Report of the Co-Chairs of the Task Force on Childhood Obesity

(2011 House Concurrent Resolution 13)

Research Memorandum No. 509

Legislative Research Commission
Frankfort, Kentucky

September 2012

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Foreword

The Task Force on Childhood Obesity was established by the 2011 General Assembly with enactment of House Concurrent Resolution 13. The task force was charged with studying issues relating to childhood obesity and strategies for addressing the problem of childhood obesity and encouraging better nutrition and increased physical activity among children. To achieve the goals of the task force, the members chose to consider current trends in childhood obesity in Kentucky; ongoing programs to improve childhood nutrition and physical activity in Kentucky schools and communities; and recommendations for program implementation, expansion, or sustainability. The task force was to report to the Legislative Research Commission any recommendations for legislative action.

The task force co-chairs wish to thank the task force members, all individuals who attended task force meetings, and those who provided research and testimony: the Cabinet for Health and Family Services; the Education Cabinet; Mission Readiness; Kosair Children's Hospital; the Department of Pediatrics at the University of Louisville; Clay County School System; the Department of Kinesiology and Health Promotion, College of Education, University of Kentucky; the Kentucky Environmental Education Council; the Kentucky Chapter of the American Academy of Pediatrics; the Kentucky National Guard; Food, Nutrition and Consumer Services, United States Department of Agriculture; the Food Studies Institute; Whole Foods Market; Inez Elementary School; Jefferson County Public Schools; Kentucky Youth Advocates; the American Heart Association; Shaping Kentucky's Future Collaborative; Kentucky YMCA; Department of Pediatrics at the University of Kentucky; China-Oxford-Cornell Diet and Health Project; The Cleveland Clinic Wellness Institute; Zachary Taylor Elementary School; and the Foundation for a Healthy Kentucky.

Robert Sherman
Director

Legislative Research Commission
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Summary

Established by 2011 House Concurrent Resolution 13, the Task Force on Childhood Obesity was created to study issues relating to childhood obesity and to recommend to the General Assembly strategies for addressing the problem of childhood obesity by encouraging better nutrition and increasing physical activity among children through their schools and communities. Kentucky has one of the highest rates of childhood obesity in the United States. Obesity is defined as an excess of fatty tissue under the skin in proportion to the total weight of bones, muscle, and organs. Kentucky ties with Mississippi for the highest percentage of youth in grades 9 to 12 that are obese, at 18 percent. Kentucky has the third highest percentage of children ages 10 to 17—21 percent—categorized as obese, compared to 16.4 percent nationally. Kentucky ties with Maryland and North Carolina for eighth place in the percentage of low-income children ages 2 to 4 years who are obese, at 15.7 percent.

The primary concerns about the increasing trend in childhood obesity are the effects on health in both childhood and adulthood and the associated societal consequences. In Kentucky, 51 percent of young adults ages 18 to 24 are overweight or obese. If a child is obese in adolescence, there is an increased chance of being an obese adult, and there is evidence that an earlier age of onset of obesity-related diseases, such as diabetes, may be associated with more severe health consequences in adulthood. Kentucky already has one of the highest rates of type 2 diabetes in the nation.

Some of the increase in childhood obesity can be attributed to societal changes influencing nutrition and levels of physical activity. Increased portion sizes, increased media advertising, increased availability of energy-dense foods, increased cost of fruits and vegetables, and limited availability of fresh fruits and vegetables have resulted in a lower consumption of nutritious foods in schools and at home.

Many schools have eliminated physical education classes and recess, citing increasing educational demands and difficult financial times. Children spend more time watching television or playing video games than they do engaging in physical activities. The Centers for Disease Control and Prevention recommends 60 minutes per day of aerobic physical activity. Data from the State Youth Risk Behavior Survey shows that only 40 percent of Kentucky high school students were physically active at least 60 minutes per day on 5 or more days of the previous week. The percentage of Kentucky high school students who attended physical education classes on 1 or more days of an average school week was 33 percent.

The societal consequences of childhood obesity include impacts on medical costs, worker productivity, and national security. The estimated obesity-attributable medical expenditures among adults in Kentucky for 2003 was $1.2 billion, and the estimated annual cost to the workforce for obesity-related conditions is $400 per worker. National security also may be at risk from the number of young adults who are overweight or obese and are consequently ineligible to serve in the military.

Numerous programs and initiatives across Kentucky have been implemented in the past 10 years to address prevention and prevalence of childhood obesity by improving school nutrition

standards, incorporating nutrition education into the school curriculum, and increasing community partnerships for greater access to healthy foods in communities. Kentucky is one of 20 states along with the District of Columbia that have stricter school nutrition standards than the United States Department of Agriculture. Kentucky also is one of 35 states along with the District of Columbia that have nutritional standards for competitive foods. In 2005, Kentucky legislation passed that requires nutrition standards for competitive food sales in schools.

While Kentucky is cited nationally as a leader in school nutrition, presenters to the task force discussed improvements necessary for schools to prepare nutritious foods, such as updating refrigeration and surface preparation areas, educating nutrition specialists in school, and expanding and supporting site-based nutrition advisory councils.

Encouraging children to make healthy choices is an additional challenge. Food choices are culturally determined, and without a change in food culture, healthy choices are less likely to be made. One method for teaching children about healthy food choices is to integrate nutrition education into the school curriculum. The Food is Elementary Program and the Jefferson County Schools Food Service Program are two nutrition program curricula being used in some Kentucky schools.

Programs that involve community partnerships have made efforts to teach children about healthy food choices. Whole Foods Market and the Rockin' Appalachian Mom Project helped Martin County develop community and school gardens, healthy eating education, school salad bars, and a backpack snack program.

The Kentucky Farm to School program is a collaborative effort between federal and state agencies to bring local agricultural products to schools, to educate students about local food production, and to increase long-term demand for local products. There are currently 1,243 schools representing 174 school districts with farm-to-school programs in Kentucky.

The Kentucky YMCA has partnered with schools, districts, and foundations to implement the Y-5210 program that promotes children eating five fruits or vegetables per day, watching less television or playing video games, getting more physical activity, and drinking no sugar-sweetened beverages. The practical living standards for Kentucky schools are consistent with the components of Y-5210. The program is currently in Jefferson, Hardin, and Hopkins Counties.

Increasing physical activity is also an essential strategy for preventing and reducing childhood obesity. Specific strategies considered by the task force for improving childhood physical activity include incorporating physical activity into the school curriculum and increasing opportunities for physical activities in communities.

