POSITION PAPER

Kentucky Children at Risk: The War on Weight
Position Paper for the Task Force on Nutrition & Fitness for Kentucky Children

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Executive Summary ........................................................................................................... 2
Introduction ......................................................................................................................... 5

Cause for Concern: Why are Children and Adolescents Gaining Weight ......................... 5

A Heavy Burden to Bear: Implications of Increased Weight Among Youth ......................... 7

Weighing In: Assessing Overweight and Obesity Among Kentucky Children .................... 8

A Call to Action: Addressing Overweight and Obesity Among Kentucky Children ............. 10
- Improving Nutrition in Kentucky’s Schools ................................................................. 11
- Improving Physical Activity in Kentucky’s Schools ...................................................... 15

Common Health for the Commonwealth: Improving Kentucky’s Future ......................... 17

Appendix A: Proposed Interventions .................................................................................. 22
Appendix B: Surgeon General’s Call to Action: Recommendations for Schools ................. 25
Appendix C: Snacks Available to Meet Proposed Vending Guidelines ............................... 26
Executive Summary

Over the past 25 years, the prevalence of overweight and obesity in the American population has increased at an alarming rate (U.S. HHS, Surgeon General 2001). Sixty-one percent of American adults are overweight or obese. Currently 300,000 Americans die annually from causes related to excess body weight. Surgeon General David Satcher predicts the extra pounds Americans are carrying could surpass tobacco as the leading cause of preventable death.

The Centers for Disease Control and Prevention (CDC) classifies obesity and overweight as a critical public health concern. According to Jeff Koplan, Director of the CDC, “As obesity rates continue to grow at epidemic proportions in this country, the net effect will be dramatic increases in related chronic health conditions such as diabetes and cardiovascular disease in the future.

Increased body weight among children and adolescents is of particular concern. The number of overweight children has almost doubled in the last two decades, increasing from 7% in 1980 to 13% in 1999. The number of overweight teens has nearly tripled over the same time period, increasing from 5% to 13%. The Bogalusa Heart Study found that an estimated 77% of overweight children will become obese adults and that overweight children are 10 times more likely to become obese adults than normal weight children (Freedman 2001).

Overweight adolescents and children are more likely to develop diseases that were once seen only in adulthood. In adults, overweight and obesity are associated with an increased risk for coronary heart disease, type 2 diabetes, certain cancers (e.g. endometrial, colon, postmenopausal breast), and osteoarthritis. Now, there is also an emerging problem of type 2 diabetes in children and adolescents (Owada 1990, Yokoyama 1997). In addition, high blood lipids, hypertension, early maturation, and orthopedic problems are more common among overweight youth (U.S. HHS, Surgeon General 2001). In addition to the health implications of excess weight, there are also psychosocial and economic implications. Overweight and obese children and adults may also suffer from social stigmatization, discrimination, and poor body image. There are substantial economic consequences as well, most of which are due to the costs associated with type 2 diabetes, coronary heart disease, and hypertension (U.S. HHS, Surgeon General 2001). In 1995, total direct and indirect U.S. costs attributable to obesity were estimated at $99 billion. By 2000, those estimated costs had risen to $117 billion.

This national trend towards overweight and obesity is also evident in Kentucky. Kentucky adults are among the least healthy in the nation. A recent report, Years of Healthy Life-Selected States, U.S. 1993-1995, assessed an index of health-related quality of life in 16 states including Kentucky (Centers for Disease Control and Prevention 1998). Kentucky was ranked lowest of the 16 on a “health-related quality of life index”. This index varied directly with life expectancy, with Kentuckians having fewer years of healthy life at ages 25 and 65 than the residents of the other 15 states. As the current population of overweight and obese youth move toward adulthood, unless trends in body weight are reversed, the quality of life related to health for Kentuckians will become even more dismal. The data currently available on overweight and obesity among Kentucky children are limited. However, what data are available indicate that Kentucky children have a higher prevalence of overweight and obesity than the national average. For example (see graph on page 9) the percentage of very young children above the 95th percentile of weight for height has increased 19% over the past five years in a population of low-
income children, age 1-5 years, enrolled in the Kentucky Women, Infants and Children supplemental feeding program (Kentucky Department for Public Health 2001).

