA, Rapp RP, Tibbs PA, Bean JR, "Failure of prophylactically administered phenytoin to prevent late post-traumatic seizures" *Journal of Neurosurgery* 58 (2), 1983, p. 236 – 41.

Young B, Rapp RP, Norton JA, Haack D, Tibbs PA, Bean JR, "Failure of prophylactically administered phenytoin to prevent early post-traumatic seizures" *Journal of Neurosurgery* 58 (2), p. 231 – 5.

Bean JR, Darling JL, Hoyle NR, Arigbabu SO, Thomas DG, "Alterations in the cellular immune response of patients with cerebral glioma, benign intracranial tumour, and spontaneous subarachnoid haemorrhage measured in vitro by the leucocyte migration inhibition test" *Neurological Research* 5 (1), 1983, p.61 – 75.

Tibbs PA, Young, AB, Walsh JW, Bean JR "Pharmacologic and surgical therapy for spasticity" *Journal of the Kentucky Medical Association* 79 (6), 1981, p 359 – 62.

Young B, Rapp RP, Norton JA, Haack D, Tibbs PA, Bean JR, "Early prediction of outcome of head-injured patients" *Journal of Neurosurgery* 54 (3), 1981, p. 300 – 3.

Young B, Tibbs PA, Bean JR, "Avoiding the pitfalls in early management of cervical spinal cord injury" *Journal of the Kentucky Medical Association* 78 (12), 1980, 731 – 5.

James HE, Walsh JW, Wilson HD, Connor JD, Bean JR, Tibbs PA "Prospective randomized study of therapy in cerebrospinal fluid shunt infection", *Neurosurgery* 7 (5), 1980, p. 459 – 63.

Bean JR, Walsh, JW, Blacker HM, "Cervical dermal sinus and intramedullary spinal cord abscess; case report" *Neurosurgery* 5 (1), 1979, p. 60 – 2.

James HE, Madauss WC, Tibbs PA, McCloskey JJ, Bean JR "The effect of high dose dexamethasone in children with severe closed head injury; a preliminary report" *Acta neurochirugica* 45 (3-4), 1979, p. 225 – 36.

Wilson HD, Bean JR, James HE, Pendley MM, "Cerebrospinal fluid antibiotic concentrations in ventricular shunt infections", *Child's Brain* 4 (2), 1978, p. 74 – 82.

Bean, JR. "AANS President's Perspective: The Future of Professionalism", *AANS Neurosurgeon*, Vol. 18, #1, 2009, p. 24-5.

Bean, JR. "AANS President's Perspective: Shaping Neurosurgery's Future: A Global Perspective", *AANS Neurosurgeon*, Vol. 17, #4, 2008, p. 26-7.

Bean, JR. "AANS President's Perspective: Politics, Healthcare Reform, and the Future of Neurosurgery", *AANS Neurosurgeon*, Vol. 17, #3, 2008, p. 28-9.

Bean, JR. "AANS President's Perspective: Maintaining the Public Trust", *AANS Neurosurgeon*, Vol. 17, #2, 2008, p. 30-1.

Bean, JR. "A Look at the Business Aspects of Neurosurgery", *AANS Neurosurgeon*, Vol. 16, #3, 2007, p. 10-2.

Bean, JR. "Taking the Long View: Think of MOC as a Personal Quest", *AANS Neurosurgeon*, Vol. 14, #2, 2005, p. 11.

Bean, JR. "Assessing Healthcare Quality: Theory, Measurement and Payment – Medicare's 2 % Reduction Is No Idle Threat", *AANS Bulletin*, Vol. 14, #1, 2005, p. 11.

Bean, JR. "Tradition Transition: Socioeconomic Factors Underlie ER Rift", *AANS Bulletin*, Vol. 13, #4, 2004, p. 26.

Bean, JR, "The Medicare Mononlith: A Neurosurgeon Wonders What Can Fix Spiraling Problems", *AANS Bulletin*, Vol. 13, #3, 2004, p. 14.

Bean, JR, "On Motives and Mien: Neurosurgery and Industry Must Guard Ethical Limits", *AANS Bulletin*, Vol. 13, #2, 2004, p. 17.

Bean, JR, "You Have A Part To Play: Neurosurgery's Medical Liability Reform Campaign", *AANS Bulletin*, Vol. 13, #1, 2004, p. 10.

Bean, JR, "Numbers and Need: Maintaining Balance in the Neurosurgical Workforce", *AANS Bulletin*, Vol. 12, #4, 2003, p. 6.

Bean, JR. "Laying Myths To Rest: Common Misperceptions of Federal Medical Liability Reform", *AANS Bulletin*, Vol. 12, #3, 2003, p. 12.

Bean, JR. "Why Federal Medical Liability Reform? The Second Coming of the Federal Medical Liability Crisis Must Be its Last", *AANS Bulletin*, Vol. 12, #3, 2003, p. 6.

Bean, JR. "Everyone Has a Story: Can Neurosurgery Close the Book on the Resident Work Hours Controversy, or Is a New Chapter About to Be Written?" *AANS Bulletin*, Vol. 12, #2, 2003, p. 6.

Bean, JR. "Clinical Research in Practice: There Is Value in Neurosurgeons' Participation", *AANS Bulletin*, Vol. 12, #1, 2003, p. 4.

Bean, JR. "Ending the PLI Crisis: With HEALTH, Neurosurgeons Put their Money Where It Will Count", *AANS Bulletin*, Vol. 12, #1, 2003, p. 7.

Bean, JR. "Marketing a Neurosurgical Practice: You Don't Have Time Not to Build your Practice", *AANS Bulletin*, Vol. 11, #3, p. 24-5.

Bean, JR. "Recertification Assures the Public: Neurosurgeons Must Accept the Risk", *AANS Bulletin*, Vol. 10, #2, 2001, p. 40.

Bean, JR. "Coding Committee Serves As An Advocate", *AANS Bulletin*, Vol.9, #4, 2000, p. 22-3.

Bean, JR. "Spotlight on the CSNS: Exploring the Role of Neurosurgery's Socioeconomic Arm", *AANS Bulletin*, Vol. 9, #1, 2000, p. 24-5.

Bean, JR. "A Cut Above the Rest: Lexington Practice Is Focused on Quality Patient Care", *AANS Bulletin*, Vol. 8, #2, 1999, p. 38.

Bean, JR. "Neurosurgery: The Cost of Doing Business – Cost Containment in Neurosurgical Practice", *AANS Bulletin*, Vol. 8, #1, 1999, p. 17.

PRESENTATIONS
2004 - 2016

2016

- Minimally Invasive Neurosurgical Society, "Neurosurgeon Hospital Employment", Mackinac Island, August 11, 2016
- AANS Annual Meeting, Breakfast session, "Neurosurgeon Employment", May, 2016
- 12th Annual Mazama Spine Summit, "Registries: N2QOD", Sun Lodge, Winthrop, Washington State, January 30, 2016

2015

- AANS Annual Meeting, Breakfast Seminar, "Congressional Testimony", Washington DC, May 2015
- AANS Annual Meeting, Breakfast Seminar, "So You've Been Sued...Now What?" Washington, DC May 2015

2014

- AANS Special Session, "Hospital Neurosurgery Employment", AANS Annual Meeting, San Francisco, April 6, 2014
- Moderator, Breakfast Seminar, "So You Want to Be an Expert Witness?" AANS Annual Meeting, San Francisco, April 7, 2014
- AANS Socioeconomic Session Faceoff, "Independent Practice vs. Hospital Employment", AANS Annual Meeting, San Francisco, April 8, 2014
- Moderator, Breakfast Seminar, "Physician Autonomy in Business Enterprises: Profits and Pitfalls," AANS Annual Meeting, San Francisco, April 9, 2014

2013

- Moderator, Breakfast Seminar, "So You Want to Be an Expert Witness?" AANS Annual Meeting, New Orleans, May 1, 2013
- Moderator, Breakfast Seminar, "Physician Autonomy in Business Enterprises: Profits and Pitfalls," AANS Annual Meeting, New Orleans, April 30, 2013
- AANS Senior Resident Course, "Hospital Employment," Rosemont, IL, April 5, 2013
- Southern Neurosurgical Society, "Impact of Health Care Costs, on Federal Legislation and Regulation," Sarasota, Fla., February 22, 2013
- Keynote Presentation, "Cost, Politics, Policy, and Practice," Mazama 2013 Spine Summit, Sun Lodge, Winthrop, Washington State, February 8, 2013

2012

- Panelist, Breakfast Seminar, "Hospital Employment", AANS Annual Meeting, Miami, April 18, 2012
- Moderator, Ethics Breakfast Seminar, AANS Annual Meeting, Miami, April 16, 2012
- Moderator, Sen. Alan Simpson Open Forum, AANS Annual Meeting, April 15, 2012
- Neurological Institute of Savannah, Invited Guest, March 27, 2012, "Neurosurgery Practice Issues"

2011

- St. Louis University Neurosurgery, Invited Speaker, November 19, 2011, "Neurosurgery & Health Care Reform: Where Are We Going?"
- Minnesota Neurosurgical Society, Honored Guest, Red Wing, Minn., Sept 17, 2011, "Tides of Change: The Economic Evolution of Neurosurgical Practice."
- University of Minnesota, Dept of Neurosurgery, Visiting Professor, Sept 16, 2011, "An International Comparison of Health Systems, Payment, and Cost Control"
- Kentucky Neurosurgical Society, Sept. 13, 2011, "CPT & RUC: The AMA Gemini"
- *Neurosurgeon As CEO* AANS Seminar, Course Co-Director and Moderator, Boston July 30-31, 2011
- Minimally Invasive Neurosurgical Society, Keynote Speaker, Mackinac Island, MI, July 22, 2011, : "Tides of Change: The Economic Evolution of Neurosurgical Practice"
- Loyola University Neurosurgery, Honored Guest, Resident Graduation, Chicago, IL, June 17 – 19, 2011: "Tides of Change: The Economic Evolution of Neurosurgical Practice"

2010

- University of Toronto Dept. of Neurosurgery, Visiting Professor, Toronto, Ontario, Canada, September 10, 2010: "International Health Care Systems"
- *Neurosurgeon as CEO*, AANS Seminar, Course Co-Director and Moderator, Chicago, IL, August 7 – 8, 2010
- New York Neurosurgical Society, Westchester, NY, June 4, 2010: "Health Care Reform: Long Road; Debatable Destination"
- Alabama Neurosurgical Society, Point Clear, AL, May 22, 2010: "The Road to Reform" & "Budgets, Politics, and the Future of Neurosurgical Practice"

2009

- Lexington Medical Society, Lexington, KY, November 10, 2009: "The Political Economy of Health Reform"
- Ohio State Neurosurgical Society, Columbus, Ohio, October 17, 2009: "Health Care Reform & Neurosurgical Practice"
- Biomet Spine Symposium, Boston, MA, October 9, 2009: "International Health Care Systems – Costs and Cost Control: A Comparative Review"
- World Federation of Neurosurgical Societies Congress meeting, Boston, MA, August 31, 2009: Breakfast meeting moderator: "Challenges in Neurosurgery: Socioeconomic, Legal, and War"
- Georgia Neurosurgical Society, Sea Island, GA, Invited Guest Speaker, May 23-4, 2009:
  - "Changes in Organized Neurosurgery – An Evolving Social Role"
  - "Health Care Reform – Issues for Neurosurgery"
- American Association of Neurological Surgeons Annual Meeting, San Diego, Presidential Address, May 5, 2009: "A New Professional Paradigm: Whence and Whither"
- U.S. House Energy & Commerce Committee, Health Subcommittee hearing on Patient Access to Medical Care: testimony on medical liability reform & access to care; March 24, 2009
- California Neurosurgical Society (CANS), Carmel, CA, Invited Guest Speaker, January 17, 2009: "Changes in Organized Neurosurgery – An Evolving Social Role"

2008

- Congress of Neurological Surgeons, Plenary Session, Orlando, FL, September 24, 2008: "Response to Economic Forces Buffeting the Community of Neurosurgery"
- University of Virginia, Department of Neurosurgery, Visiting Professor, Charlottesville, VA, September 6, 2008: "Medicare 2008 & The Federal Budget: The Big Picture"
- Visiting Professor, Carolina Neurosurgery and Spine Associates, Charlotte, NC, August 22, 2008: "Health Care Reform 2009: What's the Chance?"
- *Neurosurgeon as CEO*, AANS Seminar, Course Co-Director and Moderator, Chicago, IL, July 26 – 7, 2008
  - "Hippocratic Oath Revisited"
- Society of University Neurosurgeons Annual Meeting, San Francisco, July 1, 2008, Invited Guest Speaker: "Health Care Reform 2009: What's the Chance?"
- New England Neurosurgical Society Annual Meeting, Cape Cod, MA, June 21, 2008, Invited Guest Speaker: "Tides of Change: The Future of Neurosurgery"
- American Association of Neurological Surgeons, Chicago, IL, April 28, 2008, Breakfast Meeting Panelist:
  - "How to Advance Your Academic Career"
  - "So You've Been Sued, Now What?"
- Visiting Professor, Department of Neurosurgery, University of Albany, NY, April 3, 2008, Grand Rounds lecture: "Professionalism in Neurosurgery: The Second Revolution"
- Visiting Professor, Department of Neurosurgery, Temple University, Philadelphia, PA, March 21, 2008, Grand Rounds lecture: "Professionalism in Neurosurgery: The Second Revolution"
- Visiting Professor, Department of Neurosurgery, University of Utah, Salt Lake City, UT, Feb 13, 2008, Grand Rounds lecture: "Professionalism in Neurosurgery: The Second Revolution"

2007

- Visiting Professor, Department of Neurosurgery, University of Texas Health Science Center – San Antonio, Oct 19, 2007, Grand Rounds lecture: "Professionalism: Foundation, Framework, and Changing Façade"

- Kentucky Neurosurgical Society Annual Meeting, Louisville, KY, September 25, 2007: AANS 2007: Current Issues"
- Congress of Neurological Surgeons Annual Meeting, San Diego, CA, September 16, 2007, Practical Course lecture: "Defensive Medicine: A Neurosurgeon's Perspective"
- Visiting Professor, University of Virginia Department of Neurosurgery, Charlottesville, VA, August 18, 2007: "Professionalism: Foundations, Framework, and Changing Façade"
- Michigan Neurosurgical Society Annual Meeting, Mackinaw Island, MI, June 23, 2007, Invited guest speaker: "Medicare 2007: Health Policy Meets Financial Reality"
- Visiting Professor, Department of Neurosurgery, University of California San Francisco, June 14, 2007, Grand Rounds lecture: "Medicare 2007 and Federal Economic Policy: A Telescopic Look"
- *Neurosurgeon as CEO*, AANS Seminar, Course Co-Director and Moderator, Chicago, IL, June 9 – 10, 2008
- American Association of Neurological Surgeons Annual Meeting, Washington, DC, April 16 – 18, 2007, Breakfast Seminar speaker:
    - "Models for Successful Neurosurgical Practice"
    - "So You've Been Sued: Now What?"
    - "Improving Your Bottom Line: Maximizing Hospital – Neurosurgeon Relationships"
- AANS/CNS Council of State Neurosurgical Societies Strategic Planning Meeting, New York, March 24, 2007: "History and Evolution of the AANS/CNS Council of State Neurosurgical Societies"
- Southern Neurosurgical Society Annual Meeting, Sea Island GA, Invited Guest: Eustace Semmes Lecture, "Finances of Neurosurgery: Medicare and the Federal Budget – The Big Picture"
- Louisiana State Neurosurgical Society Annual Meeting, New Orleans, LA, Jan 20, 2007, Invited Lecturer - Dean Echols Lecture: "Medicare 2007 and Beyond: Where Health Policy Meets Financial Reality – Paying for Our Political Promises"

2006

- Congress of Neurological Surgeons Annual Meeting, Chicago, IL, October 12, 2006, presentations:
    - Panel presentation: "Neurosurgical Emergency and Trauma Services: Legal, Regulatory and Socioeconomic Barriers"
    - Practical course presentation: "Defensive Medicine: A Neurosurgeon's Perspective"
- Kentucky Neurosurgical Society, Louisville, KY, September 15, 2006, presentations:
    - "Healthcare Costs and Neurosurgical Practice"
    - "Kentucky Workers Compensation: 2006 Utilization Review Workgroup"
- American Association of Neurological Surgeons Annual Meeting, San Francisco, CA, April 26, 2006,
    - Breakfast meeting presentation: "Neurosurgical Practice: Hospital Partnerships – Development of a Neuroscience Center"
    - Young Neurosurgeons Luncheon, Invited Guest Speaker: "The Past is Prologue: Megatrends and Microtrends in Neurosurgery"
- AANS/CNS Spine Section Annual Meeting, Orlando, FL, March 18, 2006, Plenary Session presentation: "Image and Reality – The Subtle Art of Public Persuasion"

2005

- Congress of Neurological Surgeons Annual Meeting, Boston, MA, Oct 12, 2005,
    - Luncheon Seminar presentation: "Practice Marketing and Payment Strategies"

  - Practical Course presentation: "Defensive Medicine – A Neurosurgeon's Perspective"
- Visiting Professor, Neurosurgery Division, Louisiana State University Medical Center Shreveport, August 17, 2005: "Federal Medical Liability Reform: An Update"
- Visiting Professor, Department of Neurosurgery, New York University, April 29, 2005, Grand Rounds lecture: "Federal Medical Liability Reform: An Update"
- American Association of Neurological Surgeons Annual Meeting, New Orleans, LA, April 20, 2005, Breakfast meeting panelist presentation: "Models for Successful Neurosurgical Practice"
- U.S. House Energy & Commerce Committee, Health Subcommittee testimony: Medical Liability legislation, Washington, DC, February 10, 2005
- Lexington Medical Society, January 11, 2005, "Medicare Advantage HMO/PPO: Effect of the Medicare Prescription Drug, Improvement, and Modernization Act (2005)"

2004

- Japanese-American Symposium, Japanese Neurosurgical Association, Nagoya, Japan, October 5, 2004: "National Healthcare Spending: U.S. vs. Japan; National Economic Policy – Implications for Neurosurgery"
- Congress of Neurological Surgeons Annual Meeting, San Francisco, CA, October 20, 2004:
  - Luncheon Seminar: "Neurosurgical Practice Enhancement & Development: Practice Fundamentals and Development of a Neuroscience Center"
  - Special Course: "Defensive Medicine: The Neurosurgeon's Perspective"
- Kentucky Neurosurgical Society annual Meeting, Louisville, KY, September 21, 2004: "Neurosurgery's Campaign for Medical Liability Reform"
- New York Neurosurgical Society Annual Meeting, NYC, September 20, 2004: "Neurosurgery's Campaign for Medical Liability Reform"
- *Neurosurgeon As CEO: The Business of Neurosurgery* Seminar, New York City, September 18, 2004: "Neurosurgical Practice – Factors for Success"
- Neurosurgery National Leadership Development Conference, Washington, DC, July 19, 2004: "Neurosurgery's Campaign for Medical Liability Reform"
- Neurosurgical Society of America Annual meeting, Santa Fe, New Mexico, June 7, 2004: "Professional Liability: A Call to Arms"
- Washington State Neurosurgical Society, Seattle, WA, May 15, 2004: "Federal Medical Liability Reform- An Update and Critique"
- American Association of Neurological Surgeons Annual Meeting, Orlando, FL, May 4, 2004; Breakfast seminar: "Models for Successful Neurosurgical Practice"
- AANS/CNS Spine Section Annual Meeting, San Diego, CA, March 20, 2004: "Neurosurgery in Crisis: Medical Liability Reform – Neurosurgery's Top Priority"
- Missouri State Neurosurgical Society Annual Meeting, St. Louis, MO, March 13, 2004: "Neurosurgery in Crisis: The Medical Liability Reform Campaign"
- North Carolina Neurosurgical Society, Raleigh, NC, February 10, 2004: "Neurosurgery in Crisis: The Medical Liability Reform Campaign"