Kentucky currently allows, but does not require, 150 minutes per week of physical activity during class instruction time that does not have to be during a specific physical education class. Some schools have developed classroom-based physical activity and nutrition education from kindergarten to 5th grade.

Community partnerships can encourage physical activity in communities. The Kentucky Green and Healthy Schools program merges physical activity with environmental education. As part of the program, students investigate the school environment, then design and implement small but significant school improvement projects based on research findings. Currently, more than 200 schools are enrolled in the program.

Kosair Children's Hospital partnered with the Clay County School System in a pedometer program for students and families. This program is grant funded and includes elementary student and family involvement, physical fitness challenges, and an educational component. Clay County officials reported that the program has encouraged students to want to meet short- and long-term physical health goals.

Shared-use agreements are formal or informal partnerships to share facilities between a local school district and other agencies such as city governments, parks and recreation departments, and the YMCA. The facilities can include outside tracks and fields, swimming pools, fitness centers, and gymnasiums.

Some environmental factors influence physical behavior, such as availability of sidewalks and bike paths, access to safe places to play and be active, access to public transportation, and residential and commercial developments that incorporate pedestrian and public transport use. Two initiatives to increase physical activity include "complete streets" policies and the Safe Routes to School Program, both of which encourage communities to consider pedestrian and bicycle traffic needs when designing roadways.

Recommendations

The members of the Task Force on Childhood Obesity are encouraged to continue their advocacy efforts to address Kentucky's health crisis in ways that have the greatest likelihood of preventing and reversing chronic diseases associated with childhood obesity.

Reversing Kentucky's childhood obesity epidemic will require Kentucky leaders to better understand the relationship between obesity, diet, and disease. Therefore, every parent, teacher, and Kentucky leader is encouraged to watch the Kentucky Educational Television (KET) video of the November 15, 2011, meeting of the Task Force on Childhood Obesity and to use the video and or the books *The China Study* by Dr. T. Colin Campbell and *Prevent and Reverse Heart Disease* by Dr. Caldwell B. Esselstyn, the featured speakers in the video, to introduce young people to the connection between a healthy diet, weight loss, and long-term health. The DVD can be purchased through LRC Public Information or the video can be viewed on KET at www.ket.org/legislature/archives.php by selecting "2011 Interim Session" and scrolling to "November 15 Task Force on Childhood Obesity."

HCR 13 charged the task force to make recommendations to the General Assembly for strategies that address the problem of childhood obesity and that encourage better nutrition and increased physical activity among children. Meeting that charge, the task force co-chairs recommend the General Assembly take the following actions.

The task force co-chairs recommend the General Assembly take action to achieve the following goals by the year 2020:

- Adopt a statewide organized, integrated system of physical activity initiatives and nutrition education strategically planned and adequately funded through public and private partnerships to improve health, prevent and reverse disease, and stimulate the local food economy through supporting a sustainable food system that will increase access to healthy food and spur economic development in both urban and rural communities.
- Reduce the level of childhood obesity with a goal to rank Kentucky in the top 10 states with the lowest levels of childhood obesity.
- Adopt a nationally recognized physical activity and nutrition education program in all Kentucky schools with a curriculum focused on science-based research showing the correlation between the consumption of unprocessed fruits and vegetables and disease prevention.
- Create a coordinated data collection system for state health indicators including type 2 diabetes, high blood pressure, high blood cholesterol, coronary heart disease, childhood obesity, and physical activity levels for children of all ages.
- Determine the degree to which children in grades kindergarten to 12 have access to and are consuming seven servings of fruits and vegetables per day and eliminating sugar-sweetened beverages and salty snacks during school hours.

The task force co-chairs recommend the General Assembly take the following actions to improve nutrition and nutrition education in schools and communities:

- Require schools to improve actual nutritional content of school meals served.
- Require school districts to comply with current Kentucky Revised Statutes and show evidence thereof.
- Encourage schools to have vegetable gardens and reward student participation in meal preparation and family garden activities.
- Make incentive grants available for schools to improve and update school kitchens to increase access and opportunities for students to select nutrient-rich fresh produce.
- Require continuing nutrition education for school nutrition specialists to include science-based research linking antioxidant-rich fruits and vegetables to disease prevention. This may include using research from the James Graham Brown Cancer Center at the University of Louisville and the nationally recognized T. Colin Campbell Foundation.
- Create incentives for schools to adopt practical, disease-prevention-focused curricula modeled after programs such as the T. Colin Campbell Foundation online nutrition education program and the research of the James Graham Brown Cancer Center's Prevention and Control Program that has shown certain fruits, vegetables, and spices to inhibit and repair DNA damage.
- Support community partnerships with schools to demonstrate the unique health and economic benefits of providing schools with gardens that make it possible for Kentucky schools to eliminate deep fryers and to introduce students to a wide variety of fruits, vegetables, and spices that are especially high in antioxidants while showing students how to prepare healthy meals using produce and high fiber products.
- Encourage the Kentucky Department of Education to create incentives for schools to improve the nutrition of school meals by increasing the amount of Kentucky grown produce and other

antioxidant-rich foods and to decrease the use of processed foods, sugar, salt, saturated fats, and sugary drinks.

- Challenge the Kentucky Department of Education to implement a plan for Kentucky to become a national model in addressing childhood obesity and associated chronic diseases by aggressively implementing public and private partnerships as well as incentives for families of students to increase the number of servings of fruits, vegetables, and antioxidant-rich spices and herbs consumed.
- Encourage the Department for Public Health and the Department of Agriculture to strive to make Kentucky a top tier state in addressing childhood obesity and associated chronic diseases by promoting fiber-rich, whole-grain foods and seven daily servings of fruits and vegetables.
- To accomplish these ends and to better educate food service and nutrition directors, teachers, and students on the life-long benefits of good nutrition, the Kentucky Department of Education may want to work with a nationally acclaimed nonprofit organization affiliated with a major, highly selective university with a leading online nutrition education program that provides a nationally recognized program for dietetics credits for dieticians, continuing education units, and continuing medical education professional credits or at a minimum make available to teachers, students, and foodservice nutrition directors a copy of the November 15, 2011, Task Force on Childhood Obesity meeting in the Chamber of the House of Representatives as recorded by KET. The DVD can be purchased through LRC Public Information or the video can be viewed on KET at www.ket.org/legislature/archives.php by selecting "2011 Interim Session" and scrolling to "November 15 Task Force on Childhood Obesity."