Data from another selected population of Kentucky children (Crooks 1999 & 2000) show the prevalence of overweight among 54 school children in a rural, Appalachian community to be 33%; prevalence of obesity to be 13%. Food consumption patterns for this population were assessed and found to be high in fat and added sugars and low in fruit and vegetable consumption. In fact, an estimated 83% of girls and 74% of boys in Kentucky eat fewer than the 5-A-Day recommended number of servings of fruits and vegetables (Centers for Disease Control and Prevention 1997). In addition, nearly 70% of Kentucky high school students are not enrolled in a physical education class, compared to 51% of high school students nationally (Centers for Disease Control and Prevention 1997). In an assessment of 15,000 children in Owensboro, Kentucky (Owensboro unpublished data), by 1999 20% of children and 21% of adolescents were found to be obese as shown in the graph on page 10.

“Childhood obesity is at epidemic proportions in the United States,” states retiring U.S. Surgeon General David Satcher. “Today, we see a nation of young people seriously at risk of starting out obese and dooming themselves to the difficult task of overcoming a tough illness”. Any adult who has tried to lose weight can attest to the difficulty of losing weight and then keeping it off. Research indicates that the prevention of overweight and obesity is crucial for the future health of a population.

The current knowledge on the state of overweight and obesity is clear on several points. First, the prevalence of overweight and obesity is high and that the prevalence of obesity is rapidly increasing. Second, overweight children and adolescents are at high risk of becoming overweight or obese adults. Third, being overweight and/or obese increases the risk for serious diseases such as type 2 diabetes, hypertension, and high blood cholesterol. Fourth, being overweight and/or obese is associated with psychosocial consequences and with premature death and disability. Lastly, a healthy diet coupled with adequate physical activity will aid in achieving and maintaining a healthy weight (U.S. HHS Surgeon General 2001).

The Surgeon General has called for a national public health response to address this epidemic and to develop adequate prevention and treatment strategies. This response must focus on group influences, institutional and community influences, and public policy, in addition to strategies designed to address individual behavioral changes. One target area identified in the Surgeon General’s report is schools. Since most children spend a large proportion of time in school, many opportunities exist to engage and reinforce healthy eating practices and regular physical activity.

The recommended plan of action as outlined in this position paper is in keeping with the recommendations of the Surgeon General’s report and includes interventions designed to improve the nutritional and physical activity environment of schools (see Appendix A). It is strongly believed that the strategies proposed will have a positive impact on school nutrition and physical activity, thereby resulting in the improvement of health status among Kentucky’s children. These measures are important first steps as Kentucky begins to address this issue. As also outlined in Appendix A, it is also recommended that a legislative task force be created to assist in acquiring a broader understanding of this issue, including the economic and societal impact to Kentucky.
Overweight and obesity are public health problems and must be treated as such. As outlined in the Surgeon General’s report, actions to reduce overweight and obesity must take an integrated, multidimensional approach. Public policy must be addressed within a framework that incorporates input from key stakeholder groups across many different areas.

These issues have generated a response on a national level, setting in motion the agenda from which to develop a course of action. Kentucky now has the opportunity to answer the *Call to Action* and ensure a healthier future for Kentucky’s youth.
**Introduction**

Over the past 25 years, the prevalence of overweight and obesity in the American population has increased at an alarming rate (U.S. HHS, Surgeon General 2001). Sixty-one percent of American adults are overweight or obese. **Currently 300,000 Americans die annually from causes related to excess body weight.** Surgeon General David Satcher predicts the extra pounds Americans are carrying could surpass tobacco as the leading cause of preventable death.

The Centers for Disease Control and Prevention (CDC) classifies obesity and overweight as a critical public health concern. According to Jeff Koplan, Director of the CDC, “As obesity rates continue to grow at epidemic proportions in this country, the net effect will be dramatic increases in related chronic health conditions such as diabetes and cardiovascular disease in the future.” For adults, overweight is defined as a Body Mass Index (BMI) of 25-29.9 kg/m$^2$; obesity is defined as a BMI greater or equal to 30 kg/m$^2$ (NIH/NHLBI 1998). For children, the new childhood growth charts developed by the CDC use a BMI-for-age greater or equal to the 95th percentile to define overweight and a BMI-for-age at or above the 85th percentile to identify children at risk for being overweight (Himes & Dietz 1994).

Increased body weight among children and adolescents is of particular concern. The number of overweight children has almost doubled in the last two decades, increasing from 7% in 1980 to 13% in 1999. The number of overweight teens has nearly tripled over the same time period, increasing from 5% to 13%. The Bogalusa Heart Study found that an estimated 77% of overweight children will become obese adults (Freedman 2001). This study also found that overweight children are 10 times more likely to become obese adults than normal weight children.

“Childhood obesity is at epidemic proportions in the United States,” states retiring U.S. Surgeon General David Satcher. “Today, we see a nation of young people seriously at risk of starting out obese and dooming themselves to the difficult task of overcoming a tough illness.”