Appendix L

John J. Guarnaschelli, MD, FACS, FAADEP, Biography

CURRICULUM VITAE

JOHN J. GUARNASCHELLI, M.D. F.A.C.S., FAANS (L)
10200 Forest Green Boulevard Suite 112
Louisville, Kentucky 40223

PLACE OF BIRTH:	LOUISVILLE, KENTUCKY
EDUCATION:	UNIVERSITY OF NOTRE DAME B.S. - 1963 UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE M.D. 1967
	ROTATING INTERN-NEUROSURGERY RESIDENCY 1967-1973 LOS ANGELES COUNTY/UNIV OF SO CALIFORNIA MEDICAL CENTER (LOS ANGELES, CALIFORNIA) PROGRAM DIRECTOR- THEODORE KURZE, M.D.
	FELLOWSHIP-PROF. M.D. Y ASAARGIL 1973-1974 KANT ANSPIT AL ZURICH, SWITZERLAND. SPONSOR INTERNATIONAL COLLEGE OF SURGEONS
LICENSURES:	KENTUCKY- 14746 (1968) CALIFORNIA-30458 (1968) INDIANA -01 1034737 (1986)
DIPLOMATE:	AMERICAN BOARD OF NEUROLOGICAL SURGERY - 1976 AMERICAN COLLEGE OF SURGEONS 1976
AWARDS:	ALPHA OMEGA ALPHA SCHOLARSHIP MEDICAL HONORARY SOCIETY 1967 FELLOWSHIP INTERNATIONAL SOCIETY OF SURGEONS 1973
	HONORARY DEGREE: DOCTOR OF SCIENCE, HONORIS CAUSA BELLARMINE UNIVERSITY 2001
	CATHOLIC ALUMNI ANNUAL AWARD 2006
	ST XAVIER HIGH SCHOOL ALUMNI HONORS 2007
	NOTRE DAME CLUB OF KENTUCKY ALUMNUS OF YEAR HONORS-2013
	St. Xavier High School Alumnus of Year 150 Anniversary Award June.2014

MEDICAL SOCIETIES:

SOUTH NEUROSURGICAL SOCIETY LOS ANGELES SOC. OF NEUEROLOGY & PSYCHIATRY (PAST MEMBER). WESTERN FEDERATION OF NEUROLOGIC SCIENCES (PAST MEMBER)
LOUISVILLE MEDICAL SURGICAL SOCIETY
MEDICAL FORUM LOUISVILLE, KY
KENTUCKY MEDICAL ASSOCIATION
KENTUCKY NEUROLOGICAL SOCIETY
CONGRESS OF NEUROLOGIC SURGEONS

TEACHING APPOINTMENTS:

CLINICAL FACULTY OF
SURGERY (NEUROLOGICAL)
UNIVERESITY OF LOUISVILLE
SCHOOL OF MEDICINE (1974-2008)

HOSPITAL STAFF ACTIVE:

BAPTIST HOSPITAL EAST
JEWISH HOSPITAL
NORTON-AUDUBON
NORTON-BROWNSBORO
NORTON - DOWNTOWN
NORTON - SUBURBAN
VETERANS ADMINISTRATION
MEDICAL CENTER-NEUROSURGERY

PRESIDENT:

KENTUCKY NEUROSURGICAL SOCIETY
1980-1981
2000-2001
LOUISVILLE SURGICAL SOCIETY
2009-2010

U S ARMY RESERVE:

CAPTAIN, CONSULTANT 1967-1976
5010 U S ARMY HOSPITAL

BOARD OF TRUSTEES:

JEWISH HEAL THCARE
1980-1983
1998-2005

BOARD OF DIRECTORS:

NEURONETRIX, LLC 2003-2006
LOUISVILLE, KY
3 DR LABORATORIES, LLC
2004-PRESENT
LOUISVILLE, KENTUCKY

ADVISORY BOARD:

KENTUCKY AND SOUTHERN INDIANA
STROKE ASSOCIATION

NEUROSURGICAL CONSULTANT TO
KENTUCKY MEDICAL LICENSURE BOARD
2003-2012

COMMITTEE MEMBER OF U OF L
SEARCH COMMITTEE
CHAIR OF ANESTHESIOLOGY

CHAIR-ADVISORY BOARD JEWISH HOSPITAL
NEUROSCIENCE INSTITUTE/FRAZIER REHAB
1984-2008

PUBLICATIONS - EXHIBITS- PRESENTATIONS:

1) Guarnaschelli, J Zapanta,E., Pitts, F.W.: INTRACRANIAL HEMMORHAGE SECONDARY TO THE DISULFIRMAM ALCOHOL REACTION, Bull. L.A. Neurological Society Jan. 1972

2) Guarnaschelli, J. Talalla: PITUITARY APOPLEXY: A CASE REPORT AND REVIEW OF THE LITERATURE, Bull. L. A. Neurological Society, January 1972.

3) Guarnaschelli, J., A.: PITUITARY APOPLEXY: Western Society of Neurologic Surgeons San Francisco, CA. 1972

4) Guarnaschelli, J. Lee, J., Pitts, F.W.: "FALLEN FONTANELLE" (CAIDA DE MOLLERA): A VARIANT OF THE BATTERED-CHILD SYNDROME, JAMA, December 18, 1972.

5) Guarnaschelli, J., Lee, J., Pitts, F.W.: SHUNT INFECTIONS IN CHILDREN AND ADULTS. American College of Surgery. Los Angeles Chapter. April 1973.

6) Yassargil,M.G.,Delong,W.B.,Guarnaschelli, J.,:COMPLETE MICROSURGICAL EXCISION OF CERVICAL EXTRA-MEDULLARY VASCULAR MALFORMATIONS, Surg.Nurol.,Vol.4 No.2 August, 1975.

JOHN J~ GUARNASCHELLI, M.D.

PUBLICATIONS - EXHIBITS - PRESENTATION:

7) GuarnaschellirJ. Wehry,S. Serratoni- FT Dzenitis AJ.: ATYPICAL FIBROUS HISTOCYTOMA OF THE THORACIC SPINE., J. Neuro., Sept.1979.

8) Guarnaschelli, J., Dzenitis, A.J.: ANTERIOR CERVICAL DISCECTOMY WITHOUT FUSION: COMPARISON' STUDY AND FOLLOW - UP, Springer-Verlag, Berlin-Heidelberg, 1982.

9) Guarnaschelli,J., Dzenitis, AJ.: PITFALLS IN CT SCANNING FOR LUMBAR DISC DISEASE. Abstract: Congress of Neurological Surgeons Toronto, Ontario 10/3/82-10/8/82.

10) Guarnaschelli J_r Dzenitis- A.J.: ECTOPIC SUBGALEAL MENINGIOMA AND FAMILIAL NEUROFIBROMATOSIS, Surg.Neurol. 23:371-4,1985.

11) Guarnaschelli,J., Dzenitis, A.J.: CHRONIC SUBDURAL HEMATOMA IN ELDERLY: A COMPARISON STUDY, Abstracts, Neurosurgery, Vol.19,No.l, 1986, page 146.

12) Sanfilippor J.,Rao,Ch.V.GuarnaschelliJ., et.al.: DETECTION OF EPIDERMAL GROWTH FACTOR AND TRANSFORMING GROWTH FACTOR ALPHA PROTEIN IN MENINGIOMAS AND OTHER TUMORS OF THE CENTRAL NERVOUS SYSTEM IN HUMAN BEINGS. Surgery,Gynecology & Obstetrics Nov.1993 Volume 177 488-496.

13) Pitts F.W.r Guarnaschelli, J., Lee, J., Heiden.L: CONGENITAL AND ACQUJRED HYDROCEPHALUS: FIVE YEAR REVIEW July,1972. Presented ACS Chapter Meeting, Santa Barbara/ California, August, 1972.

14) Guarnaschelli,J., Carr/J. Pitts/F.W.: INVOLUNTARY MOVEMENT DISORDERS SECONDARY TO HEAD TRAUMA/ Amer. College of Surgeons, Sectional Meeting- Calif.Chapter, Santa Barbara - 1972.

15) Guarnaschelli r. Kurze, T.: MICROSURGICAL MANAGEMENT OF FOURTH VENTRICLE TUMORS, Amer. Academy of Neurological Surg., Pasadena, CA- Nov. 1973.

16) Dzenitis, AJ. Guarnaschelli,J.: THORACIC DISC PROTRUSION: CURRENT REVIEW. Sectional Meeting, KY. Chapter, American College of Surgeons, Louisvill-e, KY 1975.

17) Guarnaschelli,J., Dzenitis AJ.: CAT SCAN IN MANAGEMENT OF POSTERIOR FOSSA TUMORS, Sectional Meeting, KY Chapter American College of Surgeons, Louisville, KY 1977.

PUBLICATIONS - EXHmITS - PRESENTATION:

18) Guarnaschelli.J, DzenitisrAJ.: MANAGEMENT OF ACOUSTIC TUMORS: A CURRENT REVIEW, Sect. Meeting, KY Chapter- American College of Surgeons, Louisville- K Y 1978.

19) Guarnaschelli J, Dzenitis, A.J.: MANAGEMENT OF PITUITARY TUMORS: A CURRENT REVIEW, Sect. Meeting, KY Chapter- American College of Surgeons- Louisville, KY 1979.

20) Guarnaschelli J. Dzenitis,AJ.: ANTERIOR CERVICAL DISCECTOMY WITHOUT FUSION KY Neurological Soc., KMA Sectional Meeting, Sept. 1980.

21) Guarnaschelli J., Dzenitis,AJ.: ANTERIOR CERVICAL DISCECTOMY WITHOUT FUSION Amer. Assoc. of Neurological Surgeons Boston Mass.1981.

22) Guarnaschelli,J. DzenitisrAJ.: ANTERIOR CERVICAL DISCECTOMY WITHOUT FUSION, International Soc. of Neurological Surgeons- Munich 1981.

23) Guarnaschelli J, Dzenitis,A.J.: EARLY AND LATE CT FOLLOW-UP FOR PITUITARY TUMOR SURGERY, KY Neurosurgical Soc., KMA Sectional Meeting, 1982.

24) Guarnaschelli,J, Dzenitis,AJ.: COMPARISON STUDY OF HIGH RESOLUTION CT SCAN AND METRIZAIMIDE MYELOGRAPHY WITH SURGICAL PATHOLOGY, KMA Sectional Meeting,1982.

25) Guamaschelli,J, Dzenitis A.J.: COMPARISON STUDY OF HIGH RESOLUTION CT SCAN AND METRIZAMIDE MYELOGRAPHY WITH SURGICAL PATHOLOGY, Congress of Neurological Surgeons, Washington, D.C. 1982.

26) Guarnaschelli,J. Dzenitis AJ.: COMPARISON STUDY OF HIGH RESOLUTION CT SCAN AND METRIZAMIDE MYELOGRAPHY WITH SURGICAL PATHOLOGY, Southern Neurological Society 1982.

27) Guarnaschelli,J.: RECENT ADVANCES IN LASER SURGERY, Louisville- *KY* Louisville Surgical Society, Sept.1982.

28) Guarnaschelli,J.,Dzenitis,AJ.: EARLY AND LATE CT SCANS IN POSTOPERATIVE MENINGIOMAS - KY Chapter - April 1983.

29) Guarnaschelli J.: LASER SURGERY FOR FRONTAL-BASAL BRAIN TUMORS. American College of Surgeons { KY Chapter- April 1983.

JOHN J. GUARNASCHELLI, M.D.

PUBLICATIONS - EXHIBITS - PRESENTATION:

30) Guarnaschelli,J.,Dzenitis,AJ.: CERVICAL DISC SURGERY: A COMPARISON STUDY OF 500 CASES - KY Neurological Society Lexington, KY 1984.

31) Visiting Professor, University of Cincinnati Medical School- LASER SYMPOSIUM, July 7-10,1984.

32) Visiting Professor, University of Cincinnati Medical School- LASER SYMPOSIUM, January 8-11,1985.

33) Guarnaschelli, J., Dzenitis, AJ.: COMPARISON STUDY OF METRIZAMIDE MYELOGRAPHY VERSUS HIGH RESOLUTION CT SCAN - 500 CASES. American Association of Neurological Surgeons Congress of Neurological Surgeons Meeting - Orlando, Florida February 5-9,1985.

34) Guarnaschelli,J.,Dzenitis,AJ.: ANTERIOR CERVICAL DISCECTOMY: A COMPARISON STUDY OF 600 CASES. Joint American Association of Neurological Surgeons Congress of ' Neurological Surgeons Meeting - Orlando, Florida' February '5-9,1985.

35) Guarnaschelli,J. Dzenitis,AJ.: CERVICAL DISC SURGERY: A COMPARISON STUDY. KY Chapter American College of Surgeons April, 1985.

36) CME Presentation - HeathAmerica, Inc., Louisville,KY - RECENT ADVANCES IN NEUROLOGIC SURGERY, May 15,1985.

37) Guarnaschelli,J: Paper - ANTERIOR CERVIC~ DISCECTOMY WITHOUT FUSION: A COMPARISON STUDY OF sao CASES- Neurological Society of American Annual Meeting (Kiawah

38) Guarnaschelli,J.,Dzenitis,AJ.: CERVICAL DISC SURGERY: A COMPARISON STUDY (EXHIBIT), KMA Annual Meeting Louisville, KY Sept.30,1985.

39) Guarnaschelli,J.: THIRD VENTRICAL TUMORS (COLLOID CYSTS, TRANSCOLLOSAL TRANSVENTRICULAR APPROACH TO THIRD VENTRICLE TUMORS) Kentucky Medical Assoc. September 1985.

40) Guarnaschelli,J.: SURGICAL MANAGEMENT OF SUBDURAL HEMATOMA IN THE ELDERLY: A COMPARISON STUDY. KY Neurological Society Louisville, KY. Oct.l,1985.

41) Guarnaschelli,J.l Sanfilippo,J., Schultz, Rao/ et.a!.:
EPIDURAL GROWTH FACTOR BINDING TO HUMAN MENINGIOMAS - American Society for Cell Biology/ Atlanta, Georgia - Nov.1985.

42) Guarnaschelli,J.: SURGICAL MANAGEMENT OF SUBDURAL IN THE ELDERLY - Southern Neurological Society - BOCA Raton, Florida Feb.1986.

43) Guarnaschelli/J., Sanfilippo,J., Schultz/ Rao,et.al
EPIDURAL GROWTH FACTOR BINDING TO HUMAN MENINGIOMAS - American Association of Neurological Surgeons Denver, Colorado - April, 1986.

44) Guarnaschelli,J. Patterson,R., Simione,F. Fager,C.:
CERVICAL DISC DISEASE. Panel - Symposium American Association of Neurological Surgeons Denver, Colorado April,1986.

45) Visiting Professor, University of Cincinnati Medical School - LASER SYMPOSIUM/ Nov.1986.

46) Guarnaschelli,J.: SURGICAL MANAGEMENT OF SUBDURAL HEMATOMA IN THE ELDERLY KY Chapter American College of Surgeons Louisville, KY April 3, 1987.

47) Guarnaschelli,J .,Sanfilippo,J., Schultz,Rao, et.al
EPIDURAL GROWTH FACTOR FINDING TO HUMAN MENINGIOMAS - KY Chapter American College of Surgeons Louisville/ KY April, 1987.

48) Guarnaschelli,J.,Sanfilippo,J.,He, Yun-Ju,Wittliff,J
DISTRIBUTION AND CONCENTRA nON OF STEROID RECEPTORS IN HUMAN MENINGIOMAS AND OTHER CENTRAL NERVOUS SYSTEM TUMORS (EXHIBIT) American Association of Neurological Surgeons Dallas, Texas May, 1987.

49) Guarnaschelli,J.Sanfilippo,J. He,Yun-Ju Wittliff,J.:
DISTRIBUTION AND CONCENTRA TION·OF STEROID RECEPTORS IN HUMAN MENINGIOMAS AND OTHER CENTRAL NERVOUS SYSTEM TUMORS (EXHIBIT) Kentucky Medical Association Louisville, KY September 14-17~1987.

50) Guarnaschelli,J., Sanfilippo *J.,* He,Yun-Ju/Wittliff,J.:
DISTRIBUTION AND CONCENTRA nON OF STEROID RECEPTORS IN HUMAN MENINGIOMAS AND OTHER CENTRAL NERVOUS SYSTEM TUMORS (EXHIBIT) Kentucky Medical Association Louisville, KY 1989.

JOHN J. GUARNASCHELLI, M.D.
PUBLICATIONS - EXHIBITS - PRESENTATION:

51) Guarnaschelli J.: SPINAL CORD TUMORS ANTERIOR INSTRUMENT A TION FOR MYELOPATHY American College of Surgeons: March/1993.

52) Guarnaschelli J.: MANAGEMENT OF BRAIN TUMORS - 2nd Jewish Neuroscience Seminar. (Moderator) Junel1993.

53) Guarnaschelli,J: 1 - ACOUSTIC NEUROMAS
2 - BRAIN TUMORS 20 YEAR EXPERIENCE
(EXHIBIT) KY Medical Association Sept. 1993.

54) . Guarnaschelli,J: SPINAL CORD TUMORS ANTERIOR INSTRUMENTATION. KY Neurosurgical Society. Sept.1993.

55) Guarnaschelli,J: PITUITARY APOPLEXY: SURGICAL MANAGEMENT SUBDURAL HEMATOMA AND COAGULOPATHY. American College of Surgeons: KY Chapter Lexington, Kentucky. March, 1994.

56) Guarnaschelli,J: MANAGEMENT OF CERVICAL LUMBAR DISC DISEASE. (MODERATOR) Jewish 3rd Annual Neuroscience Symposium. *June/1994.*

57) Guarnaschelli J.: PITUITARY APOPLEXY. KY Neurosurgical Society Louisville, KY Sept.l994.

58) Guarnaschelli,J.: LUMBAR/CERVICAL DISC DISEASE Practice - Grand Rounds Louisville, 'KY March, 1995.

59) Guarnaschelli/J.: 3RD VENTRICLE TUMORS: CALLOSAL APPROACH. American College of Surgeons. KY Chapter Louisville, KY March, 1995.

60) Guarnaschelli,J.: PRESENTATION: CURRENT REVIEW: MANAGEMENT OF BRAIN-SPINAL CORD TUMORS, Moderator. 4th Annual Jewish Neuroscience Symposium. March, .1995.

61) Guarnaschelli,J: SURGERY FOR CERVICAL DISC DISEASE: DATA BASE STUDY OF 1915 PATIENTS. EXHIBIT: American Association of Neurological Surgeons Annual Spine Meeting. Orlando, FL February, 1996.

62) Guarnaschelli/J: SURGERY FOR CERVICAL DISC DISEASE. Annual Meeting Kentucky Chapter - Internal Medicine Review. March, 1996.

JOHN J. GUARNASCHELLI, M.D.

PUBLICATIONS - EXHIBITS - PRESENTATION:

63) Guarnaschelli,J: SURGERY FOR CERVICAL.DISC DISEASE. Kentucky Chapter - American College of Surgeons Louisville, Kentucky April, 1996.

64) Guarnaschelli,J: ELECTRON MICROSCOPY AS PREDICTOR OF RECURRENCE: A RETROSPECTIVE STUDY OF BRAIN MENINGIOMA. Kentucky Medical Association - Louisville, Kentucky September,1996.

65) Villanueva, W. Guarnaschelli,J: STEREOTACTIC OPERATING ARM SYSTEM: A COMPARISON STUDY WITH B-MODE ULTRASOUND FOR BRAIN AND SPINE TUMORS. Kentucky Medical.Association- Louisville, Kentucky September, 1996.