The task force co-chairs recommend the General Assembly take the following actions to increase opportunities for physical activity and education in schools and communities:

- Clarify Kentucky Revised Statutes to make it clear that schools that allow community use of their facilities are immune from liability.
- Specify that schools may charge a nominal fee for recreational use of their facilities and consider creating a statute that specifically addresses the recreational use of school facilities.
- Encourage biking and walking by incorporating sidewalks and bike lanes into community design, including funding for biking and walking in highway projects.
- Support Safe Routes to School programs and implement traffic-calming measures designed to improve traffic flow.
- Address physical activity through a coordinated school health program that includes an assessment of the school's health policies and programs and development of a plan for improvement.
- Create incentives for schools to adopt curricula that increase opportunities for students to engage in physical activity during the school day that go beyond national standards.
- Encourage the Kentucky Department of Education to evaluate and assess physical activity programs in schools and to create financial incentives for schools to improve physical activity programs in schools.
- Encourage the Kentucky Department of Education to strive to make Kentucky a national model in addressing childhood obesity by aggressively implementing creative solutions to improve physical activity in schools and establish an organized mechanism to encourage schools to implement programs across all grade levels.

- Encourage the Department for Public Health and the Transportation Cabinet to strive to make Kentucky a top tier state in addressing childhood obesity by improving opportunities for physical activity for all citizens and communities.

Chapter 1

Introduction

The Task Force on Childhood Obesity was created by 2011 House Concurrent Resolution 13 to study issues relating to childhood obesity and to recommend to the General Assembly strategies for addressing the problem of childhood obesity by encouraging better nutrition and increasing physical activity among children through their schools and communities. Chapter 1 reviews statistics on the incidence of childhood obesity and summarizes the causes and consequences of childhood obesity. Chapter 2 provides an overview of strategies for improving child nutrition. Chapter 3 describes strategies for increasing physical activity.

Definition of Obesity

Obesity is defined as an excess of fatty tissue under the skin in proportion to the total weight of bones, muscle, and organs (Stedman's). There are numerous measures of obesity. Some commonly used measures include relative weight, the body mass index (BMI), and the ponderal index. These weight-to-height ratios can provide general indicators of excess body fat but do not take into account individual differences in bone structure or muscle mass. They also do not differentiate between central obesity and peripheral obesity. Central obesity is indicated by excess fat around the abdomen; peripheral obesity is indicated by excess fat around the hips. Central obesity poses greater risk for obesity-related diseases than does peripheral obesity. Two common measures that address the deficiencies of weight-to-height ratios include skin-fold measures and the waist-to-hip ratio.

For adults, the status of obese is determined by actuarial tables that are specific to each measurement. Tables specifically designed for children are used to determine childhood obesity because the amount of body fat differs for girls and boys and changes with maturation and age.

Statistics on Childhood Obesity

The percentages of children categorized as obese vary by the data source. Most published data on childhood obesity come from the Centers for Disease Control and Prevention (CDC) or the federal Department of Health and Human Services. The CDC collects data related to childhood obesity from three major sources. National data relating to childhood obesity are collected by the National Health and Nutrition Examination Survey (NHANES) and published for children and adolescents ages 2 to 19. This survey is unique in that it combines interviews and physical examinations. Data from NHANES show that, in 2008, the percentage of children ages 2 to 19 who were obese in the United States was 17 percent, up from 5.5 percent in 1980. Among preschool children ages 2 to 5, the NHANES data show that the percentage categorized as obese in the United States increased from 5 percent in 1980 to 10.4 percent in 2008. Among children ages 6 to 11, the NHANES data show that the percentage categorized as obese in the United States increased from 6 percent in 1980 to 16.9 percent in 2008. Among adolescents ages 12-19,

the NHANES data show that the percentage categorized as obese in the United States increased from 5 percent in 1980 to 18.1 percent in 2008 (Ogden).

The NHANES data indicate that there are substantial differences by sex, race, and ethnicity in childhood obesity. The percentage of obese girls ages 12 to 19 in 2008 in the United States was highest for non-Hispanic blacks at 29.2 percent, compared to 17.4 percent for Mexican Americans and 14.5 percent for non-Hispanic whites. The percentage of obese boys ages 12 to 19 in 2008 in the United States was highest for Mexican American boys at 26.8 percent, compared to 19.8 percent for non-Hispanic blacks and 16.7 percent for non-Hispanic whites (Ogden).

The CDC also reports data collected by the Pediatric Nutrition Surveillance System (PedNSS) for low-income children ages 2 to 4 for the United States and each state. PedNSS is a child-based public health surveillance system that describes the nutritional status of low-income children who participate in federally funded maternal and child health and nutrition programs. A majority of the data are from the Women, Infant, and Children supplemental nutrition program that serves children up through age 4. The PedNSS data show that nationally, approximately 1 in 7 low-income children ages 2 to 4 were obese in 2008. These data also show that in 2008, Kentucky tied with Maryland and North Carolina for eighth place in the percentage of low-income children ages 2 to 4 who were obese, at 15.7 percent (US. Centers. Obesity).

Additionally, the CDC collects data on the prevalence of obesity through the Youth Risk Behavior Surveillance System (YRBSS). YRBSS includes biennial national, state, and local school-based surveys of representative samples of students in grades 9-12. The CDC partners with the Kentucky Department of Education to collect data specific to Kentucky using YRBSS. The 2009 YRBSS shows that Kentucky ties with Mississippi for the highest percentage of youth in grades 9-12 that are obese, at 18 percent (US. Centers. Youth).

The US Department of Health and Human Services' Maternal and Child Health Bureau of the Health Resources and Services Administration collects data through the National Survey of Children's Health and reports data on obesity for children ages 10 to 17 by state. According to these data, in 2007, Kentucky had the third highest percentage of children ages 10 to 17 categorized as obese, at 21 percent, compared to 16.4 percent nationwide (National Survey).

These four data sources use the body mass index specifically formulated for children to measure obesity. A BMI-for-age is interpreted by using growth charts with age- and sex-specific percentiles. A BMI-for-age that is equal to or greater than the 95th percentile has a weight status category of obese. Children of different ages may have the same BMI-for-age and have different weight status categories. For example, a 10-year-old boy with a BMI-for-age of 23 would be in the obese category, and a 15-year-old boy with a BMI-for-age of 23 would be in the healthy weight category. While this BMI tool does not measure body fat directly, research has shown that BMI correlates to direct measures of body fat, such as underwater weighing (US. Centers. About).