Any adult who has tried to lose weight can attest to the difficulty of the behavior changes needed to successfully lose weight and keep it off. **Research indicates that the prevention of overweight and obesity is crucial for a healthy population in the future.** An increased body weight among Kentucky’s children today has significant economic, quality and length of life implications for Kentucky’s future adults. This position paper reviews available data regarding this problem in the U.S. and Kentucky. Further, this paper underscores the need for a rapid and decisive response to address the concerns related to overweight and obesity in Kentucky.

**Cause for Concern: Why are Children and Adolescents Gaining Weight?**

National and state data show a disturbing trend of increased overweight and obesity among U.S. youth. Excess body weight results from a combination of many factors including but not limited to genetic, metabolic, behavioral, environmental, cultural, and socioeconomic influences (U.S. HHS, Surgeon General 2001). Of these, behavioral and environmental factors are likely most influential. Fortunately, modification of these two factors also provides the
greatest opportunity for successful interventions aimed at the prevention and treatment of obesity.

For most individuals, overweight/obesity results from an imbalance between energy in and energy out. In other words, a continual pattern of excess energy in (via calories in foods and beverages) coupled with a decrease in energy out (i.e., decline in physical activity or energy expenditure) results in an eventual weight gain. Thus, for the vast majority of individuals, being overweight or obese results from excess calorie consumption and/or inadequate physical activity (U.S. HHS, Surgeon General 2001).

According to one survey, only 3 percent of Americans interviewed met four of the five recommendations from the Food Guide Pyramid for the intake of grains, fruits, vegetables, dairy products, and meats (USDA 1998). Avoiding excess calories while maintaining a nutritionally adequate intake is one strategy to achieve and/or maintain a healthy weight for life. Inadequate nutrition education regarding healthy food selections coupled with the increased availability and consumption of high calorie, but relatively nutrient devoid foods, especially in the form of “snack foods”, contributes to the worsening epidemic of obesity.

According to a report titled “Junk Food in Schools” by the National Conference of State Legislatures (www.ncsl.org/programs/health/junkfood.htm) and data from the Center for Disease Control (CDC) and U.S. Department of Agriculture (USDA), more than 84% of children and adolescents eat too much fat; more than 91% eat too much saturated fat; and 51% eat less than one serving of fruit per day. In addition, most U.S. children and adolescents do not meet the recommended number of servings as outlined in the Food Guide Pyramid (Munoz 1997). In fact, only 1% of children surveyed met all of the food group recommendations and only 5% met the recommendations for four or more food groups. In addition, between 1989-91 and 1994-95, the consumption of soft drinks has increased while the consumption of dairy products has decreased. (Morton 1999, Frazao 1999).

Lack of physical activity also contributes to the obesity crisis (American College of Sports Medicine 2000, Ball 2001). Physical activity can be broadly defined as any bodily movement that causes moderate increases in energy expenditure (Corbin 2000). Creating a negative energy balance, and thus weight loss, can be accomplished by a reduction in caloric intake, an increase in energy expenditure, or a combination of both (Heyward 1998). Research indicates that dietary restriction alone may be less effective in achieving and maintaining short term or long term weight reduction goals than a combination of physical activity and caloric restriction (Saris 1993, Williamson 1993). Increasing physical activity, alone or in combination with other intervention strategies, has been shown to provide a more favorable approach to weight management by increasing caloric expenditure, increasing fat-free body mass, and maintaining or increasing basal metabolic rate (Brownell 1980, Poehlman 1989, Thompson 1996, American College of Sports Medicine 2001).

The stress of poverty coupled with intermittent periods of food insecurity and hunger appear to increase the risk of overweight and obesity among the poor (Alaimo 2001). Americans currently spend a lower percentage of disposable income on food than ever before (Putnam 1997). Foods providing a high number of calories, but limited nutritional value, are affordable and accessible. Disproportionate numbers of limited resource and minority populations struggle
with the burden of excess body weight (Strauss 2001).

**A Heavy Burden to Bear: Implications of Increased Weight Among Youth**

Overweight adolescents and children are more likely to develop diseases that were once seen only in adulthood. For example, type 2 diabetes, high blood lipids, hypertension, early maturation, and orthopedic problems are more common among overweight youth (U.S. HHS, Surgeon General 2001). Overweight and obesity among adults are associated with an increased risk for coronary heart disease, type 2 diabetes, certain cancers (e.g. endometrial, colon, postmenopausal breast), and osteoarthritis. Although obesity-associated morbidities occur most often in adults, there are important consequences of excess weight in overweight children and adolescents. Overweight and obese children and adults may also suffer from social stigmatization, discrimination, and poor body image.