66) Guarnaschelli,J: CERVICAL DISC DISEASE: RETROSPECTIVE ANALYSIS OF SURGICAL RESULTS FOR 2000 PATIENTS. POSTER EXHIBIT. Congress of Neurological Surgeons - Montreal, Quebec, Canada September, 1996.

67) Guarnaschelli,J: CERVICAL DISC DISEASE: RETROSPECTIVE ANALYSIS OF SURGICAL RESULTS FOR 2000 PATIENTS. POSTER EXHIBIT. Kentucky Neurosurgical Society. Louisville, Kentucky September,1996.

68) Petruska,D; Guarnaschelli,J: CERVICAL-LUMBAR SPONDYLOSIS IN THE TRANSPLANT PATIENT. Kentucky Chapter of the American College of Surgeons. April 11, 1997.

69) Villanueva,W. Guarnaschelli.J: STEREOTACTIC OPERATING ARM SYSTEM: A COMPARISON STUDY WITH B-MODE ULTRASOUND FOR BRAIN AND SPINE TUMORS. Kentucky Chapter of the American College of Surgeons. April 11, 1997.

70) Petruska,D.Guarnaschelli,J,Villanueva,W: CERVICAL LUMBAR SPONDYLOSIS IN THE TRANSPLANT PATIENT: SURGICAL MANAGEMENT. Kentucky Chapter of the American College of Surgeons. April 11,1997.

71) Guarnaschelli,J: PITUITARY APOPLEXY AND COAGULOPATHY: CLINICAL PRESENTATION AND SURGICAL MANAGEMENT. POSTER EXHIBIT.l997 AANS Annual Meeting. Denver, Colorado . April,1997.

72) Guarnaschelli,J: CERVICAL DISC DISEASE: RETROSPECTIVE ANAL YSIS OF SURGICAL RESULTS OF A 2000 PATIENT DATA BASE. POSTER EXHIBIT. 1997 AANS Annual Meeting. Denver, Colorado. April,1997.

JOHN J. GUARNASCHELLI, M.D.

PUBLICATIONS - EXHIBITS - PRESENTATION:

73) Guarnaschelli,J, Petruska D, Villanueva, W: Pituitary Apoplexy and Coagulopathy: Clinical Presentation and Surgical Management. Abstract. Southern Neurosurgical Society. Pinehurst,North Carolina June *5-81'1997.*

74) Guarnaschelli.J, Petruska,D, Villanueva W: Meningiomas: Role of Electron Microscopy As Predictor of Recurrence. Congress of Neurological Surgeons 9/27/97-10/2/97.

75) Guarnaschelli.J. Petruska,D, Villanueva W: Recurrence Of Cervical Disc Disease: A 23 Year Follow Up in 2057 Surgical Patients. Congress of Neurological Surgeons 9/27/97-10/2/97.

76) GuarnaschelliJ, Petrusksa D, Villanueva,W: Pituitary Apoplexy And Coagulopathy: Clinical Presentation and Surgical Management. Congress of Neurological Surgeons 9/27/97-10/2/97.

77) Guarnaschelli,J: Washington County Hospital: CERVICAL DISC DISEASE: RETROSPECTIVE ANALYSIS OF SURGICAL RESULTS OF 2000 PATIENT DATA BASE. Augustr1997.

78) Guarnaschelli, J: Taylor County Hospital: CERVICAL DISC DISEASE: 'RETROSPECTIVE ANALYSIS OF SURGICAL RESULTS OF 2000 PATIENT DATA BASE. September-Ivy".

79.) Guarnaschelli .J: Louisville Surgical Society: CERVICAL DISC DISEASE: RETROSPECTIVE ANALYSIS OF SURGICAL RESULTS OF 2000 PATIENT DATA BASE. September,1997.

80) GuarnaschelliJ: Kentucky Medical Association: PITUITARY APOPLEXY AND COAGULOPATHY: CLINICAL PRESENTATION AND SURGICAL MANAGEMENT. September, 1997.

81) Guarnaschelli,J: Meningiomas: Role of Electron Microscopy as Predictor of Recurrence. Abstract. Congress of Neurological Surgeons. September, 1997.

82) Guarnaschelli,J: Pituitary Apoplexy and Coagulopathy: Clinical Presentation and Surgical Management. Abstract. Congress of Neurological Surgeons. September, 1997.

83) Guarnaschelli,J: Recurrence of Cervical Disc Disease: A 23 Year Follow Up in 2057 Surgical Patients. Congress of Neurological Surgeons. September- 1997.

JOHN J. GUARNASCHELLI, M.D.

PUBLICATIONS - EXHIBITS - PRESENTATION:

84) Guarnaschelli,J: Surgery for Cervical Disc Disease: Retrospective Database of 2,000 Surgical Patients. Cervical Spine Research Society, 1997 Annual Meeting. December, 1997.

85) Guarnaschelli,J: Surgery for Cervical Disc Disease: Retrospective Database of 2,000 Surgical Patients. Cervical Spine Research Society. 25th Annual Meeting. Palm Springs, Califomia December, 1997

86) Guarnaschelli *1:* Pituitary Apoplexy and Coagulopathy: Clinical Presentation and Surgical Management. 2nd International Interdisciplinary Congress on Craniofacial and Skull Base Surgery. Cancun, Mexico January 1998. Session Moderator Skull Base Tumors

87) Guarnaschelli,J, Petruska,D: Recurrence in Meningiomas: A Retrospective Study of 333 Surgical Cases. Abstract. The American Association of Neurological Surgeons and Congress of Neurological Surgeons. Philadelphia-Pennsylvania 4/30/98 – *5/11 /98.*

88) Guarnaschelli.J. Recurrence in Meningiomas: A Retrospective Study of333 Cases. Abstract. Southern Neurosurgical Society. 1998 Annual Meeting. Homestead Virginia June *3-7,1998.*

89) Guamaschelli,J. Recurrence in Cervical Disc Disease: A 25 Year Study of 2300 Patients. Southern Neurological society. 1998 Annual Meeting. Homestead Virginia June 3-7,1998.

90) Guarnaschelli J. Intradural Extramedullary Spinal Cord Tumors:' Recovery from Neurologic Deficit. North American Spine Society 1998 Annual Meeting. October *28-31r1998.*

91) Guarnaschelli,J. Recurrence of Cervical Disc Disease: A Retrospective Study of 2300 Patients. North American Spine Society 19'98 Annual Meeting. October 28-31,1998.

92) Guarnaschelli,J. 1999 AANS/CNS Section on Disorders of The Spine and Peripheral Nerves Annual Meeting. Orlando Florida Feb *10-1311999.* Recurrence of Cervical Disc Disease: Review of a 25year Database.

93) Guamaschelli,J. 1999 AANS/CNS Section on Disorders of The Spine and Peripheral Nerves Annual Meeting. Orlando Florida Feb 10-13,1999. Retrospective study Of Intradural Extramedullary Spinal Cord Tumors with Concentration on Recovery from Initial Neurologic Deficit.

94) Guamaschelli,1. Twenty First Annual Primary Care Review "Cervical Disc Disease: University of Louisville." March 12,1999.

95) Guamaschelli,J. 1999 American Association of Neurological Surgeons Annual Meeting. New Orleans, Louisiana. Cervical Disc Disease in Elderly: A Retrospective Study of 245 Patients. April 24-29,1999.

96) GuamaschelliJ. Low Back Pain. Neck Pain. ACPC Physicians Lecture. April 12, 1999.

97) Guamaschelli, J. Kentucky Chapter of the American College of Surgeons May 7,1999. "Retrospective Study of Intradural Extramedullary Spinal Cord Tumors with Concentration on Recovery from Initial Neurological Deficit."

98) Guamaschelli, J. Low Back Pain. Neck Pain. Family Practice Ground Rounds.\Update Cervical and Lumbar Disc Disease. May 7, 1999.

99) Guamaschelli,J. Abstract: Retrospective Study of Intradural Extramedullary Spinal Cord Tumors with Concentration on Recovery from Initial Neurologic Deficit. Southem Neurosurgical Society Memphis, TN May 19-22,1999.

100) Guamaschelli, J. Exhibit: \\Intradural Extramedullary Spinal [illegible] Kentucky Medical Association. Lexington, Kentucky September 27, 1999.

101) Guamaschelli, J. Exhibit: Pituitary Apoplexy and Coagulopathy: Clinical Presentation and Surgical Management. Kentucky Neurosurgical Society. September 2000.

102) Guarnaschelli, J.: Abstract: "Pituitary Apoplexy and epidemiologic Study. 1 I Kentucky Chapter American College of Surgeons. Louisville, *KY,*. February 16,2001.

103) Guarnaschelli, J.: Exhibit: "Retrospective study of Cervical Disc Disease in Elderly." American Association of Neurological Surgeons and Congress of Neurological Surgeons. Phoenix, AZ, February 14-17,2001.

104) Guarnaschelli, J.: Exhibit: "Intradural Extramedullary Spinal Cord Tumors: A study of 70 patients." American Association of Neurological Surgeons and Congress of Neurological Surgeons. Phoenix, AZ, February 14-17,2001.

105) Guarnaschelli, J.: Exhibit: "Update on Recurrent Cervical Disc Disease." American Association of Neurological Surgeons. Toronto, Ontario, CANADA, April 23, 2001.

106) Guarnaschelli, J.: Exhibit "Roles of Patient Sex and Coagulopathy in Pituitary Adenomas and Pituitary Apoplexy: Presentation, Trends and Surgical Management" American Association of Neurological Surgeons. Toronto, Ontario, CANADA, April 23, 2001.

107) Galandiuk, S, Carter, Mary B, Abby, Margaret. B.A., Contributor: Guarnaschelli, J "When To Refer To A Surgeon" Quality Medical Publishing. St. LouisfMI 2001.

108) Guarnaschelli, J, Stawicki, S. (Bethlehem, P A) *r* Petruska, D. "An Historical Cohart Study of Intradural Extramedullary Spinal Cord Tumors: A 27-year Experience". Cervical Spine Research Society. Rosemont, IL, 2001.

109) Guarnaschelli,J, Stawicki, SPetruska, D. "Cervical Disc Disease in 285 Geriatric Patients'l- Cervical Spine Research Society. Rosemont, IL.2001.

110) GuarnaschelliJ.Stawicki,S., Petruska, D., Guarnaschelli, Jessica: "An Historical Cohart Study of Intradural Extramedullary Spinal Cord Tumors: A 27-year Experience". Cervical Spine Research Society. Monterey, *CA.* November 29,2001.

PUBLICATIONS-EXHIBITS-PRESENT ATION

111) Guarnaschelli,J,Stawicki,S.,Petruska,D.,Becherer,T.,Dzenitis,A.,Guarnaschelli, Jessica: "Cervical Disc Disease in 185 Geriatric Patients". Cervical Spine Research Society. Monterey, CA November 29,2001.

112) Guarnaschelli,J essica,Petruska,D.,Becherer, T .,Dzenitis,A.,Guarnaschelli,J: Chronic Subdural Hematoma's in Adults: Role of Coagulopathy. American College of Surgeons, Kentucky Chapter, April 2002.

Appendix M

Russell L. Travis, MD, Biography

Brief Biography
Russell L. Travis M. D., F.A.C.S., FAADEP

Dr. Travis is a neurosurgeon and is currently:

Associate Medical Director At Cardinal Hill Rehabilitation Hospital. Cardinal Hill

University of Kentucky Physical Medicine and Rehabilitation Dept.
Voluntary Faculty Appointment, 6/30/03-Present
UK/CHRH Neurorehabilitation Advisory Board, Lexington, KY
Nov. 2004-Present

Present Appointments

Kentucky Board of medical Licensure, January 2008-Present.
KBML Secretary and Chair of Investigative Panel B

Kentucky Board of Nursing
Advanced Registered Nurse Practice Council
2007-2016

Travis Neurosurgical Consulting

American Academy of Disability Evaluating Physicians
Member, Board of Directors
2003-Present
Vice-President, President Elect-2007-2007
Past President 2007-2008 and Past Chairman of the Board

Advisory Board
APG Insights
(American College of Occupational & Environmental Medicine Practice Guidelines Newsletter)
January 2005 to Present

Member, Chapter Work Group to Develop 6th Edition
"Guides to the Evaluation of Permanent Impairment"
Content Contributor and Receiver to Central and Peripheral Nervous Systems and Musculoskeletal (Spine) Chapters.
January 2005 to Present, and 6th *Edition*

Work Loss Data Institute Advisory Panel
Official Disability Guidelines
ODG Treatment

Editorial Advisory Board

American Academy of Occupational and Environmental Medicine
Current Chair Spine Panel Practice Guidelines Development: Low Back Chapter, Cervical and Thoracic Spine Chapters- also Pain Chapter and 2013-2016 Revisions

American Association of Neurological Surgeons
Past-President, April 1999-Present
President, April 1998- April 1999
President-Elect., April 1997- April 1998
Vice-President, April 1996- April 1997

Chairman, Joint Section on Disorders of the Spine and Peripheral Nerves, 1994

Neurosurgical Society of America
President, 1991-1992

Frequent talks to Workers' Compensation groups and meetings,
Most recent:

Travis, Russell L. "Evidence Based Medicine & Clinical Practice Guidelines." Kentucky Workers' Compensation Association. Louisville, KY. December 10, 2015.

Travis, Russell L. "Basic Neuroradiology. When to use MRI, Bone Scan, Plain X-Rays and the significance thereof." University of Kentucky Physical Medicine and Rehabilitation residents. April 1, 2016, 7am-9am. Health South Cardinal Hill Rehabilitation Hospital.

Travis, Russell L. " The Lumbar and Cervical Spine. Normal vs. Abnormal. Interpreting Imaging Studies." University of Kentucky Physical Medicine and Rehabilitation residents. April 12, 2016, 7am-9am. Health South Cardinal Hill Rehabilitation Hospital.

Travis, Russell L. "Contemporary MRI Scans. Abnormal Findings in Normal Asymptomatic Persons". April 29, 2016. Annual Comprehensive Education Course, International Academy of Independent Medical

Examiners. Chicago, IL.

Travis, Russell L. Spine Seminar, 8am to 5pm on the cervical, thoracic, and lumbar spine. Trauma, degenerative changes, tumors, and congenital anomalies, recognition and treatment. April 30, 2016. Annual Comprehensive Course, IAIME, Chicago, IL.

Travis, Russell L. "Evidence Based Independent Medical Examinations." May 1, 2016. Annual Comprehensive Education Course, IAIME. Chicago, IL.

Travis, Russell L. "Prescribing and Dispensing Controlled Substances, Use of KASPER, Review of HB 1. Addiction as a Brain Disease, Recognition and Prevention." 10:30am to 12 noon. Kentucky Podiatric Association 2016 Annual Scientific Meeting. May 20, 2016. French Lick, IN.

Travis, Russell L. "Assessing Impairment of the Spine". UK Department of Neurosurgery, Grand Rounds. May 26, 2016.

Travis, Russell L. "Abnormal Findings in Normal People. The Significance of MRI Findings." **The National Workers'Compensation Review-Ninth Annual. Orlando, Florida, August 22 2016.**

Travis, Russell L. A Workers' Compensation in Transition. "Comparison of Impairment Ratings from the 4th, 5th, and 6th Editions of the *AMA Guides to the Evaluation of Permanent Impairment."* **National Workers' Compensation Judiciary College, National Association of Workers' Compensation. Orlando, Florida. August 23, 2016.**

Appendix N

2016 Workers' Compensation Task Force Initial Questionnaire for Issues

2016 Workers' Compensation Task Force Questionnaire

A. Name of task force member:

B. Organization that you are representing on task force:

C. Position within/relationship to organization that you are representing:

D. List the top 3 workers' compensation issues that you as a member would like to see discussed by the task force. Please discuss (a) why each issue is important to you and the organization you represent ; (b) which constituencies within the Kentucky workers' compensation system are impacted by the issue; and (c) the overall impact to the Kentucky Workers' Compensation system of any change related to the issue:

1.

2.

3.

E. What would you as a member most like to see accomplished by this task force:

Appendix O

2016 Workers' Compensation Task Force: Issues Members Want To Discuss

2016 Workers' Compensation Task Force: Issues Members Want To Discuss

1. **Adjudicatory Process**
    - Adversarial nature of adjudicatory claim process needs to be addressed as this is not the intended purpose of the system
    - Forms need to be simplified to make it easier for injured workers to access system and receive timely benefits
    - Hearing sites need to be more convenient for claimants
    - There needs to be a method to allow for early dismissal of claims/summary judgments/disallow initial filings that do not meet minimum requirements
    - Injured employees who have been wronged need a mechanism for relief from unfair claims practices/bad faith
    - Statute of limitations, especially for cumulative trauma claims, should be addressed in order to reverse recent court decisions
    - Limit the filing of cumulative trauma claims to two years from last exposure, regardless of knowledge of potential work relatedness of condition
    - In order to allow for the proper reserving of claims, reopening of claims should be limited, particularly to 4 years from the original order not to be affected by subsequent orders; intent of the reopening statutes to allow finality of the claim has been eroded by case law and should be restored
2. **Attorney Fees**
    - The workers' compensation bar is aging and new attorneys are not practicing in workers' compensation due to reduced attorney fees
    - Injured workers have hard time finding qualified attorneys in their geographical area since many attorneys will not handle a workers' compensation claim
    - Increase fees for both Plaintiff and defense counsel
    - Allow for attorney fees to claimant's attorney in medical disputes
3. **Income Benefits**
    - Current indemnity system does not fairly compensate injured workers
    - Statutory factors in KRS 342.730 should be increased
    - Maximum TTD level should be increased
    - Income benefits should be payable for a greater number of weeks
    - Income benefits need to be increased to keep up with the cost of living
    - The income benefit system needs to be rebalanced following the 1996 reforms as premiums are going down
    - Reduce interest rate on past due benefits and toll interest once settlement offer is made or claim is in abeyance at request of claimant or DWC
4. **Medical Benefits**
    - Timeliness of medical treatment/assist claimants in returning to work
    - Avoid medical expenses being terminated pending medical disputes
    - Inappropriate denial of treatment
    - Prescription drug costs need to be contained with a consistent pharmacy fee schedule

- Physician dispensing of prescription medications should be curtailed
- Delays, requiring attendance at therapy with no MRI, surgery delays
- Future medical expenses are used as leverage to force claimants into settlements that do not benefit them
- Require employers to provide immediate notice that the injured worker can select his or her own doctor
- Utilization review/peer review and medical disputes delay treatment
- Medical costs must be contained through use of evidence based treatment guidelines to include medications
- Consideration of drug-free workplace program similar to Tennessee
- Programs to better address narcotic use
- Medical expenses should have a defined end point for non-catastrophic injuries/end medicals at end of income benefits
- Medical dispute process must be streamlined/less forms and information required
- Allow for summary judgements at the onset of medical dispute in order to reduce costs
- Obtain information from experts from states that have implemented medical cost containment measures to determine cost impact
- Adoption of a drug formulary as other states have done
- Measures to address the escalating cost of medical care as it continues to be the driving cost of claims

5. Older Workers

- Limits on older workers receiving only 2 years TTD or PPD, 342.720 (4) – benefits terminate at social security age or 2 years after injury – is discriminatory
- Increase death benefits

6. Presumptions

- Institution of presumptions for certain cancers, heart and lung disease, and PTSD in firefighters

7. Wages

- Cap on average weekly wage hurts skilled higher wage earners
- Premiums are paid based on full wages but income benefits are lower due to cap on average weekly wage
- Firefighters with set overtime which is part of base pay no included in “average weekly wage”

8. **Return to Work**

- Provide initial wage replacement and medical benefits to facilitate a faster return to work
- Review conditions under which injured workers are returned to work so that meaningful work is provided

9. **Subrogation**

- The current subrogation system is inequitable as it penalizes the employer and allows claimants a double recovery.