In December 2011, the Kentucky Department of Education, through administrative regulation, added the BMI-for-age to the physical forms required to be completed for entry into kindergarten and 6th grade for all schools.

The CDC categorizes children between the 85th and 95th percentiles as overweight and children at or above the 95th percentile as obese. Some published sources of data on childhood obesity report obesity and overweight in combination. For example, data from the National Survey of Children's Health show that in 2007, Kentucky had the fourth highest percentage of children ages 10 to 17 categorized as obese and overweight, at 37.1 percent, compared to 31.7 percent nationwide (National Survey).

Causes of Childhood Obesity

Obesity is caused by multiple and complex factors, including genetic influences, however genetics alone do not account for the dramatic increase in the prevalence of obesity. The increase in childhood obesity can be attributed to societal changes influencing nutrition and levels of physical activity, such as being less active, eating more processed foods, and drinking more sugary drinks (Campbell).

Nutrition

A healthy diet is important for weight control and mental health. Cultural changes in eating behaviors have increased the number of calories consumed by children and decreased the nutritional value of those calories. Increased portion sizes, increased media advertising, increased availability of energy-dense foods, increased cost of fruits and vegetables, and limited availability of fresh fruits and vegetables have resulted in a lower consumption of nutritious foods in schools and at home (Bor). These changes have led to fewer young people eating the daily number of servings, as specified by the United States Food and Drug Administration: three to five servings of vegetables daily and two to four servings of fruit daily, depending upon the age and sex of the child. In 2009, 86 percent of Kentucky high school students ate fruits and vegetables fewer than five times per day, fewer than 20 percent ate any fruit during a week, and almost 90 percent ate vegetables fewer than 3 times per day (US. Centers. Youth).

Physical Activity

Physical activity can help children maintain a healthy weight and can impact student behavior, attention, and cognition. Cultural changes have increased sedentary behavior and limited access to opportunities for physical activity. Many schools have eliminated physical education classes and recess, citing increasing educational demands and difficult financial situations as reasons. Children spend more time watching television or playing video games than they do engaging in physical activities. The CDC recommends children engage in 60 minutes per day of aerobic physical activity (US. Centers. Physical). Data for Kentucky on physical activity levels for children of all ages is not available. The CDC's State Youth Risk Behavior Surveys report that only about 40 percent of Kentucky high school students were physically active at least 60 minutes per day on at least 5 days of the previous week. More than 15 percent of Kentucky

high school students did not participate in at least 60 minutes of physical activity on any day during the previous week. The percentage of Kentucky high school students who attended physical education classes on 1 or more days of an average school week was 33 percent. The percentage of high school students who played on at least one sports team was 48 percent.

Numerous programs and initiatives across Kentucky have been implemented in the past 10 years to address prevention and prevalence of childhood obesity. Chapters 2 and 3 provide an overview of some of the programs related to child nutrition and physical activity as presented to the Task Force on Childhood Obesity.

Consequences of Childhood Obesity

The primary concerns about the increasing trend in childhood obesity are the effects on health and quality of life in both childhood and adulthood and the associated societal consequences.

Health Consequences

The United States has the highest rate of obesity among industrialized countries and ranks 50th in life expectancy among all countries. In 2011, the estimated average life expectancy at birth in the US was 78.4 years, compared to 89.7 years in Monaco (US. Central). In 2007 in the United States, Kentucky ranked 43rd among all states with an average life expectancy of 76.2 years compared to first-ranked Hawaii with 81.5 years (Kaiser).

One study estimates that obesity decreases the average number of years a person is expected to live at age 50 by 1.54 years for women and 1.85 years for men. Overall, obesity rates in the United States account for about one-fifth to one-third of the lower life expectancy in the United States compared to other countries (Preston).

The increase in childhood obesity may add to a relatively shorter life expectancy in the United States in the future because the duration of obesity over the life span may increase mortality caused by obesity. Studies have demonstrated that being overweight at age 3 and having at least one overweight parent are strong predictors of becoming obese. If a child is overweight by age 9, he or she is 11 to 30 times more likely to be an obese young adult (Bolling).

There also is evidence that an earlier age of onset of obesity-related diseases may be associated with more severe health consequences in adulthood. Diseases once considered to be adult conditions such as type 2 diabetes are increasingly appearing in children. While the diagnosed incidence of type 2 diabetes is low nationally, less than 1 percent, more than 75 percent of children with type 2 diabetes are obese (US. Dept. of Health). Of all children born in 2000, an estimated one in three will develop type 2 diabetes (Narayan).

Data on the prevalence of type 2 diabetes among children in Kentucky is not available. The Kentucky rate for diagnosed diabetes for adults in 2009 was the fourth highest in the nation, at 11.4 percent, compared to a national median of 8.3 percent.

Additional medical consequences of childhood obesity include hypertension, coronary artery disease, high cholesterol, obstructive sleep apnea, increased asthma severity, stress on joints, fatty liver, early puberty, and gastrointestinal problems. The mental health consequences of obesity include social stigma, depression, and low self-esteem.

Quality of life is a concern, particularly when obesity is combined with other poor health conditions. Individuals with multiple chronic health conditions are less physically active and more likely to experience physical and mental distress than individuals with one or fewer chronic health conditions. Numerous quality of life measures, including general life satisfaction, depression, and job satisfaction, have also been linked to obesity (Chen).

Societal Consequences

The societal consequences of childhood obesity include impacts on medical costs, worker productivity, and national security.

Medical Costs. Medical costs associated with obesity may involve direct and indirect costs, including preventive, diagnostic, and treatment services related to obesity. The medical care costs of obesity in the United States totaled about $147 billion in 2008. Medical costs paid for people who are obese were $1,429 per year higher than those of people who are normal weight (Finkelstein. Annual). The estimated obesity-attributable medical expenditures among adults in Kentucky for 2003 was $1.2 billion (Finkelstein. State-Level).

Worker Productivity. The Kentucky Chamber of Commerce stated that Kentucky's health status, including the high prevalence of obesity "has a significant impact on the business community, increasing employers' health care costs and hindering their ability to hire a healthy and productive workforce." Obesity may have a significant economic impact because of the lost income from decreased productivity, restricted activity, absenteeism, increased hospitalization, and premature death. Data for Kentucky are not available, but obesity is estimated to cost United States employers $73 billion in lost productivity each year (Finkelstein. The costs). The estimated annual cost of obesity to the workforce for the United States is $400 per worker (Thomson).