- Employers should be able to recover all medical costs as part of a third party recovery
- Current system has made it virtually impossible for employers/insurance carriers to recover from the liable third party tortfeasor by restricting recovery to indemnity benefits and requiring the employer/insurance carrier to bear the entire cost of legal fees and expenses
- HB 200 from the 2016 Regular Session should be passed to address subrogation

10. **Special Fund**

- Sunset of Special Fund payments continues to be pushed back. Employers continue to pay assessments on workers' compensation premiums with no end in sight.
- Lump sum settlements are not allowed.
- Funds from the employer assessments go toward operation of the Labor Cabinet with no limit or oversight

11. **Goals for Task Force**

- Formal process to provide full vetting of various recommended policy issues with a civilized dialogue about ways to benefit both employers and employees without any increase in system costs
- Agree to changes that increases benefits to injured workers and makes the system fair for all parties
- A legislative proposal reflecting the consensus of the stakeholders
- A non-partisan agreement to address numerous deficiencies in the system that ensure a fair system for all parties
- Assist workers with the help they need to return to work
- Meaningful change in how appropriate medical care is provided and the cost of such care
- Avoid adversely impacting insurance rates and the bureaucratic burden on small employers.
- Balance the inequities of the system by increasing benefits to injured workers and increasing attorney fees
- Take action to make Kentucky more competitive with other states in recruiting and retaining jobs while providing for the truly injured worker
- Controlling medical costs
- System is not broken as appropriate benefits are provided to injured workers without sacrificing costs to employers; however, some adjustments need to be made to keep costs down in order to keep Kentucky competitive and attractive to business

Appendix P

Top Issues from the Workers' Compensation Task Force Members and Co-Chairs

Top Issues from the Workers' Compensation Task Force Members and Co-Chairs

The following issues were listed the most often on questionnaires returned by task force members prior to the first task force meeting and issues discussed in the task force's first meeting. (This will not include all of the issues mentioned in questionnaires or the meeting.)

Issue 1: Indemnity/Income benefits should be increased to fairly compensate all injured workers and keep up with the cost of living.

Background: Income benefits are awarded to injured employees who must miss work due to their injury to replace missed income. See Dwight Lovan's presentation on page 34 for an explanation of types of income benefits. The last legislative change to income benefits was in 2000 when some changes from 1996 were rolled back to increase factors resulting in an increase to income benefits.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding an increase in income benefits? Please list below.

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Issue 2: Medical costs should be contained through the use of evidence based treatment guidelines and a drug formulary.

Background: a. Medical treatment guidelines are standards of care for specific injuries. The guidelines are based on the best available medical evidence and a consensus of medical professionals. Twenty-seven (27) states have the "Official Disability Guidelines" (ODG) or a combination of their own or other resource with ODG. Nine (9) states have their own treatment guidelines. Eight (8) states are considering or have pending legislation on treatment guidelines. Thirteen (13) states have no treatment guidelines. Kentucky has no such guidelines.

b. A drug formulary is a preferred list of prescription drugs that are approved to treat an employee's injury. The development of prescription formularies is generally based on evaluations of efficacy, safety, and cost effectiveness of a drug. Four (4) states have drug formularies in place and one more is creating a formulary by 2017.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding implementing treatment guidelines and/or drug formulary? Please list below.

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Issue 3: Increase the time frame for income benefits for older workers by amending KRS 342.730(4) by extending the termination date from social security old age of 67 and increasing or removing the two (2) year limit.

Background: An injured worker may receive benefits for a period of 8 years; however, pursuant to KRS 342.730(4), income benefits are terminated for an older worker who reached social security old age of 67 or two (2) years after the injury whichever is later. Recent legislative proposals have increased the termination age to 70 or five (5) years from the date of injury whichever is later. In 2015, NCCI performed a cost impact analysis on HB 206 and the amendment regarding older workers was given a total system costs of 1.3%($6M) to 1.6%($8M).

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding increasing time frame for termination of benefits for older workers? Please list below.

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Issue 4: The current subrogation system is inequitable and KRS 342.700 should be amended to allow for paid medical benefits to be recovered and not require the employer/insurance carrier to be bear the entire costs of legal fees and expenses.

Background: Subrogation of a workers' comp claim is allowed against a third party who is responsible for an employee's injury. KRS 342.700(1) only mentions collection of indemnity benefits not medicals which is approximately 57% of a workers' comp claim. In addition any collection that is accomplished is less the employee's legal fees and expense. HB 200 was proposed in the 2016 session to address this issue.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding changing subrogation? Please list below.

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Issue 5: Increase in attorneys' fees for plaintiff and defense counsel.

Background: The workers' comp bar is aging and new attorneys are not practicing workers comp due to reduced attorneys' fees plus the costs of preparing cases. Injured workers are having a hard time finding qualified attorneys to take their WC cases. KRS 342.320 sets the maximum for attorneys' fees at $12,000 for employee and employer attorneys. The employee's attorney's fee is limited to 20% of the first $25,000; 15% of the next $10,000, and 5% of the remainder of the award. The fees have not been addressed since 1996 when the maximum was reduced from $15,000 to $12,000.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding increasing attorney fees? Please list below.

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Issue 6: The reopening statute of KRS 342.125 should be amended to clarify that reopening of claims is limited to four (4) years from the date of the original order not to be affected by subsequent orders.

Background: An insurance company must properly set reserves for all its workers comp claims. The company needs a stable time for the claim to end; however, case law has eroded the reopening statute to the point of allowing the 4 years to reopen from every new order that is issued in a comp claim. The original intent of the statute should be restored.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding reopening limitations? Please list below.

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Issue 7: Temporary Partial Disability (TPD) should be part of Kentucky's workers' comp system.

Background: Temporary Total Disability (TTD) benefits are paid to injured workers if they have not reached maximum medical improvement and cannot return to work. Employees who could return to work on limited duty or part time basis could be paid TPD benefits to make up the difference for the reduced wages. Dr. Ruser, president and CEO of the Workers' Compensation Research Institute spoke to the task force and indicated that Kentucky's Comp Scope's report showed that KY workers have a longer duration of TTD.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding implementing temporary partial disability (TPD) benefits? Please list below.

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Issue 8: Repealing or removing coal workers' pneumoconiosis statutes (black lung) that were declared unconstitutional.

Background: In 2002, the General Assembly passed a statute setting up a consensus process for black lung claims removing them from university evaluations process. In 2011, the Kentucky Supreme Court declared the consensus process unconstitutional in Vision Mining v. Gardner. The statutes that contain language requiring a special process for black lung claims is still on the books. Those statutes should be repealed or references deleted.

Please circle one to indicate your position on this issue.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, is there an additional change that could be made to the workers' comp system which changes your position regarding black lung unconstitutionality? Please list below.

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If you think there is an issue (1) of importance that was not listed above, then please list and explain why it is important in the space below. (Please list only one (1) issue.)

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Appendix Q

Results of Questionnaire 1

Results of September 8, 2016 Questionnaire

Comments listed after each issue has been shortened or paraphrased for space only and not repeated if it was made more than once.

A. Issue 1: Increase in Indemnity/Income Benefits

8 Strongly Agree

1 Agree

1 Neutral

3 Disagree

1 Strongly Disagree

- **Issue 1 Comments**

  D: Supports fair compensation, but benefits are based on the current average weekly wage so income benefits should be rising accordingly.

  N: Wages have increased over time with average weekly wage but a cost of living increase may be appropriate.

  SD: Believes statutory framework is adequate but may be willing to increase income benefits if treatment guidelines and a drug formulary are created.

B. Issue 2: Use of Treatment Guidelines and/or Drug Formulary

5 Strongly Agree

1 Agree

8 Strongly Disagree

- **Issue 2 Comments**

  SD: Medical treatment should be between the treating doctor and injured worker.

  SD: There is a need for guidelines but the guidelines should be Kentucky specific.

  SD: ODG are not fair guidelines. Evidence based guidelines should adopted for Kentucky based on Kentucky.

  SD: ODG serves the purpose of cutting cost but not the best possible treatment for the injured worker. Medical Specialties Boards set their own standards of care based on most recent data and evidence.

  SD: Need to wait on outcome of pending Supreme Court case. Do not need to adopt guidelines from another state.

SD: Kentucky already has treatment guidelines by individual physician specialties and training afforded to those specialists. Drug formularies are an attempt to control and manage medicine.

SD: A review of Kentucky prescriptions is needed before we should consider drug formulary.

SD: Premium rates have dropped so costs are already being controlled. NCCI data indicates that Kentucky's medical costs are low. In June 2016, ODG was removed from the National Guidelines Clearinghouse because systemic evidence review could not be conducted for each topic covered by ODG.

SA: Would be a major advancement to control costs.

SA: The prescription drug epidemic is still rampant in KY. Both treatment guidelines and the drug formulary will help address the problem.

C. Issue 3: Increase Time for Benefits for Older Workers

7 Strongly Agree

1 Agree

1 Neutral

2 Disagree

3 Strongly Disagree

- **Issue 3 Comments**

  D: Duplication of benefits.

  SD: Indemnity benefits is wage replacement and so is social security. This would be duplication.

  SD: An increase could be considered with the implementation of treatment guidelines and a drug formulary.

D. Issue 4: Subrogation System

6 Strongly Agree

1 Disagree

7 Strongly Disagree

- **Issue 4 Comments**

SD: Not needed.

SD: The current system seems fair since Kentucky's system does not compensate for pain and suffering. AIK vs. Bush was very fair.

SD: The insurance company does not advance the claim against the third party and does not share in the risk if the case is lost. The fairer thing would be for the insurance company not be allowed any reimbursement when the plaintiff's attorney and injured worker have performed all of the work in the case.

SA: Workers' comp cases should be treated the same as other insurance cases. There is no logic in treating them differently. The recovery is applied directly to the claim so the claim cost is lower.

SA: Access to representation is limited in some counties.

E. Issue 5: Increase Attorney Fees

8 Strongly Agree

1 Neutral

4 Disagree

1 Strongly Disagree

- **Issue 5 Comments**

  D: This would increase costs. There would need to be adjustments for employers to prevent costs from rising.

  SD: Disagree with the statement that new attorneys are not practicing workers' comp claims. An increase in attorneys' fees reduce the plaintiffs awards and adds cost to the system. If attorneys' fees are increased then there should be changes to medical benefits such as treatment guidelines and drug formulary to offset costs.

  D: Have not observed a shortage of attorneys practicing workers' compensation cases. If subrogation provisions were amended as the provisions existed prior to AIK vs. Bush then could consider a possible increase.

  N: Cost of living needs to be a factor.

  SA: If attorneys' fees are increased, there should also be an increase of income benefits for employees so they are not adversely impacted.

F. Issue 6: Reopening Clarification

3 Strongly Agree

3 Agree

1 Neutral

1 Disagree

6 Strongly Disagree

- **Issue 6 Comments**

  SD: Current case law is correct.

  SD and D: Reopening should be allowed for 10 years and not limited to 4 years.

  SD: Reopenings should be extended to 8 years instead of 4 years.

  SD: Limitations are already too strict. Some injuries require reopenings beyond 4 years.

  SD: Could maybe support this amendment if the insurance carrier has the same time limitation.

  A: This is an easy correction that benefits everyone by returning certainty to the process.

G. Issue 7: Temporary Partial Disability

3 Agree

4 Neutral

2 Disagree

5 Strongly Disagree

- **Issue 7 Comments**

  SD and D: Injured workers should return only to meaningful work. The injured worker should have the choice to return to work on light duty or recover at home.

  SD: Whether the employee recovers at home or works light duty, the net pay should equal TTD.

  SD: The meaningful work should have job functions that are essential to business operations.

SD: Need to insure that injured workers who return to work are allowed to reach full medical recovery.

SD: Could support a TPD system that is based on after tax income (instead of gross income) and allows the injured worker to refuse return to work when the work is demeaning or would cause a hardship, for example a different time shift.

N: Passage of SB 151 (2016 session) would achieve the same result without creating a new class of benefits. The offset allowed by SB 151 would allow the employee to receive the full amount of TTD even if working light duty.

A: Vocational training should be an option.

H. Issue 8: Repealing Unconstitutional Black Lung Statutes

2 Strongly Agree

4 Agree

5 Neutral

2 Disagree

1 Strongly Disagree

- **Issue 8 Comments**

  D: Not prepared to change the statute without evaluation.

  D: Need to make changes to the amendments in 2002 so they will pass constitutional muster.

  SD: The consensus process should remain except to make the process apply to all occupational diseases not just black lung. This process leaves it in the hands of the medical professionals.

Other issues:

1. Don't do any piecemeal legislation. Look at whole system.
2. Firefighters should have a cancer rebuttable presumption. Police and firefighters should have a rebuttable presumption for heart attack or heart disease, stroke, or lung disease due to the nature of their employment.
3. Employers should provide notice of the right to choose their own doctor. Company doctors should not perform diagnostic testing or provide treatment.
4. Once a case is settled or award granted then no settlement of medical benefits for at least 3 years.
5. Injured workers should be allowed to pursue civil litigation for egregious management of qualifying claims instead of the current unfair claims procedures.
6. 12% interest is too high. Interest should not be charged when the injured worker is at fault or causes the delay.
7. Interest rates should be indexed in some manner and adjusted periodically to align with market conditions.
8. Statute of limitations on cumulative trauma should be 2 years from the date of last injurious exposure.
9. Need attorney representation in medical disputes.
10. A change in exclusive remedy so that a civil suit is permitted against an employer for a safety violation including an up-the-ladder employer.
11. Allow lump summing of small awards.

Appendix R

2016 Workers' Compensation Task Force Questionnaire 2

2016 Workers' Compensation Task Force Questionnaire #2

Issue 1: Restricting the number of urine drug screens that can be ordered by a medical provider for patients being prescribed opioids based upon the recommended intervals set forth by the Kentucky Board of Medical Licensure.

Background: There currently are no specific limits in the workers' compensation statutes or regulations regarding the frequency of drug screens. There is concern that medical providers in workers' compensation cases are performing drug screens much too often. The Kentucky Board of Medical Licensure has adopted regulations that provide that a medical provider shall utilize random drug screens at appropriate times when the patient is within a long-term usage of a prescribed controlled substance. The Kentucky Board of Medical Licensure has developed recommended intervals for urine drug screens of at least once per year for "low risk" patients, at least twice a year for "moderate risk" patients, at least or four three times per year for "high risk" patients, and at each office visit for patients exhibiting aberrant behavior such as multiple lost prescriptions, multiple requests for early refills, opioids from multiple providers showing up on KASPER, unauthorized dose escalation, and apparent intoxication.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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Issue 2: Allow attorneys that successfully represent claimants in a medical dispute to receive an attorney fee to be paid by the employer.

Background: In 2013, 2043 total medical disputes were filed. In 2014, 1915 total medical disputes were filed. In 2015, 1621 medical disputes were filed. In post award medical disputes, many claimants are unable to obtain legal representation. According to Commissioner Lovan, the number of pro-se claimants in post-award medical disputes is substantially higher than during the initial litigation of the claim. Many times, the attorneys that represented the claimant during the initial litigation will assist the claimant; however, many will not since there is no mechanism in the workers' compensation statutes to allow for an attorney fee, other than a fee to be paid from the claimant's personal funds. Many claimants do not have the financial means to obtain legal counsel at his or her cost. Currently, the only mechanism upon

which an Administrative Law Judge could base an order imposing attorney fees for representing the claimant upon the employer would be KRS 342.310, which allows the ALJ to award attorney fees and costs if the medical dispute was "brought, prosecuted, or defended without reasonable ground."

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion. In addition, if you have another way to pay attorneys for medical disputes, please explain.

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<u>Issue 3 – Part 1</u>: Amend KRS 342.185 to provide for a statute of repose (a claim cannot be filed after a certain amount of time from a certain event) for cumulative trauma injury claims, thus mandating that a claim for a cumulative trauma injury must be filed within two (2) years from the last injurious exposure.

<u>Background</u>: In general, an injured worker has two years from the date of injury, or the last date that temporary total disability benefits were paid, to file a claim for benefits. The issue of the date of injury for a cumulative trauma claim, when a cumulative trauma injury manifests, has been argued in many recent court cases. The date of injury in a cumulative trauma claim is when the disabling reality of the injuries become manifest. Courts have consistently held that a rule of discovery applies when determining the manifestation date of a cumulative trauma injury, specifically indicating the manifestation date is the point when the worker has been told by a medical provider of a condition caused by work-related activities. A claimant then must file his claim within two (2) years from receiving the diagnosis of a work-related cumulative trauma injury. The concern is that the last date that the employee worked for the employer is not a relevant to the determination of the date of injury, thus allowing an employee to file a cumulative trauma claim against an employer many years after the employee stopped working for a certain employer. While KRS 342.316 provides a statute of repose for occupational disease claims, none is statutorily provided for cumulative trauma injury claims.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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Issue 3 – Part 2: Mandate that an employee must work at an employer for a certain amount of time before that employer can be liable for a cumulative trauma claim or there should be some mechanism of apportionment between employers in a cumulative trauma claim.

Background: Kentucky no longer has a second-injury fund. The Kentucky Supreme Court has held that since the Special Fund was abolished in the 1996 amendments, what was once the Special Fund's liability has shifted back to the employer. The Court has recently stated in Hale v. CDR that: "In hearing loss and occupational disease claims - which are quite similar in nature to cumulative trauma because they occur gradually over time - the employer at the time of the last injurious or hazardous exposure is liable. The employee is entitled to the same amount of compensation whether he worked for one employer or many. An employee who sustains a harmful change in his human organism due to cumulative trauma over many years working for the same employer is entitled to compensation to the full extent of his resultant disability."

In that decision, Justice Abramson stated: "And although I am concerned that an employer of three months may foot the bill for thirty years of gradual trauma, this Court is left with no choice under the current workers' compensation law. I am also doubtful that this is the result that the General Assembly intended with the workers' compensation statutory scheme; but until the text is modified, I have no alternative other than to concur in today's result."
As such, the last employer for which an employee was injuriously exposed, no matter the length of employment, is the responsible employer with no apportionment of liability between that employer and any previous employer.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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<u>Issue 4</u>: Increase the statutory caps on maximum weekly benefits in order to more fairly compensate high wage earners. The maximum total disability benefit would be 120% of the state average weekly wage and the maximum permanent partial disability benefit would be 85% of the state average weekly wage.

<u>Background</u>: KRS 342.730 sets forth the mechanism for payment of temporary and permanent benefits. For temporary total and permanent total disability benefits, the injured worker receives 66 2/3% of his or her average weekly wage, but not more than 100% of the state average weekly wage (for 2017 this would be $835.04). As such, for 2017, a worker with an average weekly wage of more than $1,252.56 would not truly get 66 2/3% of his or her average weekly wage in TTD or PTD benefits due to the maximum cap. If the cap were 120% of the state average weekly wage, a worker earning $1,500.00 per week would receive TTD benefits of $1,000.00 per week (66 2/3 of his or her average weekly wage) instead of $835.04.