National Security. Approximately 25 percent of the population ages 17 to 24 is ineligible to join the military because of weight problems. Further, the military discharges more than 1,200 first-term enlistees before the end of their enlistments because of weight problems every year. As a result, the military must recruit and train replacements at a cost of $50,000 per enlistee. The military spends more than $1 billion annually to treat obesity-related problems of military personnel and their families under the military's health care system. This is in addition to the cost of treating obesity-related problems under the Veterans Administration health care system. In Kentucky, 51 percent of young adults ages 18 to 24 are overweight or obese, which means they are ineligible to serve (Mission). The number of Kentucky military recruits per 1,000 declined from 2.53 in 2007 to 1.94 in 2010, lowering Kentucky's state ranking from 19th to 34th in the number of recruits (National Priorities).

Recommendations

The task force co-chairs recommend the General Assembly take action to achieve the following goals by the year 2020:

- Adopt a statewide organized, integrated system of physical activity initiatives and nutrition education strategically planned and adequately funded through public and private partnerships to improve health, prevent and reverse disease, and stimulate the local food economy through supporting a sustainable food system that will increase access to healthy food and spur economic development in both urban and rural communities.
- Reduce the level of childhood obesity with a goal to rank Kentucky in the top 10 states with the lowest levels of childhood obesity.
- Adopt a nationally recognized physical activity and nutrition education program in all Kentucky schools with a curriculum focused on science-based research showing the correlation between the consumption of unprocessed fruits and vegetables and disease prevention.
- Create a coordinated data collection system for state health indicators including type 2 diabetes, high blood pressure, high blood cholesterol, coronary heart disease, childhood obesity, and physical activity levels for children of all ages.
- Determine the degree to which children in grades kindergarten to 12 have access to and are consuming seven servings of fruits and vegetables per day and eliminating sugar-sweetened beverages and salty snacks during school hours.

Chapter 2

Nutrition

This chapter will provide an overview of current policies in Kentucky that address nutrition. It will discuss specific strategies considered by the task force for improving childhood nutrition, including improving school nutrition standards, incorporating nutrition education into the school curriculum, and increasing the use of community partnerships to improve access to healthy foods in communities.

Under Kentucky law, each school district is required to appoint a food service director who is responsible for the management and oversight of the food service program in the district (KRS 158.852). The school food service director is responsible for menu planning and must hold a School Food Service and Nutrition Specialist credential or a level 2 certificate issued by the American School Food Service Association. School cafeteria managers must annually receive at least 2 hours of continuing education in applied nutrition and healthy meal planning and preparation. Kentucky law also requires each school food service director to annually assess school nutrition in the district, including the nutritional value of all foods and beverages available to students. The director is required to issue a written report to parents, the local school board, and school-based decision making councils on the list of foods and beverages that are available to students, including the nutritional values of listed items and recommendations for improving the school nutrition environment. The Kentucky Board of Education is required to develop an assessment tool for each school district to use to evaluate its physical activity environment. The evaluation is required to be completed annually and released to the public at the time the nutrition report is released. The local school board is required to discuss the findings of the nutrition report and physical activity report and seek public comments during a special publicly advertised or regularly scheduled board meeting following the release of the reports (Sparks). The Kentucky Department of Education reports that all districts complete a school health assessment, however, the extent of compliance with the additional requirements is not clear.

School Nutrition Standards

The National School Breakfast (NSB) program and the National School Lunch Programs (NSLP) serve approximately 31 million students per year. The programs require students to receive protein, fruit, vegetable, grain, and milk every day. The Healthy, Hunger-Free Kids Act of 2010 includes the regulatory authority covering all foods sold in schools during the school day. The changes add more fruits, vegetables, whole grains, and fat-free and low-fat milk to school meals. Schools are also required to limit the levels of saturated fat, sodium, calories, and trans fat in meals.

More than 1,300 public, private, and parochial schools and residential child care institutions provide a daily breakfast to more than 180,000 students and lunch to approximately 480,000 students in Kentucky. Some counties participate in the federal community eligibility option that

provides an alternative to household applications for free and reduced-price meals in high-poverty areas that agree to serve all students free lunches and breakfasts for 4 successive school years. These counties include Carter, Christian, Clay, Elliott, Floyd, Harlan, Knox, Lee, Madison, McCreary, Monroe, Owsley, Pike, and Wolfe as well as the independent schools in Jenkins, Mayfield, and Paducah Counties (Thornton).

Kentucky is one of 20 states and the District of Columbia that have stricter school nutrition standards than the US Department of Agriculture. Kentucky also is one of 35 states and the District of Columbia that have nutritional standards for competitive foods. In 2005, Kentucky passed Senate Bill 172 that required nutrition standards for competitive food sales in schools. "Competitive food" means any food or beverage items sold in competition with the NSB and NSLP. Minimum nutritional standards for all foods and beverages sold outside the NSB and NSLP are specified by 702 KAR 6:090. This administrative regulation addresses serving size, sugar content, and fat content of the foods and beverages. No school may sell competitive foods or beverages from the time of the arrival of the first student at the school building until 30 minutes after the last lunch period. Habitual violations of five times or more within a 6-month period result in a 6-month ban on competitive foods sales for the violating school. School-day-approved beverages are water, 100 percent fruit juice, low-fat milk, and any beverage that contains no more than 10 grams of sugar per serving. Only school-day-approved beverages may be sold in elementary schools during the school day in vending machines, school stores, canteens, or fundraisers (Sparks).

While Kentucky is cited nationally as a leader in school nutrition, presenters to the task force discussed improvements necessary in the ability of school cafeterias to prepare nutritious foods by updating refrigeration and surface preparation areas, increasing education for nutrition specialists in schools, improving the actual nutrition content of school meals, and expanding and supporting site-based nutrition advisory councils.

School Nutrition Curricula

Providing for nutrition standards and healthy food alternatives in school is important, but as several presenters to the task force noted, encouraging children to make healthy choices is an additional challenge. Food choices are culturally determined, and without a change in food culture, healthy choices are less likely to be made. One method for teaching children about healthy food choices is to integrate nutrition education into the school curriculum. Two nutrition program curricula in practice in Kentucky were presented to the task force: Food is Elementary and the Jefferson County Schools Food Service Program.

Food is Elementary

The President of the Food Studies Institute stated that "parents need to begin cooking with their children at an early age, because when children get involved in the preparation of the food, they will learn to eat healthier" (Demas). To help parents in this effort, she developed a sensory-based hands-on curriculum for children; Food is Elementary. The program started in 2007 and is now in 3,000 schools nationwide, including 8 schools in Louisville. The goal of the program is to

retrain children's palates in a nonjudgmental way so that they request healthy foods. Children are encouraged to develop healthier food habits.