For permanent partial disability benefits, claimants received 66 2/3% of his or her average weekly wage, but no more than 75% of the state average weekly wage (which for 2017 would be $626.29) unless he or she is found not to retain the physical capacity to return to the type of work performed at the time of injury, in which case the PPD benefit cannot exceed 100% of the state average weekly wage (for 2017 this would be $835.04). PPD awards cannot exceed either 99% of the employee's average weekly wage or 75% of the state average weekly wage. The claimant earning $1,500.00 per week could receive a PPD award up to $626.29, which is 75% of the state average weekly wage. Increasing the cap to 85% of the state average weekly wage would allow this employee a maximum PPD benefit of $709.78.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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Issue 5: **The interest rate of 12% for delayed income benefits should be reduced as well as 18% for an undue delay by employer and should not be paid while a claim is in abeyance or when a delay is caused by the claimant.**

Background: Pursuant to KRS 342.040(1), all delayed income benefits shall accrue interest at the rate of 12% from the date that benefits are due until paid. If an ALJ determines that a delay was without "reasonable foundation" then the rate is 18%. This statutory amount was set in 1982. Many feel that the market has changed since that time, and the rate should be adjusted accordingly. Suggestions include reducing the rate to 6% or indexing the rate so it will adjust periodically to reflect the current market condition.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you strongly agree or agree, please indicate which terms you would support. If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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Issue 6: Small weekly awards of income benefits should have a lump sum award. There were 2 scenarios mentioned by 2 speakers. Scenario A: Employees should have the right to elect to receive a lump sum award when weekly awards are $50 or less or $75 or less. Scenario B: An employee may

elect a lump sum award for income benefits for weekly awards of $50 or less or $75 or less and a lump sum for the medical benefits for 25% of the indemnity value of the award. There was also a mention of a lower discount rate to encourage these settlements.

Background: Income benefits can be for extremely small amounts per week. Many claimants would prefer to get a bigger settlement rather than have a small weekly amount. It is an additional administrative cost for insurance carriers to send weekly checks. Insurance carriers would prefer to settle out the medicals to completely close out the claim.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you strongly agree or agree, please indicate which terms you would support. If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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Issue 7: The request for vocational rehabilitation or retraining should be filed by either party within 45 days of a claim being filed so the employee may be evaluated and a report generated for the ALJ to review and refer for a mandatory vocational conference, if appropriate.

Background: Pursuant to KRS 342.710, the ALJ and/or parties may make a motion to refer the employee for a voc rehab evaluation. Then upon receipt of the report, an ALJ may order the recommended treatment be provided to the employee. If an employee refuses to accept the voc rehab pursuant to the order, then it shall result in a 50% reduction in compensation for the employee. One presenter indicated that in many instances the report comes in too late for the ALJ to refer for a mandatory vocational conference and a claimant never follows up on potential voc rehab.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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<u>Issue 8</u>: Train 1 or 2 ALJ's for mediation and assign complex claims with multiple injuries, multiple employers or multi-jurisdictions to that ALJ.

<u>Background</u>: Pursuant to KRS 342.276, the commissioner of the DWC shall establish a program to provide an opportunity for mediation of disputes. The commissioner has the authority to promulgate regulations on the subject. Currently, claimants have a benefits review conference prior to the hearing to expedite the processing of the claim and possibly avoid the need for a hearing. However, there is no other formal mediation process.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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<u>Issue 9 – Part 1</u>: Create a rebuttable presumption for an occupational disease in worker's comp for a firefighter with 5 or more years of experience and has not smoked for the past 10 years who develops a certain cancer.

<u>Background</u>: In 2015, HB 156 created this presumption. Paid and volunteer firefighters are exposed to carcinogens that have been proven in studies to cause certain cancers. At least 30 states have created cancer presumptions for firefighters.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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<u>Issue 9 – Part 2</u>: Create a rebuttable presumption for an occupational disease in workers' comp for a police officer or firefighter who has a heart attack, heart disease, stroke, or lung disease.

<u>Background</u>: Due to the stressful, strenuous, and dangerous nature of these professions, there should be a presumption for these types of work related diseases or medical issues.

Please circle one to indicate your position on this issue:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

If you disagree or strongly disagree with this issue, please explain below and list any additional changes to the WC system, which if made could change your opinion.

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Appendix S

Results of Questionnaire 2

Workers' Comp Task Force Questionnaire #2 Results

#1. Drug screens

SA: 3 A: 5 N: 2 D: 5 SD: 4

Comments: This is between the doctor and patient and should be handled on a case by case basis.

Doctors should have the discretion based on diagnosis and history.

This is not a significant issue since HB 1 in 2012. Issues with frequency and expense have improved since HB 1.

Drug testing is a treatment and this would interfere with treatment. This would be similar to limits on physical therapy and injections.

Must be based on proven science.

Still need to have reasonableness and necessity proof on what constitutes "low, "moderate", and "high" risks.

Doctors should follow Medical Board of Licensure's guidance. However the reasonableness and necessity of the drug tests should still be reviewed.

#2. Attorney Fees in Medical Disputes

SA: 9 A: 0 N: 1 D: 2 SD: 7

Comments: Attorneys can get a fee if a medical fee is contested without a reasonable basis.

This would be an increase in an employer's cost is increased; therefore a corresponding reduction to an employer's cost should be done.

Requiring the employer to pay attorney fees for a medical dispute brought on reasonable terms is a penalty on the employer.

Most employers will not be able to afford additional expense. Attorneys could increase medical disputes so to make up for what they conceive that they are losing on front end of a claim. Need a break down of these numbers as to the causes of post medical disputes.

If this was allowed then the fees could come out of recovery/ benefits paid and not in addition to medical recovery required by statute. If it involves an unpaid bill, any fee should come off the top of the amount paid to the provider (assuming the provider does not retain counsel). This would add unnecessary costs to the system.

A percentage of DWC penalties could go to pay attorneys' fees in medical disputes which are successful for the employee with a cap of $2000.

Medicals are used as leverage to obtain settlements.

The justification for the medical fee schedule is the speed and reliability of a payment. These justifications do not apply in a medical fee dispute so the carrier should not get the benefit of the fee schedule. If there is a medical dispute, the difference between the amount of the bill and amount paid to the provider under the fee schedule should go to the claimant's attorney or the claimant if they are unrepresented or split with the doctor.

This is a hole in the system and unfair to unrepresented claimants.

Most of these contested medical disputes do not meet requirements of 342.310 to force attorney fees. Have separate fee schedule for medical disputes that pays 130% of the medical fee schedule and the extra goes to pay attorney fees.

Medical disputes are too complex for unrepresented employees who may not be working and may not get proper treatment as a result of being unrepresented.

#3 Part 1 Cumulative trauma: statute of Limitations

SA: 7 A: 3 N: 1 D: 1 SD: 7

Comments: This should stay the same because many cumulative trauma injuries are progressive and manifest over a period of time and exposure at work.

Employees should be able to file from the last date of exposure, mini trauma, or when the condition becomes occupationally disabling.

This could result in requiring a claim to be filed before the person knows there is an injury.

There could be a compromise if income benefits for employees were increased but not at a 2 year statute of limitations.

342.185 should be amended to provide for a statute of repose that is consistent with the current statute of repose for occupational disease claims.

This change would mean more timely filings to allow for proper investigation of claim.

#3 Part 2 Cumulative Trauma: Time limit on work or apportionment

SA: 9 A: 0 N: 1 D: 1 SD: 8

Comments: This was the bargain when the special fund was eliminated.

This would increase litigation and result in an increase in premium for employers. Workers would have to file suit against previous employers. With any injury that happens within first 3 months of employment, a clever defense attorney could argue that it is cumulative trauma and bring in previous employers.

Hale vs. CDR and the statute are correct. It's impractical and impossible to bring all past employers to litigate.

This would cause undue delays in awarding benefits.

It is inherently unfair for an employer to bear 100% of the costs when a portion of the injury was sustained with a previous employer.

This would be more accurately assess liability for an employer.

The law should be left as is.

Would cause delay in benefits to claimants and employer is paying a premium on employee from first day of work with that employer.

#4 - Increase wage caps for higher wage earners

SA: 9 A: 2 N: 3 D: 4 SD: 1

Comments: This increase cost to the employers so other reforms must be done to neutralize the impact.

Kentucky is in line with other states. Would like additional info on how 120% was derived. If the maximum is increased then the minimum should be reduced or eliminated.

120% seems to be an arbitrary figure. We should evaluate other states statutory maximums.

Employers are paying premiums based on actual wages but income benefits (replacement wages) are capped.

#5 - 12% interest rate

SA: 9 A: 1 N: 1 D: 1 SD: 7

Comments: This is a penalty against the employer and carrier; if the award is timely paid then no interest is owed.

KY courts have said that this encourages a debtor to pay promptly.

Could support if carrier is responsible for correcting any harm for delays for example foreclosures, repositions, or impaired credit scores.

Reduce rate to 8% with 12% rate for a penalty situation. Index the rate if inflation exceeds 8%.

Reduce to 6% but will discuss tying to an index rate.

Should be tied to an appropriate rate of return.

Interest should not accrue when a claim is held in abeyance or if the delay is beyond the carrier or employer control.

Should not be assessed on amounts previously offered by the employer/carrier and rejected by a claimant.

There should be a penalty for not paying benefits in a timely manner.

If there is no delay, there is no interest paid.

Reducing interest may increase delay in benefits.

#6 - Lump sum of small awards and lump sum of medicals

SA: 4 A: 3 N: 2 D: 3 SD: 7

Comments: Lump sum of small weekly awards should be the choice of the employee; however, lump sum of medicals should not be tied into any other settlement.

Lump sum of medicals may violate federal law and Medicare set-aside.

Lump sum for small weekly awards may encourage false or exaggerated claims.

Not opposed to general idea of mandating lump sums but prefer $25 and under. Employers should not have to pay for litigation costs when the awarded amount is the same or less than what was offered prior to the award.

Would prefer lump sum election for weekly awards of $50 or less unless the amount is equal to or greater than the lump sum that was offered for settlement prior to the award.

There should not be a lump sum for medicals of 25% of the award.

Could create issues in minor injury claims.

#7 – Vocational Rehab

SA: 2 A: 5 N: 2 D: 2 SD: 8

Comments: DWC does not have sufficient resources to deal with comprehensive voc rehab.

Employees should be punished but should always have this as an opportunity throughout the claim

Could be detrimental to an employee who files late.

Employees should get more benefits such as TTD benefits for 3 years while training instead of only program costs, books, and mileage.

Requests for retraining filed early in litigation could afford an employee more opportunity to acquire new skills and continue working. If the evaluation determines that an employee is eligible for retraining or rehab, then the worker should be obligated to complete the training or rehab.

Vocational rehabilitation can be helpful, it should not extend the litigation process or add more costs to employers.

Vocational rehabilitation benefits should be increased/extended.

#8 - Mediation

SA: 1 A: 5 N: 3 D: 3 SD: 7

Comments: Don't need.

Waste of governmental resources and will delay cases.

Supports voluntary mediation with retired ALJs. Between the parties.

Former arbitration system was a disaster.

Claims could be settled at BRC.

Does not work in complex claims.

For complex cases, a better approach would be bifurcation of issues in a claim.

#9 Part 1 Cancer Presumption for Firefighters

SA: 7 A: 3 N: 3 D: 3 SD: 3

Comments: Not in favor of presumptions. Other professions or occupations may ask for similar presumptions.

The years of exposure is too low and any history of smoking should disqualify.

There are no rebuttable presumptions in KY workers' compensation law. The burden is appropriately placed on the employee to prove their case. The parameters for the proposed cancer presumption is too broad.

#9 Part 2 Presumptions for heart disease, lung disease, stroke, and cancer for police or firefighters.

SA: 7 A: 3 N: 3 D: 2 SD: 4

Comments: Don't like presumptions.

Too many other causes of these diseases that have nothing to do with work activities.

Burden of proof is on the employee. There are a lot of risk factors for these diseases that are unrelated to work. This presumption is too broad.

Appendix T

2016 Workers' Compensations Task Force Questionnaire 3

2016 Workers' Compensation Task Force Questionnaire #3

The Co-Chairs have put together several items that have been discussed in previous questionnaires and at the Task Force meetings. These items are ones that appear to be the most likely to lead to a consensus based on previous responses of the members.

The Co-Chairs respectfully ask all of the members to be specific in your responses to the questionnaire. If you would agree to a proposed change only if another proposed change was also made, please be specific in identifying the other required change. If you cannot agree to the issue no matter what other type of change may be possible, then please indicate so on the questionnaire.

If you feel that other changes could be agreed upon, please specify what type of changes may be made to appease all other members and could create a consensus. This is the last question and space is given for your suggestions. Again, please be as specific as possible.

Please note that only the amended portion of a statute, and not the entirety of the statute, is included in this questionnaire for the purpose of brevity.

Issue 1: Repealing statutes dealing with black lung that have been found unconstitutional

Explanation:

In 2002, the General Assembly passed a statute setting up a consensus process for black lung claims removing them from university evaluations process. In 2011, the Kentucky Supreme Court declared the consensus process unconstitutional in Vision Mining v. Gardner. The statutes that contain language requiring a special process for black lung claims are still on the books. This proposal deletes the unconstitutional provisions.

Repeal KRS 342.792 in its entirety

Repeal KRS 342.794 in its entirety

KRS 342.316 is amended to read as follows:

(1) (a) The employer liable for compensation for occupational disease shall be the employer in whose employment the employee was last exposed to the hazard of the occupational disease. During any period in which this section is applicable to a coal mine, an operator who acquired it or substantially all of its assets from a person who was its operator on and after January 1, 1973, shall be liable for, and secure the payment of, the benefits which would have been payable by the prior operator under this section with respect to miners previously employed in the mine if it had not been acquired by such later operator. At the same time, however, this subsection does not relieve the prior operator of any liability under this section. Also, it does not affect whatever rights the later operator might have against the prior operator.

(b) The time of the beginning of compensation payments shall be the date of the employee's last injurious exposure to the cause of the disease, or the date of actual disability, whichever is later.
(2) The procedure with respect to the giving of notice and determination of claims in occupational disease cases and the compensation and medical benefits payable for disability or death due to the disease shall be the same as in cases of accidental injury or death under the general provisions of this chapter, except that notice of claim shall be given to the employer as soon as practicable after the employee first experiences a distinct manifestation of an occupational disease in the form of symptoms reasonably sufficient to apprise the employee that he or she has contracted the disease, or a diagnosis of the disease is first communicated to him or her, whichever shall first occur.
(3) The procedure for filing occupational disease claims shall be as follows:
(a) The application for resolution of claim shall set forth the complete work history of the employee with a concise description of injurious exposure to a specific occupational disease, together with the name and addresses of the employer or employers with the approximate dates of employment. The application shall also include at least one (1) written medical report supporting his or her claim. This medical report shall be made on the basis of clinical or X-ray examination performed in accordance with accepted medical standards and shall contain full and complete statements of all examinations performed and the results thereof. The report shall be made by a duly-licensed physician. The commissioner shall promulgate administrative regulations which prescribe the format of the medical report required by this section and the manner in which the report shall be completed.
1. For [~~coal-related~~] occupational pneumoconiosis claims, each clinical examination shall include a chest X-ray interpretation by a National Institute of Occupational Safety and Health (NIOSH) certified "B" reader. [~~The chest X-ray upon which the report is made shall be filed with the application as well as~~] Spirometric tests when pulmonary dysfunction is alleged shall be filed.
~~[2. For other compensable occupational pneumoconiosis claims, each clinical examination shall include a chest X-ray examination and appropriate pulmonary function tests.]~~
(b) To be admissible, medical evidence offered in any proceeding under this chapter for determining a claim for occupational pneumoconiosis ~~resulting from exposure to coal dust~~ shall comply with accepted medical standards as follows:
1. Chest X-rays and digital x-rays shall be of acceptable quality with respect to exposure and development and shall be indelibly labeled with the date of the X-ray and the name, birthdate, and last four (4) digits of his or her Social Security number of the claimant. Physicians' reports of X-ray interpretations shall: identify the claimant by name, birthdate, and last four (4) digits of his or her Social Security number; include the date of the X-ray and the date of the report; classify the X-ray interpretation using the latest ILO Classification and be accompanied by a completed copy of the latest ILO Classification report. ~~[Only interpretations by National Institute of Occupational Safety and Health (NIOSH) certified "B" readers shall be admissible.]~~
2. Spirometric testing shall be conducted in accordance with the standards recommended in the "Guides to the Evaluation of Permanent Impairment" and the 1978 ATS epidemiology standardization project with the exception that the predicted normal values for lung function shall not be adjusted based upon the race of the subject. The FVC or the FEV1 values shall represent the largest of such values obtained from three (3) acceptable forced expiratory volume maneuvers as corrected to BTPS (body temperature, ambient pressure and saturated with water vapor at these conditions) and the variance between the two (2) largest acceptable FVC values shall be either less than five percent (5%) of the largest FVC value or less than one hundred (100) milliliters, whichever is greater. The variance between the two (2) largest acceptable FEV1 values shall be either less than five percent (5%) of the largest FEV1 value or less than one hundred (100) milliliters, whichever is greater. Reports of spirometric testing shall include a description by the physician of the procedures utilized in conducting such spirometric testing and a copy of the spirometric chart and tracings from which spirometric values submitted as evidence were taken.

3. The commissioner shall promulgate administrative regulations pursuant to KRS Chapter 13A as necessary to effectuate the purposes of this section. The commissioner shall periodically review the applicability of the spirometric test values contained in the "Guides to the Evaluation of Permanent Impairment" and may by administrative regulation substitute other spirometric test values which are found to be more closely representative of [~~the~~] normal pulmonary function [~~of the coal mining Population~~].

(4) The procedure for determination of occupational disease claims shall be as follows:

a. Immediately upon receipt of an application for resolution of claim, the commissioner shall notify the responsible employer and all other interested parties and shall furnish them with a full and complete copy of the application.

b. The commissioner shall assign the claim to an administrative law judge and [~~, except for coal workers' pneumoconiosis claims,~~] shall promptly refer the employee to a university ~~such~~ physician or medical facility as the commissioner may select for examination. The report from this examination shall be provided to all parties of record. [~~The employee shall not be referred by the commissioner for examination within two (2) years following any prior referral for examination for the same disease.~~]

c. [~~Except for coal workers' pneumoconiosis claims, ~~]Within forty-five (45) days following the notice of filing an application for resolution of claim, the employer or carrier shall notify the commissioner and all parties of record of its acceptance or denial of the claim. A denial shall be in writing and shall state the specific basis for the denial [~~In coal workers' pneumoconiosis claims, the employer's notice of claim denial or acceptance shall be filed within thirty (30) days of the issuance by the commissioner of the notice of the consensus reading unless the consensus is that the miner has not developed coal workers' pneumoconiosis category 1/0 or greater. In the event the consensus procedure is exhausted without consensus being established, the employer's notice of claim denial or acceptance shall be filed within thirty (30) days of the commissioner notification to the administrative law judge that consensus has not been reached.~~

~~d. Within forty-five (45) days of assignment of a coal workers' pneumoconiosis claim to an administrative law judge, the employer shall cause the employee to be examined by a physician of the employer's choice and shall provide to all other parties and file with the commissioner the X-ray interpretation by a "B" reader. The examination of the employee shall include spirometric testing if pulmonary dysfunction is alleged by the employee in the application for resolution of a claim. The commissioner shall determine whether the X-ray interpretations filed by the parties are in consensus.~~

~~e. If the readings are not in consensus, the commissioner shall forward both films, masking information identifying the facility where the X-ray was obtained and the referring physician, consecutively to three (3) "B" readers selected randomly from a list~~

~~maintained by the commissioner for interpretation. Each "B" reader shall select the highest quality film and report only the interpretation of that film. The commissioner shall determine if two (2) of the X-ray interpretations filed by the three (3) "B" readers selected randomly are in consensus. If consensus is reached, the commissioner shall forward copies of the report to all parties as well as notice of the consensus reading which shall be considered as evidence. If consensus is not reached, the administrative law judge shall decide the claim on the evidence submitted.~~

~~f. "Consensus" is reached between two (2) chest X-ray interpreters when their classifications meet one (1) of the following criteria: each finds either category A, B, or C progressive massive fibrosis; or findings with regard to simple pneumoconiosis are both in the same major category and within one (1) minor category (ILO category twelve (12) point scale) of each other.]~~

d~~.~~[~~g~~]. The administrative law judge shall conduct such proceedings as are necessary to resolve the claim and shall have authority to grant or deny any relief, including interlocutory relief, to order additional proof, to conduct a benefit review conference, or to take such other action as may be appropriate to resolve the claim.

e.[h]. Unless a voluntary settlement is reached by the parties, or the parties agree otherwise, the administrative law judge shall issue a written determination within sixty (60) days following a hearing. The written determination shall address all contested issues and shall be enforceable under KRS 342.305.
5. The procedure for appeal from a determination of an administrative law judge shall be as set forth in KRS 342.285.
(4) (a) The right to compensation under this chapter resulting from an occupational disease shall be forever barred unless a claim is filed with the commissioner within three (3) years after the last injurious exposure to the occupational hazard or after the employee first experiences a distinct manifestation of an occupational disease in the form of symptoms reasonably sufficient to apprise the employee that he or she has contracted the disease, whichever shall last occur; and if death results from the occupational disease within that period, unless a claim therefor be filed with the commissioner within three (3) years after the death; but that notice of claim shall be deemed waived in case of disability or death where the employer, or its insurance carrier, voluntarily makes payment therefor, or if the incurrence of the disease or the death of the employee and its cause was known to the employer. However, the right to compensation for any occupational disease shall be forever barred, unless a claim is filed with the commissioner within five (5) years from the last injurious exposure to the occupational hazard, except that, in cases of radiation disease or asbestos-related disease, a claim must be filed within twenty (20) years from the last injurious exposure to the occupational hazard.
(b) Income benefits for the disease of pneumoconiosis [resulting from exposure to coal dust] or death therefrom shall not be payable unless the employee has been exposed to the hazards of such pneumoconiosis in the Commonwealth of Kentucky over a continuous period of not less than two (2) years during the ten (10) years immediately preceding the date of his or her last exposure to such hazard, or for any five (5) of the fifteen (15) years immediately preceding the date of such last exposure.
(5) The amount of compensation payable for disability due to occupational disease or for death from the disease, and the time and manner of its payment, shall be as provided for under the general provisions of the Workers' Compensation Act, but:
(a) In no event shall the payment exceed the amounts that were in effect at the time of the last injurious exposure;
(b) The time of the beginning of compensation payments shall be the date of the employee's last injurious exposure to the cause of the disease, or the date of actual disability, whichever is later; and
(c) In case of death where the employee has been awarded compensation or made timely claim within the period provided for in this section, and an employee has suffered continuous disability to the date of his or her death occurring at any time within twenty (20) years from the date of disability, his or her dependents, if any, shall be awarded compensation for his or her death as provided for under the general provisions of the Workers' Compensation Act and in this section, except as provided in KRS 342.750(6).
(6) If an autopsy has been performed, no testimony relative thereto shall be admitted unless the employer or its representative has available findings and reports of the pathologist or doctor who performed the autopsy examination.
(7) No compensation shall be payable for occupational disease if the employee at the time of entering the employment of the employer by whom compensation would otherwise be payable, falsely represented himself or herself, in writing, as not having been previously disabled, laid-off, or compensated in damages or otherwise, because of the occupational disease, or failed or omitted truthfully to state to the best of his or her knowledge, in answer to written inquiry made by the employer, the place, duration, and nature of previous employment, or, to the best of his or her knowledge, the previous state of his or her health.
(8) No compensation for death from occupational disease shall be payable to any person whose relationship to the deceased, which under the provisions of this chapter would give right to compensation, arose subsequent to the beginning of the first compensable disability, except only for after-born children of a marriage existing at the beginning of such disability.

(9) Whenever any claimant misconceives his or her remedy and files an application for adjustment of claim under the general provisions of this chapter and it is subsequently discovered, at any time before the final disposition of the cause, that the claim for injury, disability, or death which was the basis for his or her application should properly have been made under the provisions of this section, then the application so filed may be amended in form or substance, or both, to assert a claim for injury, disability, or death under the provisions of this section, and it shall be deemed to have been so filed as amended on the date of the original filing thereof, and compensation may be awarded that is warranted by the whole evidence pursuant to the provisions of this chapter. When amendment of this type is submitted, further or additional evidence may be heard when deemed necessary. Nothing this section contains shall be construed to be or permit a waiver of any of the provisions of this chapter with reference to notice of time for filing of a claim, but notice of filing a claim, if given or done, shall be deemed to be a notice of filing of a claim under provisions of this chapter, if given or done within the time required by this subsection.
(10) When an employee has an occupational disease that is covered by this chapter, the employer in whose employment he or she was last injuriously exposed to the hazard of the disease, and the employer's insurance carrier, if any, at the time of the exposure, shall alone be liable therefor, without right to contribution from any prior employer or insurance carrier, except as otherwise provided in this chapter.
(11) (a) Income benefits for coal-related occupational pneumoconiosis shall be paid fifty percent (50%) by the Kentucky coal workers' pneumoconiosis fund as established in KRS 342.1242 and fifty percent (50%) by the employer in whose employment the employee was last exposed to the hazard of that occupational disease.
(b) Compensation for all other occupational disease shall be paid by the employer in whose employment the employee was last exposed to the hazards of the occupational disease.
(12) A concluded claim for benefits by reason of contraction of an occupational [~~coal workers'~~] pneumoconiosis [~~in the severance or processing of coal~~] shall bar any subsequent claim for benefits [~~by reason of contraction of coal workers'~~] pneumoconiosis, unless there has occurred in the interim between the conclusion of the first claim and the filing of the second claim at least two (2) years of employment wherein the employee was continuously exposed to the hazards of the disease in the Commonwealth.
~~[(13) For coal related occupational pneumoconiosis claims, the consensus procedure shall apply to all claims which have not been assigned to an administrative law judge prior to July 15, 2002. The consensus classification shall be presumed to be the correct classification of the employee's condition unless overcome by clear and convincing evidence. If an administrative law judge finds that the presumption of correctness of the consensus reading has been overcome, the reasons shall be specially stated in the administrative law judge's order.]~~

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain why below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 2: **Adopt specific guidelines regarding frequency of drug screens**

Explanation

There currently are no specific limits in the workers' compensation statutes or regulations regarding the frequency of drug screens. There is concern that some medical providers in workers' compensation cases are performing drug screens much too often and in some cases on every visit. The Kentucky Board of Medical Licensure has adopted regulations that provide that a medical provider shall utilize random drug screens at appropriate times when the patient is within a long-term usage of a prescribed controlled substance. The Kentucky Board of Medical Licensure has developed recommended intervals for urine drug screens of at least once per year for "low risk" patients, at least twice a year for "moderate risk" patients, at least or four three times per year for "high risk" patients, and at each office visit for patients exhibiting aberrant behavior such as multiple lost prescriptions, multiple requests for early refills, opioids from multiple providers showing up on KASPER, unauthorized dose escalation, and apparent intoxication. This proposal would adopt the recommendations of the Kentucky Board of Medical Licensure.

KRS 342.020 is amended to read as follows:

(10) A medical provider shall not order or perform urine drug screenings of patients in excess of one per year for a patient considered to be low risk based upon the screening performed by the medical provider and other pertinent factors and no more than twice a year for a patient considered to be moderate risk based upon the screening performed by the medical provider and other pertinent factors. A medical provider can order of perform urine drug screening of no more than four times per year for patients considered to be high risk based upon the screening performed by the medical provider and other pertinent factors. A medical provider can order of perform urine drug screening at each office visit for patients that have exhibited aberrant behavior documented by multiple lost prescriptions, multiple requests for early refills of prescriptions, multiple providers prescribing opioids listed on KASPER reports, unauthorized dosage escalation, or apparent intoxication.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 3: **Allowing for an increase in income benefits in three different ways. First, (a) amend provisions of KRS 342.730 to increase the termination of benefits beyond the normal retirement age, second, (b) increase the cap on average weekly wage to assist higher wage earners, and third, (c) adjust the statutory factors to increase the income benefits for all claimants.**

Explanations

(a) Raise the age upon which benefits terminate due to age. A typical injured worker may receive permanent partial disability benefits for a period of 8 years; however, pursuant to KRS 342.730(4), all income benefits are terminated for an older worker who reached social security old age of 67 or two (2) years after the injury whichever is later. This proposal would increase the termination age to 70 or five (5) years from the date of injury whichever is later. In 2015, NCCI performed a cost impact analysis on HB 206 and the amendment regarding older workers was given a total system costs of 1.3% ($6M) to 1.6% ($8M).

(b) The second change involves increasing the statutory caps on maximum weekly benefits in order to more fairly compensate high wage earners. Under this proposal, the maximum total disability benefit would be 120% of the state average weekly wage and the maximum permanent partial disability benefit would be 85% of the state average weekly wage.

KRS 342.730 sets forth the mechanism for payment of temporary and permanent benefits. For temporary total and permanent total disability benefits, the injured worker receives 66 2/3% of his or her average weekly wage, but not more than 100% of the state average weekly wage (for 2017 this would be $835.04). As such, for 2017, a worker with an average weekly wage of more than $1,252.56 would not truly get 66 2/3% of his or her average weekly wage in TTD or PTD benefits due to the maximum cap. If the cap were 120% of the state average weekly wage, a worker earning $1,500.00 per week would receive TTD benefits of $1,000.00 per week (66 2/3 of his or her average weekly wage) instead of $835.04.

For permanent partial disability benefits, claimants received 66 2/3% of his or her average weekly wage, but no more than 75% of the state average weekly wage (which for 2017 would be $626.29) unless he or she is found not to retain the physical capacity to return to the type of work performed at the time of injury, in which case the PPD benefit cannot exceed 100% of the state average weekly wage (for 2017 this would be $835.04). PPD awards cannot exceed either 99% of the employee's average weekly wage or 75% of the state average weekly wage. The claimant earning $1,500.00 per week could receive a PPD award up to $626.29, which is 75% of the state average weekly wage. Increasing the cap to 85% of the state average weekly wage would allow this employee a maximum PPD benefit of $709.78.

(c) The third change adjusts the statutory factors for injuries with permanent impairment ratings to increase income benefits for all claimants. The current factors of 0.65 and 0.85 would be replaced with a factor of 1.00. Some have argued that the factors less than 1.00 penalize employees that have lower impairment ratings. Factors for higher impairment ratings would also be adjusted upward.

KRS 342.730 is amended to read as follows:

(1) Except as provided in KRS 342.732, income benefits for disability shall be paid to the employee as follows:

(a) For temporary or permanent total disability, sixty-six and two-thirds percent (66-2/3%) of the employee's average weekly wage but not more than one hundred ***twenty*** percent ***(120%)***[(~~100%~~)] of the state average weekly wage and not less than twenty percent (20%) of the state average weekly wage as determined in KRS 342.740 during that disability. Nonwork-related impairment and conditions compensable under KRS 342.732 and hearing loss covered in KRS 342.7305 shall not be considered in determining whether the employee is totally disabled for purposes of this subsection.

(b) For permanent partial disability, sixty-six and two-thirds percent (66-2/3%) of the employee's average weekly wage but not more than ***eighty-five***[~~seventy-five~~] percent ***(85%)***[(~~75%~~)] of the state average weekly wage as determined by KRS 342.740, multiplied by the permanent impairment rating caused by the injury or occupational disease as determined by the "Guides to the Evaluation of Permanent Impairment," times the factor set forth in the table that follows:

AMA Impairment	Factor
0 to 5%	***1.00***[~~0.65~~]
6 to 10%	***1.00***[~~0.85~~]
11 to 15%	1.00
16 to 20%	1.00
21 to 25*%*	**1.25**[~~1.15~~*]*
26 to **35%[**~~30%~~]	**1.50**[~~1.35~~]
[~~31 to 35%~~]	[~~1.50~~]
36% and above	**1.75[**~~1.70~~]

* * *

(4) All income benefits payable pursuant to this chapter shall terminate as of the date upon which the employee ***reaches age seventy (70)***[~~qualifies for normal old-age Social Security retirement benefits under the United States Social Security Act, 42 U.S.C. secs. 301 to 397f~~,] or ***five (5)***[two (2)] years after the employee's injury or last exposure, whichever last occurs.[~~In like manner all income benefits payable pursuant to this chapter to spouses and dependents shall terminate when such spouses and dependents qualify for benefits under the United States Social Security Act by reason of the fact that the worker upon whose earnings entitlement is based would have qualified for normal old-age Social Security retirement benefits.~~]

Please circle one to indicate your position on issue 3(a):

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Please circle one to indicate your position on issue 3(b):

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Please circle one to indicate your position on issue 3(c):

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 4: Reduce the interest rate on past due benefits and indicate no interest shall accrue while the claim is delayed due to actions of the claimant.

Explanation

Pursuant to KRS 342.040(1), all past due income benefits shall accrue interest at the rate of 12% from the date that benefits are due until paid. This provision applies to all unpaid benefits, regardless of whether the dispute over the entitlement to the income benefits was in good faith. Once the claim is decided, interest will be paid on all past due PPD and TTD benefits. If an ALJ determines that a delay was without "reasonable foundation" then the rate is 18%. This statutory amount was set in 1982. Many feel that the market has changed since that time, and the rate should be adjusted accordingly. Suggestion has made to reduce the rate to 6%. In addition, some have argued that if the claim is delayed by the claimant, interest should not accrue.

KRS 342.040 is amended to read as follows:

(1) Except as provided in KRS 342.020, no income benefits shall be payable for the first seven (7) days of disability unless disability continues for a period of more than two (2) weeks, in which case income benefits shall be allowed from the first day of disability. All income benefits shall be payable on the regular payday of the employer, commencing with the first regular payday after seven (7) days after the injury or disability resulting from an occupational disease, with interest at the rate of **six** [~~twelve]~~ percent **(6%)** (~~12]~~%) per annum on each installment from the time it is due until paid, except that if the administrative law judge determines that a denial, delay, or termination in the payment of income benefits was without reasonable foundation, the rate of interest shall be **twelve** [~~eighteen~~] percent **(12%**)[~~18%)~~] per annum. In no event shall income benefits be instituted later than the fifteenth day after the employer has knowledge of the disability or death. Income benefits shall be due and payable not less often than semimonthly. If the employer's insurance carrier or other party responsible for the payment of workers' compensation benefits should terminate or fail to make payments when due, that party shall notify the commissioner of the termination or failure to make payments and the commissioner shall, in writing, advise the employee or known dependent of right to prosecute a claim under this chapter.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 5: **Adjust the cap on attorney fees.**

Explanation

The argument has been put forward that the workers' compensation bar is aging and new attorneys are not practicing workers compensation due to reduced attorneys' fees plus the costs of preparing cases. Many claim that injured workers are having a hard time finding qualified attorneys to take their cases. KRS 342.320 sets the maximum for attorneys' fees at $12,000 for employee and employer attorneys. The employee's attorney's fee is limited to 20% of the first $25,000; 15% of the next $10,000, and 5% of the remainder of the award. The fees have not been addressed since 1996 when the maximum was reduced from $15,000 to $12,000. This proposal simply raises the cap on fees from $12,000.00 to $18,000.00. Only claims with awards over $145,000.00 would be affected.

KRS 342.320 is amended to read as follows:

(1) All fees of attorneys and physicians, and all charges of hospitals under this chapter, shall be subject to the approval of an administrative law judge pursuant to the statutes and administrative regulations.
(2) In an original claim, attorney's fees for services under this chapter on behalf of an employee shall be subject to the following maximum limits:
(a) Twenty percent (20%) of the first twenty-five thousand dollars ($25,000) of the award, fifteen percent (15%) of the next ten thousand dollars ($10,000),] and five percent (5%) of the remainder of the award, not to exceed a maximum fee of ***eighteen***[~~twelve~~] thousand dollars ***($18,000)***[(~~$12,000~~)]. ***Annually, the commissioner shall compute, in accordance with KRS 342.740, the increase or decrease in the state average weekly wage and consistent with this computation, shall adjust the maximum amount of attorney fees allowed in this section.*** This fee shall be paid by the employee from the proceeds of the award or settlement; and
(b) Attorney-client employment contracts entered into and signed ***on or*** after ***the effective date of this Act***[~~July 14, 2000~~], shall be subject to the conditions of paragraph (a) of this subsection.

* * *

(8) Attorney's fees for representing employers in proceedings under this chapter pursuant to contract with the employer shall be subject to approval of the administrative law judge in the same manner as prescribed for attorney representation of employees. Employer attorney's fees are subject to the limitation of *eighteen* [~~twelve~~] thousand dollars *$18,000* [~~($12,000)~~] maximum fees, except that fees for representing employers shall not be dependent upon the result achieved. Employer attorney's fees may be paid on a periodic basis while a claim is adjudicated and the payments need not be approved until the claims resolution process is completed. Fees for legal services in presenting a claim for reimbursement from the Kentucky coal workers' pneumoconiosis fund shall not exceed one thousand dollars ($1,000). All

such approved fees shall be paid by the employer and in no event shall exceed the amount the employer agreed by contract to pay.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 6: Clarifying the intent of the four year reopening window.

Explanation

An insurance company must properly set reserves for all its workers comp claims and therefore needs a date certain upon which the claim cannot be reopened. Pursuant to KRS 342.730, a reopening could happen up to four years from the original award or order; however, recent case law in Hall v. Hospitality Resources, Inc. and Dana Corporation v. Roberts has changed the original meaning and interpretation according to some members of the workers' comp community. The courts have held that the four year reopening window is restarted every time there is a subsequent order awarding income benefits. Many believe this was not the intent of the statute and that the original intent of the statute should be restored. This proposal would make it clear that the four year reopening window opens at the time of the original award and closes four years thereafter.

KRS 342.125 is amended to read as follows:

(3) Except for reopening solely for determination of the compensability of medical expenses, fraud, or conforming the award as set forth in KRS 342.730(1)(c)2., or for reducing a permanent total disability award when an employee returns to work, or seeking temporary total disability benefits during the period of an award, no claim shall be reopened more than four (4) years following the date of the original **final** award or order granting or denying benefits, **or in the event of an appeal therefrom, the date of the final determination granting or denying relief,** and no party may file a motion to reopen within one (1) year of any previous motion to reopen by the same party. **Orders granting benefits subsequent to the original**

final award or order granting or denying benefits shall not be considered to be an original final award under this subsection.

* * *

(8) The time limitation prescribed in this section shall apply to all claims irrespective of when they were incurred, or when the award was entered, or the settlement approved. However, claims decided prior to December 12, 1996, may be reopened within four (4) years of the **original** award or order or within four (4) years of December 12, 1996, whichever is later, provided that the exceptions to reopening established in subsections (1) and (3) of this section shall apply to these claims as well.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 7: Allowing claimants to request a lump sum of smaller awards.

Explanation

Income benefits can be for extremely small amounts per week. Many claimants would prefer to get a lump sum amount rather than have a small weekly amount. It is an additional administrative cost for insurance carriers to send weekly checks. Currently, all parties must agree before an award is paid in a lump sum. This proposal would allow the claimant to obtain a lump sum when the weekly award is $50.00 or less.

KRS 342.265 is amended to read as follows:

(3) Upon lump-sum settlement of future periodic payments, the discount rate used in the calculation of the settlement amount shall not exceed a reasonable amount fixed by the commissioner.[For settlements approved after December 12, 1996, until December 31, 1997, the true discount rate shall be

six percent (6%) compounded annually on each payment.] Before January 1 of each year commencing in 2001, the commissioner shall fix the discount rate to be utilized in the succeeding year based at one-half of one percent (0.5%) below the interest rate paid upon ten (10) year United States Treasury Notes as of August 1 of the preceding year. ***A claimant may require an award or settlement of less than fifty dollars ($50) per week be paid in one (1) lump sum.***

(4) If the parties have previously filed an agreement which has been approved by the administrative law judge, and compensation has been paid or is due in accordance therewith and the parties thereafter disagree, either party may invoke the provisions of KRS 342.125, which remedy shall be exclusive.