Food is Elementary starts with food safety and builds to cooking lessons. If children are allowed to help prepare foods, they may be more likely to eat it. Food also is used in art classes. Students keep food journals as part of the language arts school curriculum. Food is used to teach about fractions in mathematics and is used in science experiments. The program also exposes children to other cultures and geographical locations by serving foods from other countries. Children can share what they have learned with their families and help them make healthier food choices.

One study found that if the program could prevent one case of diabetes among the 13,000 students in the 130 participating schools, the program could be cost saving. The estimated average per person cost of the program for 1 year is about $229. The average cost of diabetes treatment for one student for 1 year is $6,650. Approximately one-third of young children are expected to develop diabetes in their lifetimes. For all children born in 2010 in Kentucky, this cost could be as much as $112 million per year. All schools that have implemented the Food is Elementary curriculum have shown improvement in their student's knowledge about nutritious food (Demas).

Jefferson County Schools Food Service Program

The Jefferson County Public Schools School Food Service Program serves 61,000 students lunch each day and serves 31,000 students breakfast. A model has been developed to contract with local farmers to provide a variety of produce. The school system received 33 US Department of Agriculture Fresh Fruit and Vegetable grants that offer students a fresh fruit or vegetable snack 3 days per week. The system works with local chefs to help revise recipes to reduce sodium content. There are 35 student nutrition advisory councils at all school levels in Jefferson County. Students meet periodically to sample new items for school menus and provide other feedback on the nutrition of school meals. School councils have approved numerous recipes and healthier versions of menu items. Since 2009, 27 new school gardens have been established. A comprehensive accompanying curriculum connects the school gardens to all subjects taught in the school and is aligned with the Kentucky Core Content Assessment Standard. In January 2010, 77 of the 88 elementary schools received a Healthier US School Challenge bronze award (Bauscher).

Community Partnerships

School Salad Bars and Gardens in Martin County

In Martin County, many school-aged children are fed through the public schools' federal free and reduced-price lunch program on school days. Whole Foods Market, in conjunction with the Rockin' Appalachian Mom Project (RAMP), teamed with Martin County to develop community and school gardens, healthy eating education, school salad bars, a backpack snack program, and the homecoming food pantry. The goal of RAMP is to teach, feed, and sustain the families of the Appalachian region by creating programs that address nutrition and end hunger (Roethgen).

Three of the six Martin County public schools have raised bed gardens and will add three more in 2012. In the fall of 2010, Whole Foods Market donated salad bars to all schools in Martin County. The goal is to be able to operate the salad bar each school day. Whole Foods' regional produce team partnered with Earthbound Farm to raise money for the Martin County salad bar program. Whole Foods Market also has a bus with an incorporated kitchen to help educate communities about healthier choices. Whole Foods indicated that it is committed to the programs started in Martin County, but the future of these programs as well as expansion to additional counties is uncertain (Roethgen).

Farm to School

The Kentucky Farm to School program is a collaborative effort between the US Department of Agriculture, the Kentucky Department of Agriculture, the University of Kentucky Extension and Nutrition Education Program, the Kentucky Department of Education, the US Department of Defense, and the Kentucky Department for Public Health. The goal is to bring together local agricultural products and schools, educate students about local food production, and increase long-term demand for local products. According to the Kentucky Department of Agriculture, all schools in the state are able to request and receive local produce if prices are comparable to out-of-state produce. There are currently 1,243 schools representing 174 school districts with farm-to-school programs (Shepherd).

In 2011, school districts in Calloway, Carlisle, Daviess, Fayette, Madison, Marshall, Mercer, Owsley, Perry, and Woodford Counties received $5,400 in grants from the Kentucky Department for Public Health's Obesity Prevention Program to establish farm-to-school programs. In 2010, Jackson, Lee, and Owsley Counties established their own programs using the grants. Owsley County served locally grown watermelons and cantaloupes in the school cafeterias. Farmers also host a farmer's market on the grounds of the high school. In Jackson County, in addition to developing ties with farmers, students grew tomatoes and canned salsa to be used in the school cafeteria. Lee County works with local farmers to bring produce to school cafeterias. Farm-to-school programs may be difficult for some school districts to start because they face logistical and other challenges. One challenge is that using locally raised produce may be more labor intensive because it needs to be washed and processed. Volunteers or additional staff may be needed to prepare the produce for school use (Kaprowy).

Kentucky YMCA

The Kentucky YMCA has partnered with schools, districts, and foundations to implement the Y-5210 program that promotes children eating five fruits or vegetables per day, watching less than 2 hours of television or sitting in front of a computer or video game, performing 1 hour of physical activity daily, and drinking no sugar-sweetened beverages. The practical living standards for Kentucky schools focus on personal wellness, nutrition, safety, psychomotor skills, and lifetime physical wellness are consistent with the components of Y-5210. The program is delivered to more than 8,000 children per day in Jefferson, Hardin, and Hopkins Counties. One goal of the YMCA is to provide physical infrastructure to support the sale of fresh fruits and vegetables and provide training and support. There are not enough grocery stores in some

neighborhoods to provide healthy food, so the YMCA has received funds to help open stores that will help serve some of these communities (Reno-Weber).

Recommendations

The task force co-chairs recommend the General Assembly take the following actions to improve nutrition and nutrition education in schools and communities:

- Require schools to improve actual nutritional content of school meals served.
- Require school districts to comply with current Kentucky Revised Statutes and show evidence thereof.
- Encourage schools to have vegetable gardens and reward student participation in meal preparation and family garden activities.
- Make incentive grants available for schools to improve and update school kitchens to increase access and opportunities for students to select nutrient-rich fresh produce.
- Require continuing nutrition education for school nutrition specialists to include science-based research linking antioxidant-rich fruits and vegetables to disease prevention. This may include using research from the James Graham Brown Cancer Center at the University of Louisville and the nationally recognized T. Colin Campbell Foundation.
- Create incentives for schools to adopt practical, disease-prevention-focused curricula modeled after programs such as the T. Colin Campbell Foundation online nutrition education program and the research of the James Graham Brown Cancer Center's Prevention and Control Program that has shown certain fruits, vegetables, and spices to inhibit and repair DNA damage.
- Support community partnerships with schools to demonstrate the unique health and economic benefits of providing schools with gardens that make it possible for Kentucky schools to eliminate deep fryers and to introduce students to a wide variety of fruits, vegetables, and spices that are especially high in antioxidants while showing students how to prepare healthy meals using produce and high fiber products.
- Encourage the Kentucky Department of Education to create incentives for schools to improve the nutrition of school meals by increasing the amount of Kentucky grown produce and other antioxidant-rich foods and to decrease the use of processed foods, sugar, salt, saturated fats, and sugary drinks.
- Challenge the Kentucky Department of Education to implement a plan for Kentucky to become a national model in addressing childhood obesity and associated chronic diseases by aggressively implementing public and private partnerships as well as incentives for families of students to increase the number of servings of fruits, vegetables, and antioxidant-rich spices and herbs consumed.
- Encourage the Department for Public Health and the Department of Agriculture to strive to make Kentucky a top tier state in addressing childhood obesity and associated chronic diseases by promoting fiber-rich, whole-grain foods and seven daily servings of fruits and vegetables.
- To accomplish these ends and to better educate food service and nutrition directors, teachers, and students on the life-long benefits of good nutrition, the Kentucky Department of Education may want to work with a nationally acclaimed nonprofit organization affiliated with a major, highly selective university with a leading online nutrition education program

that provides a nationally recognized program for dietetics credits for dieticians, continuing education units, and continuing medical education professional credits or at a minimum make available to teachers, students, and foodservice nutrition directors a copy of the November 15, 2011, Task Force on Childhood Obesity meeting in the Chamber of the House of Representatives as recorded by Kentucky Educational Television. The DVD can be purchased through LRC Public Information or the video can be viewed on KET at www.ket.org/legislature/archives.php by selecting "2011 Interim Session" and scrolling to "November 15 Task Force on Childhood Obesity."

Chapter 3

Physical Activity

Along with improving nutrition, increasing physical activity is an essential strategy for preventing and reducing childhood obesity. This chapter will provide an overview of school physical activity and physical education requirements in Kentucky and will present specific strategies considered by the task force for improving childhood physical activity, incorporating physical activity into the school curriculum, and increasing opportunities for physical activities in communities.

School Physical Education and Activity

Physical education is instruction that is intended to teach the knowledge and skills needed to adopt and maintain a physically active lifestyle. The only statewide requirement for physical education in Kentucky schools is for one-half credit for high school graduation. In addition to the high school requirement, local school districts may offer additional physical education. In 2010, physical education in Kentucky was provided in 90 percent of grades 6 to 12 (Commonwealth). The percentage of schools in Kentucky that provided physical education declined through middle school and reached a low in grade 12 at 12 percent compared to 44 percent in the United States (American).

In Kentucky, physical activity is permitted, but not required, to be part of the physical education requirement. Kentucky passed SB 172 in 2005 allowing 150 minutes per week of physical activity during any class instruction time in elementary schools. It is not known how many schools have integrated physical activity into the classroom. Legislative proposals since 2005 have required 150 minutes per week of physical activity during school; those proposals have not passed.

Several states have instituted physical education requirements for schools. Florida, Alabama, Louisiana, Montana, and Oregon require 150 minutes of physical education per week in grades kindergarten to 6. Alabama, Louisiana, Utah, Montana, and Oregon require 150 minutes of physical education per week in middle school. It is not clear how many of these requirements include physical activity.

School Programs

Comprehensive School Physical Activity Program

The Comprehensive School Physical Activity Program (CSPAP) is one component of Coordinated School Health recommended by CDC as a strategy for improving students' physical activity levels. Activities include physical education, physical activity during school, physical activity before and after school, staff involvement, and family and community involvement. The

program's goals are to provide a variety of school-based physical activities that enable all students to participate in physical activity each day and to maximize understanding, application, and practice of the knowledge and skills learned in physical education so that students will be well equipped for a lifetime of physical activity. The Kentucky Department of Education and the Kentucky Department for Public Health, with funds from a CDC grant, are working to implement the program in Kentucky by providing interested schools with technical assistance. In the United States in 2011, 16 percent of elementary schools, 13 percent of middle schools, and 6 percent of high schools were providing a CSPAP (American).

Classroom-based Physical Activity

The Kentucky Department of Education reported that several schools have adopted the Take 10 research-based curriculum or similar programs developed to teach classroom-based physical activity and nutrition education from kindergarten to 5th grade. The Take 10 program was developed to be used in the regular classroom setting and contains safe and age-appropriate 10-minute physical activities, such as jumping jacks or walking in place, that can be integrated into language arts, mathematics, science, social studies, and general health. No special equipment or teacher training is needed to implement the program, and this curriculum addresses Kentucky's health and physical education standards. In 2011, nearly two-thirds of elementary schools in the United States have at least some classroom teachers who integrate physical activity into classrooms (American).

Kentucky Green and Healthy Schools Program

The Kentucky Green and Healthy Schools program ties physical activity with environmental education. The program is coordinated by the Kentucky Environmental Education Council and is designed to empower students and teachers to create safer, healthier, and more sustainable schools. As part of the program, students investigate the school environment, then design and implement small but significant school improvement projects based on research findings. More than 200 schools across the Commonwealth are enrolled in the program. The program is free and open to all grades and is correlated to state learning standards. The program encourages students to use the school and school grounds as a laboratory to investigate the school environment such as health and safety, transportation, and green spaces to determine baseline conditions. Students work with their teachers to design and implement a project that makes their schools safer, healthier, and more environmentally efficient (Schmitz).

Three examples of student improvement projects include a recycling program, a walking and biking route, and school vegetable gardens. The Model Laboratory School in Richmond created a recycling program in which students move and lift materials to be recycled. Cassidy Elementary School students in Fayette County created a 1-mile walking and biking route through the neighborhood, created a brochure for the route, and encouraged students and teachers to go on walks for outdoor recess alternatives while the school underwent construction. Cane Run Elementary School in Jefferson County established vegetable gardens, encouraging students to be active in the garden and to get excited about eating vegetables. Students are also working with their food service director to find out what they can grow in their school garden to supplement cafeteria menus.

Funtastic Fitness Pedometer Program

The Funtastic Fitness Pedometer program in Jefferson County Public Schools provides students with pedometers and coordinates educational activities to encourage walking. This program was made possible by a grant from the CDC. The grant also allowed progress on increasing the quantity and time of physical activity in regular classes as well as in physical education classes (Bauscher).