(5) An application for resolution of claim shall be held in abeyance during any period voluntary payments of income benefits are being made under any benefit sections of this chapter to the maximum which the employee's wages shall entitle unless it shall be shown that the prosecution of the employee's claim would be prejudiced by delay.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 8: Allow employers to take a credit for wages against any TTD that may be awarded.

Explanation

Recent case decisions have indicated that employers cannot take credit for wages paid to an employee while on light duty against a subsequent award of TTD. This provision specifies that a credit is allowable. Senate Bill 151 and House Bill 311 were proposed during the 2016 session and were similar to the language found below.

KRS 342.730 is amended to read as follows:

(7) **Income benefits otherwise payable pursuant to this chapter for temporary total disability during the period the employee has returned in a light duty or other alternative job position shall be offset by the payment of wages paid to the employee by his or her employer during the period of light duty work performed.**

(8) If an employee receiving a permanent total disability award returns to work, that employee shall notify the employer, payment obligor, insurance carrier, or special fund as applicable.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 9: Adopt presumptions for firefighters that develop certain types of cancer.

Explanation

This proposal creates a rebuttable presumption that certain cancers are considered work related if the firefighter meets certain criteria such as exposure to certain carcinogens, length of time worked, does not use tobacco products, and a diagnosis within a certain time of the last exposure. In 2015, HB 156 created this presumption. Paid and volunteer firefighters are exposed to carcinogens that have been proven in studies to cause certain cancers. At least 30 states have created cancer presumptions for firefighters.

KRS 95A.262 is amended to read as follows:

(1) The Commission on Fire Protection Personnel Standards and Education shall, in cooperation with the Cabinet for Health and Family Services, develop and implement a continuing program to inoculate every paid and volunteer firefighter in Kentucky against hepatitis B. The program shall be funded from revenues allocated to the Firefighters Foundation Program fund pursuant to KRS 136.392 and 42.190. Any fire department which has inoculated its personnel during the period of July 1, 1991 to July 14, 1992, shall be reimbursed from these revenues for its costs incurred up to the amount allowed by the Cabinet for Human Resources for hepatitis B inoculations.
(2) Except as provided in subsection (3) of this section, the Commission on Fire Protection Personnel Standards and Education shall allot on an annual basis a share of the funds accruing to and appropriated for volunteer fire department aid to volunteer fire departments in cities of all classes, fire protection districts organized pursuant to KRS Chapter 75, county districts established under authority of KRS 67.083,

and volunteer fire departments created as nonprofit corporations pursuant to KRS Chapter 273. The commission shall allot eight thousand dollars ($8,000) annually to each qualifying department, and beginning on July 1, 2001, the commission shall allot eight thousand two hundred fifty dollars ($8,250) annually to each qualifying department. Any qualifying department which fails to participate satisfactorily in the Kentucky fire incident reporting system as described in KRS 304.13-380 shall forfeit annually five hundred dollars ($500) of its allotment. If two (2) or more qualified volunteer fire departments, as defined in KRS 95A.500 to 95A.560, merge after January 1, 2000, then the allotment shall be in accordance with the provisions of KRS 95A.500 to 95A.560. Administrative regulations for determining qualifications shall be based on the number of both paid firefighters and volunteer firemen within a volunteer fire department, the amount of equipment, housing facilities available, and such other matters or standards as will best effect the purposes of the volunteer fire department aid law. A qualifying department shall include at least twelve (12) firefighters, a chief, and at least one (1) operational fire apparatus or one (1) on order. Fifty percent (50%) of the firefighters shall have completed at least one-half (1/2) of one hundred fifty (150) training hours toward certification within the first six (6) months of the first year of the department's application for certification, and there shall be a plan to complete the one hundred fifty (150) training hours within the second year. These personnel, equipment, and training requirements shall not be made more stringent by the promulgation of administrative regulations. No allotment shall exceed the total value of the funds, equipment, lands, and buildings made available to the local fire units from any source whatever for the year in which the allotment is made. A portion of the funds provided for above may be used to purchase group or blanket health insurance ***for volunteer firefighters.***[and] ***A portion of the funds provided for above*** shall be used to purchase workers' compensation insurance ***for all paid and volunteer firefighters employed by or volunteering for fire departments organized under KRS Chapter 67, 67A, 67C, 75, 95, or 273 and recognized by the Commission on Fire Protection Personnel Standards and Education.***[, and] The remaining funds shall be distributed as set forth in this section.

A New Section of KRS Chapter 95A is created to read as follows:

(1) This section applies to all firefighters employed by or volunteering at fire departments organized under KRS Chapter 67, 67A, 67C, 75, 95, or 273 and recognized by the Commission on Fire Protection Personnel Standards and Education.
(2) Cancer, resulting in either temporary or permanent disability or death, shall be presumed to be an occupational disease as defined in KRS 342.0011 and compensable as such under KRS Chapter 342 if the following conditions exist:
(a) A person, who has been employed as a firefighter or served as a volunteer firefighter for five (5) or more years for this Commonwealth, develops one (1) of the cancers listed in subsection (3) of this section and has not used tobacco products for a period of ten (10) years prior to the diagnosis of cancer; and
(b) It is demonstrated that the firefighter was exposed while in the course of firefighting to a known carcinogen as defined by the International Agency for Research on Cancer or the National Toxicology Program, and that the carcinogen is reasonably associated with the disabling cancer.
(3) This section shall apply to the following disabling cancers:
(a) Bladder cancer;
(b) Brain cancer;
(c) Colon cancer;
(d) Non-Hodgkin's lymphoma;
(e) Kidney cancer;
(f) Liver cancer;
(g) Lymphatic or haematopoietic cancer;
(h) Prostate cancer; and

(i) Testicular cancer.
(4) Compensation for a disabling cancer awarded pursuant to this section and KRS Chapter 342 to the person who, for five (5) years or more, has been employed or volunteered in this Commonwealth as a firefighter, working in the interest of the health and safety of the inhabitants of the Commonwealth, or to his or her dependents, shall include the following:
(a) Full reimbursement for all medical expenses in accordance with the schedule of fees and charges established pursuant to KRS Chapter 342 or, if the insurer has contracted with an organization for managed care or with providers of health care pursuant to KRS Chapter 342, the amount that is allowed for the treatment or other services under that contract; and
(b) The compensation provided in KRS Chapter 342 for the disability or death.
(5) (a) The disabling cancer is presumed to have developed or manifested itself out of and in the course of employment or voluntary service of any person who, for five (5) years or more, has been employed or volunteered in this Commonwealth as a firefighter, working in the interest of the health and safety of the inhabitants of the Commonwealth.
(b) This rebuttable presumption shall apply to a disabling cancer, as set forth in subsection (3) of this section, diagnosed during a firefighter's employment or service as a volunteer firefighter as specified in this section or after the termination of the person's employment or voluntary service if the diagnosis occurs within a period which begins with the last date the firefighter actually worked or volunteered in the qualifying capacity and extends for a period calculated by multiplying three (3) months by the number of years of the firefighter's employment or voluntary service, but the period shall not exceed sixty (60) months.
(c) This rebuttable presumption shall control the awarding of benefits pursuant to this section unless the presumption is rebutted by a preponderance of the evidence.
(d) The rebuttable presumption shall only apply to a firefighter who does not currently use tobacco products and who did not use tobacco products during the ten (10) years immediately preceding the firefighter's diagnosis of cancer.
(6) The rebuttable presumption established in this section shall exist only during periods in which workers' compensation coverage required to be purchased under subsection (2) of Section 1 of this Act is in force. During any time period in which that coverage is not provided because the Commission on Fire Protection Personnel Standards and Education has not purchased and paid the premium for the workers' compensation insurance, the rebuttable presumption shall not exist.
(7) Nothing in this section creates an irrebuttable presumption.

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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<u>Issue 10</u>: Amending the subrogation statute.

<u>Explanation</u>:

Subrogation of a workers' compensation claim is allowed against a third party who is responsible for an employee's injury. KRS 342.700(1) only mentions collection of indemnity benefits and not medical benefits, which is approximately 57% of a workers' comp claim. In addition any collection that is accomplished is less the employee's legal fees and expense. This proposal would address this issue. Insurance carriers argue that subrogation is unnecessarily difficult due to current case law.

KRS 342.700 is amended to read as follows:

(1) Whenever an injury for which compensation is payable under this chapter has been sustained under circumstances creating in some other person than the employer a legal liability to pay damages, the injured employee may either claim compensation or proceed at law by civil action against the other person to recover damages, or proceed both against the employer for compensation and the other person to recover damages, but he shall not collect from both. If the injured employee elects to proceed at law by civil action against the other person to recover damages, he shall give due and timely notice to the employer and the special fund of the filing of the action. If compensation is awarded under this chapter, the employer, his insurance carrier, the special fund, and the uninsured employer's fund, or any of them, having paid the compensation or having become liable therefor, may recover in his or its own name or that of the injured employee from the other person in whom legal liability for damages exists, not to exceed the indemnity ***<u>and medical benefits</u>*** paid and payable to the injured employee[~~, less the employee's legal fees and expense~~]. The notice of civil action shall conform in all respects to the requirements of KRS 411.188(2).

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on this issue. If you disagree with this issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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Issue 11: Require the Commissioner to develop or adopt treatment guidelines and/or a drug formulary by July 1, 2019.

Explanation:

Treatment guidelines are standards of care based on the best available medical evidence for specific injuries. Twenty-seven states have the ODG ("Official Disability Guidelines") or a portion of ODG with other guidelines. Nine states have their own treatment guidelines. Eight other states are considering some type of treatment guidelines. Thirteen states have no guidelines. In KRS 342.035, the commissioner of the DWC has permission to adopt parameters or guidelines for clinical practice. There was only low back parameters that was adopted but not used. An amendment should be made to make this mandatory with a date to create or adopt treatment guidelines.

A drug formulary is a preferred list of prescription drugs that are approved to treat an employee's injury. The development of prescription formularies is generally based on evaluations of efficacy, safety, and cost effectiveness of a drug. Four states have drug formularies in place and one more is creating a formulary by 2017.

(8) (a) The commissioner shall develop or adopt practice parameters or **treatment** guidelines for clinical practice for use by medical providers under this chapter **on or before July 1, 2019**. The commissioner may adopt any parameters for clinical practice as developed and updated by the federal Agency for Health Care Policy Research, or the commissioner may adopt other parameters for clinical practice which are developed by qualified bodies, as determined by the commissioner, with periodic updating based on data collected during the application of the parameters. **The commissioner shall develop or adopt a pharmaceutical formulary on or before July 1, 2019 for medications prescribed for the cure and relief from the effects of a work injury or occupational disease.**

Please circle one to indicate your position on this issue:

Agree Neutral Disagree

Please fully explain your position on each the issue of treatment guidelines and a drug formulary. If you disagree with either issue, please explain below and specify additional changes which if made could change your opinion. Please also specify if you can never agree with this issue.

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List below other changes that you think could be agreed upon that are not previously mentioned in this questionnaire. Please give details as to what statutory changes are needed and would be accepted.

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Appendix U

Results of Questionnaire 3

Results of 2016 Workers' Compensation Task Force Questionnaire #3

***Note:** Anyone who put agree and disagree were counted as "neutral". Repetitive comments were only listed once.

A. Issue 1: Repealing statutes dealing with black lung that have been found unconstitutional.

6 Agree
4 Neutral
9 Disagree

- **Issue 1 Comments**

  Agree:

  1. The proposed language is consistent with Vision Mining v. Gardner.
  2. Should examine passing legislation to replace process and make sure not to expand occupational disability claims.
  3. I agree the KRS 342.792 and KRS 342.794 should be repealed. As for KRS 342.316, I agree that there are some areas where requirements should be deleted but I also think that the proposed amendment could use more revisions.

  Neutral: Would need to see the full package.

  Disagree:

  1. The summary to this is extremely misleading. Instead of removing the unconstitutional provisions as the summary indicates, this change mandates those unconstitutional provisions apply to all pneumoconiosis claims. The B reader process has been held unconstitutional and has been the subject of fraud investigations. To require that unconstitutional process for other claims is merely creating more litigation. Removing the B reader process that was held unconstitutional would be acceptable, but that is not what the language change does.
  2. Although we agree there is a need to make statutory revisions to address language that has been deemed unconstitutional by the courts, we think simply returning to the previous language is not the answer. Currently there are several other issues dealing with the adjudication of CWP claims that need to be addressed and are not resolved by the recommended language above, and it is our position that all of these issues need to be more fully reviewed and addressed together.

B. Issue 2: Adopt specific guidelines regarding frequency of drug screens.

15 Agree

1 Neutral
3 Disagree

- **Issue 2 Comments**

  Agree:

  1. If a drug test is done in excess, a person feels like a criminal.
  2. Agree with the conclusion, but this should be done in a regulation and not statute.
  3. KY Board of Medical Licensure have their regulation.
  4. I am in agreement, given that the physician and patient determine the frequency of the drug testing.
  5. I agree but I still believe that the testing amounts needs to be controlled by the doctor and that there cannot be a predetermined schedule of testing.
  6. We agree with the recommended changes but have suggested additional language following "other pertinent factors": "absent circumstances which present an indication of medical necessity for additional screenings."
  7. This is a good start.

  Neutral: Better to leave this in a regulation. Then it would be easier to change than if it is in a statute.

  Disagree:

  1. With current opioid epidemic, this would be tying the hands of employers and put the lives of non-altered employees in danger and is irresponsible. KY needs to adopt the drug free workplace program similar to TN.
  2. My disagreement with this language is that it does not define "other pertinent factors", so it will create increased medical fee disputes. In addition, a doctor that thinks a drug screen is needed should be able to order the drug screen. The better practice is to require the doctor to provide an explanation for drug screens more frequent than every 6 months.

C. Issue 3: Allowing for an increase in income benefits in three different ways. First, (a) amend provisions of KRS 342.730 to increase the termination of benefits beyond the normal retirement age, second (b) increase the cap on average weekly wage to assist higher wage earners, and third (c) adjust the statutory factors to increase the income benefits for all claimants.

- **Issue 3 (a)**

  9 Agree
  0 Neutral
  10 Disagree

  - **Issue 3 (a) Comments**

Agree:

1. KRS 342.730(4) discriminates against older workers. Employers are enjoying savings with older workers by not paying for training and replacing workers. Because of the financial necessity and due to improved health, Kentucky's workers are electing to work longer. Employers enjoy the savings by keeping such employees in the work force longer thus saving training costs for replacing these workers and by retaining experienced, productive employees. Older workers enjoy continued payments into the retirement system, the self-worth in continued employment and earning taxable wages. The system wins by retaining our best, experienced workers. Under the present law, it is possible for a severely injured older worker to receive only TTD benefits and no permanent partial or total benefits due to a catastrophic work injury. NCCI has calculated the cost for this benefit in 2013 and 2015 to have a small impact on the system.
2. Agree, provided however that survivorship benefits would also be paid the claimant's 70th birthday or 5 years whichever is later.
3. The work force is aging and the cap has devastating effect on older workers that have returned to the work place due to a child moving back home.

Neutral:

Disagree:

1. Will increase costs to small employers. In order to agree, would have to see a package that includes subrogation, pharmacy fee schedule, etc. Plus a full actuarial report.
2. Changes in income benefits should be considered as part of a larger evaluation of the total cost to the system including medical expenses (and specifically medical cost containment measures) and indemnity benefits, with particular focus on measures which support returning injured workers to the workforce.
3. Changes in income benefits cannot be considered in isolation. The total cost to the system in addition to any benefits provided must be considered in tandem. It is important to create a workers' compensation system that fairly balances the interests of injured workers and employers that provide medical and indemnity benefits. Medical cost containment measures need to be paired with a focus on returning injured workers back to work.

- **Issue 3 (b)**
  9 Agree

1 Neutral
9 Disagree

- **Issue 3 (b) Comments**

  Agree:

  1. I am in favor of changing KRS 342.730 to allow payment of TTD benefits to be based upon 120% of the state average weekly wage and 85% of the state average weekly wage in calculating maximum permanent partial disability benefits. During the course of the Task Force meetings, it became apparent that high wage workers are severely impacted by our workers compensation statutes and placed under severe financial distress through no fault of their own.
  2. Agree but to be fair to high wage earners, the TTD and PTD benefits should be increased to 130% of the State's average weekly wage and PPD benefits increased to 100% of the State's average weekly wage.
  3. This change is needed. Employers pay premiums based on the full wages paid, so employers that pay wages greater than the state average weekly wage are [paying premiums at a higher rate even though their injured worker is paid at the lower rate. In addition, the injured worker is already losing income when they are drawing workers comp as it pays less than most workers bring home pay. Higher wage earners are hit really hard as they frequently only receive about 50% or less of their regular pay, which causes them to lose cars and homes.

  Neutral: Open to supporting if cost is determined.

  Disagree:

  1. Will increase costs to small employers. In order to agree, would have to see a package that includes subrogation, pharmacy fee schedule, etc. Plus a full actuarial report.
  2. Changes in income benefits should be considered as part of a larger evaluation of the total cost to the system including medical expenses (and specifically medical cost containment measures) and indemnity benefits, with particular focus on measures which support returning injured workers to the workforce.
  3. Changes in income benefits cannot be considered in isolation. The total cost to the system in addition to any benefits provided must be considered in tandem. It is important to create a workers' compensation system that fairly balances the interests of injured workers and employers that provide medical and indemnity benefits. Medical cost containment measures need to be paired with a focus on returning injured workers back to work.

- **Issue 3 (c)**

9 Agree
0 Neutral
10 Disagree

- **Issue 3 (c) Comments**

  Agree:

  1. I am in favor of the changes proposed to KRS 342.730 that change the factors to reflect the medical reality of permanent work injuries. It has been proven during litigation case after case that impairment ratings below 11% can be just as much or more occupationally disabling than higher AMA ratings. A retained 5% AMA rating is just as real to an injured worker as a worker who retains a 15% rating and the real issue in each workers' compensation case is application of the multipliers. When the 1996 law was passed there were no statistics presented to support why an injured worker should be penalized for retaining an impairment below 11%. There are many total disability awards appropriately made to workers retaining less than an 11% AMA because of the limitations of the injury. The AMA Guides were never intended to be used to make disability awards and the authors note that in the Guides themselves.
  2. Agree but factors should be increased as follows:
     0 to 20% ---- 1.50
     21 to 25% ---- 1.75
     26 to 30% ---- 2.00
     31 to 35% ---- 2.25
     36 & over--- 2.50
  3. These factors have needed to be adjusted upward for some time.

  Neutral:

  Disagree:

  1. Will increase costs to small employers. In order to agree, would have to see a package that includes subrogation, pharmacy fee schedule, etc. Plus a full actuarial report.
  2. Changes in income benefits should be considered as part of a larger evaluation of the total cost to the system including medical expenses (and specifically medical cost containment measures) and indemnity benefits, with particular focus on measures which support returning injured workers to the workforce.
  3. Changes in income benefits cannot be considered in isolation. The total cost to the system in addition to any benefits provided must be considered in tandem. It is important to create a workers' compensation system that fairly balances the interests of injured workers and employers that provide medical and indemnity benefits.

Medical cost containment measures need to be paired with a focus on returning injured workers back to work.

D. Issue 4: Reduce the interest rate on past due benefits and indicate no interest shall accrue while the claim is delayed to actions on the claimant.

10 Agree
1 Neutral
8 Disagree

- **Issue 4 Comments**

Agree:

1. Part of the purpose in awarding interest on past due benefits is to ensure that carriers pay benefits in a timely fashion. The interest rates contained in KRS 342.040 are probably not fair in the context of our current financial climate. However, the same could be said if the law was applied to the 1970's when interest rates were at an all-time high. I am not against this proposal as long as it is part of the comprehensive program of changes but would suggest that the interest rate be indexed.
2. Interest is too high for current economics. Rather than have a fixed amount, we prefer it be prime plus a reasonable number with a cap.
3. I do not agree with changing the interest rate. It is simple interest instead of compound. More importantly, if the carrier would pay the benefits when owed, then there will not be any interest owed anyway. So, the only time interest is owed is when the carrier fails to pay benefits. However, I would be willing to agree to this change if all the benefit increases in Issue 3 are implemented and there is an increase in attorney fees without a cap.
4. While the proposed change is reasonable and necessary, it does not address the situation in which a claim is delayed due to the actions of the claimant, not the employer. In those situations, there should be a provision providing for no interest to the claimant based on his/her responsibility for the delay.
5. We agree that the overall rate needs to be reduced but more review is necessary to determine the actual change to the rate and whether the rate should be indexed. In addition, the proposed language does not address the "no interest" issue when a claim is delayed due to actions of the claimant.

Neutral: Affects only minority of small business owners. Negligible benefits to employers.

Disagree:

1. Never support this measure. Benefits should be paid properly and not delayed.

2. Interest is not required if the benefits are paid in a timely manner.
3. Probably never support. I would consider supporting such a change, provided however, there are specific statutory provisions for unfair claims practices with fines going to the claimants instead of the Treasurer. If benefits are timely paid, interest is not an issue.

E. Issue 5: Adjust the cap on attorney fees.

8 Agree
3 Neutral
8 Disagree

- **Issue 5 Comments**

  Agree:

  1. The attorney fee statute needs to be changed to reflect the problem of injured workers not being able to secure representation in workers' compensation claims. Those that practice workers' compensation are part of an aging bar where there is little to no incentive for young attorneys to enter this area of practice. The cases have become much more complicated and litigation expenses have become so burdensome that lower wage earners cannot even find attorneys who will represent them. Additionally, the plaintiff's bar has the additional burden of representing claimants regarding medical disputes and the moral dilemma presented is whether to represent claimant's in such actions when there is no compensation versus knowing that injured worker will not prevail in the medical dispute. I know of few areas in the work force where people will work for free and with approximately 1500 medical disputes being filed per year, this is an enormous burden on claimants' attorneys. I think the cap should be $20,000 and I think that attorneys should be able to charge 20% of the first $25,000 recovered, 15% of the next $50,000 recovered and 10% of any remaining benefits recovered not to exceed $20,000. An alternative solution would be to require the Commissioner to establish a medical dispute litigation fund utilizing a portion of fines and sanctions recovered by DWC each year to be paid to an attorney who is successful in representing an injured worker in a medical dispute up to $2,000 from that fund.
  2. Cap has been there a long time. An adjustment seems reasonable.
  3. Lawyers should be fairly compensated. An increase will be incentives to keep and attract new bright and talented attorneys.
  4. Since attorney fees are paid by claimants it is essential that increases in claimant benefits are calculated to reflect any increase in attorney fees so that increases in benefits (or current benefit levels) are not

reduced due to an increase in attorney's fees. Also, attorney's fees need to be provided in medical fee disputes. The cap should be increased commensurate with increases in the state's average weekly wage.

5. Agree and Disagree: There are only two states with caps on attorney fees, which Kentucky is one. With so many states holding attorney fee caps as unconstitutional, there should not be a cap on attorney fees. If there is a cap, it should be increased to $22,000 which represents the present value of the 1994 and 1996 caps based on the State's average weekly wage.

Neutral: While I agree with increasing attorney fees, this does not go far enough. This change does not increase the number of attorneys that will handle a comp claim nor does it allow an attorney to represent claimants with lower impairment ratings in difficult cases. The fees need to be increased to 20% of the first 50,000 and 10% of any remainder without a cap on the fee. Only one other state has a cap on the fee and it is significantly higher than Kentucky's cap.

Disagree:

1. Will increase costs to small businesses. In order to agree, would have to see a package that includes subrogation, pharmacy fee schedule, etc.
2. The cost to the system and the benefits to the injured employee need to be the primary focus of any change considered. Changes to attorney fees should be secondary to any other changes to the system. In addition, more information is needed in order to evaluate this proposal. Specifically, any increase should include how the added fee would overall impact the benefits to the claimant.

F. Issue 6: Clarifying the intent of the four year reopening window.

10 Agree
0 Neutral
9 Disagree

- **Issue 6 Comments**

Agree:

1. If the change to this section is part of comprehensive workers' compensation change then I would be in favor of amending KRS 342.125.
2. Court decisions have completely undermined intent of the statute. It is intended to be 4 years from the first original decision.
3. This suggested change is very good. The recommended revisions to the proposed language, contained above in red, would eliminate any question about the intention of the statute. We would recommend

incorporating the proposed changes, or similar language, to clarify further the intention of the statute as follows: Delete "~~**shall not be considered to be an original final award under this subsection**~~ **"** and insert the following: "**do not extend the time to reopen beyond four (4) years from the original final award or order granting or denying benefits."**

Neutral:

Disagree:

1. Will increase costs to small business. Would have to be part of a broader package.
2. Reopening time period should be increased.
3. The reopening provisions should be increased to a minimum of eight (8) years or based upon age at the time of the injury.
4. I disagree with this provision but would be willing to agree to this provision if there is the income benefit increases of Issue 3 and attorney fees are increased as I have suggested with no cap.
5. Reopening should be for a minimum of 12 years.

G. Issue 7: Allowing claimants to request a lump sum of smaller awards.

9 Agree
1 Neutral
9 Disagree

- **Issue 7 Comments**

Agree:

1. I am in favor; however, I would adopt the recommendation of former Chief Administrative Law Judge Landon Overfield who thought that weekly awards of $75.00 should be permitted. The cost savings from amending this statute is apparent. Many cases will be resolved by settlement which will mean a savings of litigation and administrative costs.
2. This change will encourage an expedient resolution of cases; will save costs.

Neutral: Concerned about claimant not saving the lump sum for medical and other expenses, but understand the desire of insurance companies to settle these claims.

Disagree:

1. Will increase costs for small businesses. Would consider if this was part of a broader package.
2. Amendment of the statute to allow employees to elect payment of small award in a lump sum may have a significant detrimental impact on self-insured employers. In addition, it fails to recognize the

purpose of making awards for injuries resulting in a less significant impairment, i.e. to supplement the income of the employee to the same extent his/her ability to earn wages is impacted.

3. The overall principle of paying a small weekly award in a lump sum may be appropriate, but the exact dollar figure must be investigated further to determine its impact on cash flow demands, particularly for self-insureds. Notwithstanding the previous statement, an injured worker should not be entitled to
payment of a lump sum, regardless of the amount, if an equal amount was offered but declined prior to the award.

H. Issue 8: Allow employers to take a credit for wages against any TTD that may be awarded.

10 Agree
2 Neutral
7 Disagree

- **Issue 8 Comments**

Agree:

1. Although I think this issue has been resolved by our appellate courts, I would not disagree with this proposal as long as it is part of a comprehensive change to the program. I think this provision should even go one step further in changing the statute to allow partial temporary total disability benefits as NCCI reports there to be an overall cost savings to the program.
2. This could be written better.
3. The groups represented by the signatories to this letter supported this proposed statutory change that was contained in SB 151 considered during the 2016 session.

Neutral:

1. This was cured by the court. Codifying the decision is no gain to employers and negligible trading value.
2. Would agree if the employee had the choice of light duty or disability leave.

Disagree:

1. The criteria for determining what constitutes "light-duty" needs to be clarified so that claimants are not relegated to work which is not meaningful.
2. I would only support if the claimants are granted the option to choose between TTD benefits or light duty work. The light duty work should be meaningful work and not made up busy work. The Claimant should not have clean up or sit in the break room.

3. I disagree with this provision as it encourages employers to reduce wages or hours of an injured worker. I could support this provision if it was based on after tax and other deductions so that it was based on the actual bring home pay of the worker being credited against TTD and if the income benefits of issue 3 are implemented and the attorney fees are increased as I suggested with no cap.

I. Issue 9: Adopt presumptions for firefighters that develop certain types of cancer.

10 Agree
1 Neutral
8 Disagree

- **Issue 9 Comments**

  Agree:

  1. In today's workforce most jobs have seen a reduction in injuries due to the hazards of the job. In the firefighting profession the opposite has occurred. Although equipment and personal protective equipment is the state of the art the hazards that firefighters are exposed to are more dangerous than ever.

     Many of the materials that burn today burn hotter and faster and give off more carcinogens in the atmosphere. These carcinogens then enter the firefighter's body through absorption or inhalation. Materials used to be made of natural material but now products now are not made from natural materials and burn off as highly toxic material.

     Following the lungs, the skin is the body's second largest organ in area and it is highly absorptive. Some areas of skin are more permeable than others, specifically the face, the angle of the jaw, the neck and throat and the groin. Skin's permeability increases with temperature and for every 5° increase in skin temperature, absorption increases **400%**.

     There have been several scientific studies that link certain cancers to firefighting. Studies from the University of Cincinnati, NIOSH, Australian and others show that firefighters contract the following cancers.

     - Testicular cancer (2.02 times greater risk)
     - Skin Cancer (1.39 times greater risk)
     - Non-Hodgkin's lymphoma (1.51 times greater risk)
     - Prostate cancer (1.28 times greater risk)
     - Brain cancer (1.31 times greater risk)
     - Colon cancer (1.21 times greater risk)
     - Leukemia (1.14 times greater risk)

- Bladder (1.20 times greater risk)
- Kidney (1.07 times greater)
- Liver (1.04 times greater)
- Breast Cancer increase in women were found in NIOSH study in San Francisco

Reviews by NCCI covering firefighters' cancers as negligible and this would be the case in Kentucky as well with the limited number of cancers, the tobacco free restrictions.

34 other states have workers comp coverage for its firefighters and results of costs have shown it has been negligible throughout the country.

If groups or people just look at it from a dislike of presumptions then they are ignoring science and is a dis-service to those that protect the citizens of the Commonwealth.

2. I have no objection to this proposal as long as it is part of a comprehensive change to our program.
3. The same presumption should be extended to police officers.
4. Kentucky League of Cities (KLC), which has supported the language in previous sessions as it has been reproduced in this questionnaire. KLC's support for the proposal is based on the overall cost saving for city government employers because of the state's assumption of worker's compensation premium payments for firefighters and the language that ensures there would be no presumption in the event that the state failed to provide workers' compensation coverage for full time firefighters.

Neutral:

Disagree:

1. This bill has been tried. A compromise was reached. To propose again might undo the compromise.
2. This proposal does not take into account lifestyle factors like smoking. Negligible trade value for employers.
3. While private sector employers may not see added workers' compensation costs from the specific language provided, this change would set a dangerous precedent in that presumptions for certain cancers for other occupations could be developed in such a way that system costs increase.

J. Issue 10: Amending the subrogation statute.

9 Agree
1 Neutral
9 Disagree

- **Issue 10 Comments**

  Agree:

  1. This change corrects the statute to recognize the total liability created for an employer when an employee is injured due to the negligence of a third party tortfeasor.
  2. This change would ensure that appropriate funds are returned to an employer or a carrier when a third party is involved.

  Neutral: This proposal will never happen as a stand-alone language. Need to see whole package of trades.

  Disagree:

  1. I am against this provision as stated, but would be willing to discuss potential changes to the statute that reasonably addresses the appellate court decisions that have dealt with this very complicated issue. I think the phrase, "less the employee's legal fees and expenses", should be retained in the statute.
  2. Current system is fair.
  3. The courts have dealt with this under AIK v Bush.
  4. KJA does not oppose reimbursement for medical benefits paid by a workers' compensation insurer. And KJA does not oppose equitable recovery for all parties. However, the elimination of legal fees and costs, without clarification, harms everyone. Example: an employee is injured on the job by a negligent motorist. The employer's comp carrier pays the employee $50,000 in medical payments and $50,000 in partial wage reimbursement (under the Workers Compensation Act an employee can recover, at most, 2/3 of past wage loss). The at-fault motorist has $25,000 of liability coverage, which is the minimum required by law. Under one interpretation of proposed KRS 342.700, the workers' compensation insurer would be entitled to all $25,000 of the negligent motorist's liability insurance even though the injured employee is out-of-pocket at least $25,000 in lost wages ($75,000 in lost wages minus $50,000 paid by the comp carrier). An injured employee then must turn to other forms of government assistance to compensate for what he or she should have recovered from the liability insurer the very reason for insurance. Furthermore, if the negligent motorist disputes liability, the employee must hire counsel. But the employee and counsel have no incentive to

do so under the proposed version of the statute, leaving the costs and burden of litigation exclusively on the workers' compensation insurer. In short, without further clarification, employees cannot be made whole, government assistance sources are needlessly depleted, and employees have no incentive to seek recovery, effectively shifting all costs of recovery to the employer/comp carrier. For these reasons, many states require that the injured employee first be made whole and most states require that legal costs and fees be equitably shared by the employee's counsel and the comp carrier based on the work performed by each.

K. Issue 11: Require the Commissioner to develop or adopt treatment guidelines and/or a drug formulary by July 1, 2019.

9 Agree
1 Neutral
8 Disagree

- **Issue 11 Comments**

Agree:

1. The adoption of treatment guidelines and a drug formulary will meet the important goals of containing medical costs associated with work-related injuries which ensuring injured workers receive necessary and appropriate medical care.
2. Requiring the adoption of treatment guidelines and a drug formulary is an important step in helping contain costs within the system while also ensuring that injured workers are provided appropriate care and treatment.

Neutral: This will never happen without input from the Kentucky Medical Association. Will reserve opinion until I see the whole package of trades and KMA input.

Disagree:

1. I do not agree with this position as it assumes that a need has been demonstrated that Kentucky needs to adopt treatment guidelines and a drug formulary. I think the first issue to be resolved is whether we need a change to our medical treatment guidelines and I think the resounding evidence is that we do not need these guidelines. Dr. James Bean testified as a part of this process and noted that medical decisions would be made by physicians of unknown reputation about patients that they have never seen. I think that this issue first needs to be vetted with the Kentucky Medical Association as they will be most affected by this proposed legislation. Furthermore, statistics indicate that the cost of the medical services has been reduced from 68 cents of every workers' compensation dollar to a little over 57 cents per dollar. All of the expert testimony confirms that Kentucky's medical

costs are near if not the lowest of our surrounding states. It was further pointed out that there are many treatment guidelines and that different states have adopted their own guidelines or one of the many that are available commercially. Dr. Travis is closely associated with the ODG Guidelines and cannot be considered an impartial party to this issue. Recently, the ODG Guidelines were withdrawn from the National Guideline Clearinghouse after learning they were going to be dropped because of questions regarding evidence behind their conclusions. I also do not think there is support for a drug formulary. Only a few states have enacted such provisions and there is little to scant evidence for Kentucky to rely upon in order to make any type of move in that direction. Also, it is apparent that HB 1 has had a tremendous effect in combating drug use and/or abuse. The adoption of treatment guidelines or a drug formulary brings into questions whether a Kentucky citizen will be able to choose their doctor to treat their work-related injury or whether this treatment will be dictated by unknown entities outside of Kentucky. I do think the Commissioner could conduct an investigation of these issues without the need for any specific legislation to determine whether Kentucky even needs to move in this direction. This needs to be done before any legislation is proposed.

2. Treatment decisions should remain between the treating physician and the patient based on the fee schedules in place. ODG guidelines are unnecessary and interfere with medical choices based on the needs and circumstances of individual patients. Drug formularies are also unnecessary and also interfere with the choices of treating physicians and their patients.
3. Any and all treatment should be between the patient and their physician per the fee schedules. The ODG are not, and if there is a need for treatment guidelines then evidence based guidelines should be used. They should be Kentucky specific and not from other states.
4. Treating doctors should be making the decision on what treatment and medication an injured work needs instead of a bureaucrat. Treatment guidelines are an assembly line approach to medicine and people should not be treated like machines.
5. Formularies and guidelines artificially restrict physicians and limit medical treatments provided to injured workers. Formularies favor cost savings over treatment access and although guidelines can be a resource for physicians, when they become a requirement or checklist for treatment, the patient-physician relationship is eroded and medical judgment is undermined. The system works best when doctors are free to exercise their medical judgment to address and treat individual patients and their individual needs.

Other changes that task members think could be agreed upon that are not previously mentioned:

1. Cumulative Trauma - I do think in the context of cumulative trauma that there might be consensus on the issue of whether there needs to be a statute of limitations and a statute of repose for these types of claims. Terri Smith Walters testified that she believes that a uniform statute similar to occupational disease claims should be enacted. I think that any cumulative trauma claim should be filed within two (2) years of when a claimant is informed of the work-related cumulative trauma, or two (2) years from the last date of employment not to exceed a maximum of three (3) years from the last date of employment.

   A statute of repose should be implemented with regard to cumulative trauma claims. This can be accomplished by revising KRS 342.185(1) to add the following to the very end KRS 342.185(1): "The right to compensation under this chapter resulting from an injury or death shall be forever barred unless a claim is filed with the commissioner within five (5) years of the date after the last injurious exposure for the purposes of a cumulative trauma claim."

2. Fawbush Multipliers Mess - As former Chief Administrative Law Judge Overfield noted, a substantial amount of appeals involve interpretation of the application of the 3X multiplier. The appellate courts have addressed this issue on multiple occasions. KRS 342.730 needs to be revised to make clear when injured workers are entitled to benefits utilizing the 3X multiplier and when the 2X multiplier is to be applied. I think all stakeholders would be in agreement that this section of the statute as it is now being interpreted is a mess and taking up an inordinate amount of time in the litigation system. Let's correct KRS 342.730.
3. This process has been an eye opening experience for me. The Workers Comp system in my experience has been a blessing and a curse. I am on the ground level of the process and just a firefighter that makes runs and I have done so 17 plus years. I have had a few minor injuries but luckily nothing too serious. I have seen some major issues that need to be addressed. There is little to no transparency in the workers comp system and a lack of explanation of rights to the employees. This puts the person at a disadvantage from the start and can cause harm to the employee employers and the taxpayer.
4. When and employee is injured and in my line of work usually are your typical strains and sprains. Those can be treated with physical therapy and usually the person is back at work in a matter of time. Many times there is a delay in treatment by the system when a MRI should be ordered and surgery is probably needed. The delay in proper treatment forces those in the public safety field to go out on disability and in the pension system early. This delay in treatment cause an increase in costs to the employer and taxpayer since the injured person is usually covered by someone else getting overtime pay.

5. Due to the exerted and stressful work firefighters should be covered of heart and strokes. The physical and mental stress as well as going from zero to full active physical exertion that can be compared to professional athletes can take a toll on the body. This can lead to heart attacks and strokes. Heart attacks are covered by the federal government with death benefits. So if a firefighter has a heart attack and dies he or she gets federal, state and local death benefits. If they live they receive a large medical bill since workers comp does not cover them.
6. Everyone should be able to agree that ALJ's and Board members should have at least 5 years of workers' compensation experience and remove the language that allows other comparable experience as every witness that addressed the subject agreed that there were no comparable areas of the practice of law.
7. Likewise, everyone should be able to agree to change the language on utilization review from saying it shall be preformed to saying it may be preformed. This way, when the carrier has a Defense medical evaluation, it does not have to also pay for UR.
8. Benefit Review Conferences and Hearings should be held within 50 miles of the injured workers' home.
9. Reduce forms required of injured workers.
10. Employers required to provide notice of the injured worker's right to select treating doctors.
11. Following settlement or Award, no settlement or waiver of medicals for three years.
12. Attorney fees for medical disputes.
13. Blended classifications for premiums;
14. Funding Commission to eliminate the Special Fund liability via lump sum settlements and/or purchasing annuities to pay off the remaining liabilities;
15. Once settled by agreement or Award, medical benefits may not be settled for three (3) years;