Community Partnerships

Kosair Pedometer Program

Kosair Children's Hospital partnered with the Clay County School System in a pedometer program for elementary students and their families. This program is funded by a grant and includes physical fitness challenges and an educational component. The school system reported that the pedometer program has encouraged students to want to meet short- and long-term physical health goals. School officials also reported that families are beginning to make healthier choices because students are going home and encouraging their families to become more active (Sirles).

Shared-use Agreements

A shared-use agreement is a formal or informal partnership to share facilities between a local school district and other agencies such as city government, parks and recreation department, or the YMCA. Examples of facilities include outside tracks and fields, swimming pools, fitness centers, and gymnasiums. Such agreements allow children to be more active in safe places. Communities with lower incomes, higher poverty rates, and higher proportions of racial and ethnic minorities have been noted to be the most at risk of being sedentary and overweight. Many of these communities have few community-level opportunities for physical activity. Under Kentucky law, a board of education may enter into agreements with public agencies to develop and maintain recreational facilities on school property for school and community purposes (KRS 160.293). A board of education may permit the use of the school under rules it deems proper by any lawful public assembly of education, religious, agricultural, political, civic, and social bodies (KRS 162.050). All formal agreements must be approved through the Kentucky Department of Education's Division of Facilities Management. Most agreements are formed at the district level in partnership with the school principal and the community agency. Some districts handle all agreements, and school principals are required to allow the use of school facilities. Other districts encourage but do not require principals to share the school facilities. Some districts do not allow school facilities to be used by community agencies. The most commonly reported concerns were that school facilities would be damaged, schools would be liable for injuries or damage, and schools would be responsible for security (Plummer).

Kentucky YMCA

The YMCA is the largest child care provider in the United States, including 20,000 children in Kentucky. The YMCA provides energy-balanced opportunities for physical activities.

The YMCA also convenes community partnerships at the local, state, and national levels to address critical issues in the communities. The Kentucky YMCA has partnerships with schools, community organizations, and government and has programs in 72 counties. The YMCA has partnered with the Transportation Cabinet; the Tourism, Arts, and Heritage Cabinet; the Kentucky Department of Education; Anthem; United Healthcare; the CDC; and the Robert Wood Johnson Foundation to help develop healthier lifestyles.

The Frankfort YMCA received a $60,000 Pioneering Healthy Communities grant, one requirement of which is that funds must be spent in the community not at the YMCA. A coalition has been formed that includes community representatives from the local hospital, county and state health departments, Kentucky State University, county parks, and the Frankfort and Franklin County school systems. In 2010, the first project was to institute the Take 10 program and provide 185 notebooks to record physical activities to all kindergarten through 5th-grade classes in Frankfort and Franklin County. In the 2-year community action plan, two projects are to work with the YMCA Crayon Club to conduct a community healthy living survey and to share new after-school healthy eating and physical guidelines.

Community Environments

Some environmental factors influence physical behavior, such as the availability of sidewalks and bike paths, access to safe places to play and be active, access to public transportation, and residential and commercial developments that incorporate pedestrian and public transport use.

According to the 2008 Kentucky Highway User Survey, 58 percent of respondents indicated the need for additional sidewalks and crosswalks. Some 69 percent indicated the need for additional bike lanes and wide-paved shoulders. Almost half of the respondents indicated the need for additional safe elements for children walking to school (Kentucky Youth). Two initiatives presented to the task force for improving community environments for safe physical activity include “complete streets” polices and Safe Routes to School programs.

Complete Streets

Complete streets polices require state or local roadways to accommodate the needs of all pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities. These programs include bike lanes, sidewalks, crosswalks, wide-paved shoulders, pedestrian signals, special bus lanes, and roundabouts. The design of complete streets allows traffic to flow more smoothly and helps motorists become more aware of other users of roads, which helps reduce the risk of accidents involving bicyclists and pedestrians. A wide shoulder or a sidewalk may be enough to be a complete street in rural areas. Urban areas may need more elements because of

heavier traffic on roads. When complete streets are included in the early stages of transportation planning and design, there is often little to no cost for implementation (Plummer).

Complete streets policies can be adopted in a variety of ways, including enacting state legislation, executive orders, public ordinances, resolutions, internal policies, and rewriting manuals and standards. The Kentucky Transportation Cabinet has an internal policy that bicycle and pedestrian facilities will be considered on all new or reconstructed state-maintained roadways. The cabinet also will consider accommodating bicycle and pedestrian transportation when planning the resurfacing of roadways, including shoulders, and during construction and maintenance activities. However, this internal policy is not considered a complete streets policy by the National Complete Streets Coalition because it does not require compliance and does not include all roads or changes to existing roads. Communities in Boone, Jefferson, Fayette, Franklin, and Warren Counties are implementing or are planning complete streets policies or are developing more specific initiatives such as becoming bicycle friendly. Currently, 25 states have committed to adopting complete streets policies (Kentucky Youth).

Safe Routes to School

Nationally, less than 15 percent of children walk or bicycle to school. The Safe Routes to School Program is a federal aid program of the US Department of Transportation's Federal Highway Administration. The program is designed to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make bicycling and walking to school a safer and more appealing transportation alternative; and to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, lower fuel consumption, and improve air pollution in the vicinity of schools. Between 2005 and 2010, about 30 Kentucky school districts have received grants to make improvements in walking and bicycling routes to school (Plummer).

Recommendations

The task force co-chairs recommend the General Assembly take the following actions to increase opportunities for physical activity and education in schools and communities:

- Clarify Kentucky Revised Statutes to make it clear that schools that allow community use of their facilities are immune from liability.
- Specify that schools may charge a nominal fee for recreational use of their facilities and consider creating a statute that specifically addresses the recreational use of school facilities.
- Encourage biking and walking by incorporating sidewalks and bike lanes into community design, including funding for biking and walking in highway projects.
- Support Safe Routes to School programs and implement traffic-calming measures designed to improve traffic flow.
- Address physical activity through a coordinated school health program that includes an assessment of the school's health policies and programs and development of a plan for improvement.
- Create incentives for schools to adopt curricula that increase opportunities for students to engage in physical activity during the school day.

- Require the Kentucky Department of Education to evaluate and assess physical activity programs in schools and to create financial incentives for schools to improve physical activity programs in schools.
- Encourage the Kentucky Department of Education to strive to make Kentucky a national model in addressing childhood obesity by aggressively implementing creative solutions to improve physical activity in schools and establish an organized mechanism to encourage schools to implement programs across all grade levels.
- Encourage the Department for Public Health and the Transportation Cabinet to strive to make Kentucky a top tier state in addressing childhood obesity by improving opportunities for physical activity for all citizens and communities.

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