Of particular concern is the relationship of excess body weight to risk of type 2 diabetes (formerly known as adult-onset diabetes). *Accompanying the trend in increased weight among today’s youth is an emerging problem of type 2 diabetes in children and adolescents* (Owada 1990, Yokoyama 1997). Type 2 diabetes, until recently, has been seen predominantly in adults who are overweight and inactive. A weight gain of 11-18 pounds doubles risk of developing type 2 diabetes, while a gain of 44 pounds or more quadruples the risk (Ford 1997). The National Institutes of Health now awards research grants to study the phenomena of type 2 diabetes among youth.

In 1999, the American Diabetes Association convened a consensus development conference to examine type 2 diabetes in children and adolescents (American Diabetes Association 2000). This conference concluded that primary prevention of type 2 diabetes in children would ideally include a public health approach. The conference further stated that families, communities, schools, and government agencies should assume some responsibility for promoting a healthy lifestyle including healthy food choices and increased physical activity.

There are also psychosocial consequences associated with childhood obesity (Dietz 1998). The pain of being an overweight child is hard to quantify, but it has been shown that obese children become victims of early and systematic discrimination. Because obese children tend to be taller than their normal weight peers, they may be viewed as more socially and emotionally mature. This perception can lead to inappropriate expectations, resulting in adverse effects on socialization. Early physical maturation is associated with overweight in childhood and increased fatness in later life. While overweight young children may not have a negative self-image or low self-esteem, obese adolescents develop a negative self-image that appears to persist into adulthood. Psychosocial effects may contribute to and result from obesity.

**Overweight and obesity and their associated health problems have substantial economic consequences** (U.S. HHS, Surgeon General 2001). Most of the associated costs are related to type 2 diabetes, coronary heart disease, and hypertension. In 1995, total direct and indirect U.S. costs attributable to obesity were estimated at $99 billion. By 2000, those estimated costs had risen to $117 billion.
There are numerous benefits to losing weight. Even a modest weight loss of between 5 and 15 percent of total body weight has been shown to reduce certain risk factors associated with cardiovascular disease, at least in the short term. Modest weight loss has been shown to lower blood pressure and blood glucose levels and to improve blood lipid levels (NIH NHLBI 1998). Recent studies have demonstrated the importance of lifestyle interventions (such as weight loss, a healthful diet, and exercise) in preventing type 2 diabetes in obese and/or overweight individuals as well as obese subjects with impaired glucose tolerance (Tuomilehto 2001, NIH NIDDK 2001).

**Weighing In: Assessing Overweight and Obesity Among Kentucky Children**

_During the past two decades, the percentage of overweight children in the U.S. has nearly doubled and the percentage of overweight adolescents has nearly tripled._ The graph below illustrates this trend and shows the percentage of youth estimated to be overweight in the year 2025 if the current rate of incidence continues.

![Graph showing the percentage of overweight children and adolescents from 1976 to 2025.](image)

Source: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, National Health and Nutrition Examination Survey (NHANES).

**Kentucky adults are among the least healthy in the nation.** A recent report, _Years of Healthy Life-Selected States, U.S. 1993-1995_, assessed an index of health-related quality of life in 16 states including Kentucky (Centers for Disease Control and Prevention 1998). Kentucky was ranked lowest of the 16 on a “health-related quality of life index”. This index varied directly with life expectancy, with Kentuckians having fewer years of healthy life at ages 25 and 65 than the residents of the other 15 states. As the current population of overweight and obese youth move toward adulthood, unless trends in body weight are reversed, the quality of life related to health for Kentuckians will become even more dismal.

Currently, there are limited data about overweight and obesity among Kentucky children. However, the data that are available indicate that Kentucky children have a higher prevalence of overweight and obesity than the national average. The graph below shows the trend among low-
income children, age 1-5 years, enrolled in the Kentucky Women, Infants and Children supplemental feeding program (Kentucky Department for Public Health 2001). The percentage of these very young children above the 95th percentile of weight for height has increased 19% over the past five years.

Data from selected populations of children in Kentucky are available from Appalachia and Western Kentucky (Crooks 1999 & 2000, Owensboro unpublished data). The prevalence of overweight among 54 school children in a rural, Appalachian community was 33%; prevalence of obesity was 13%. Food consumption patterns for this population were assessed and found to be high in fat and added sugars and low in fruit and vegetable consumption. In fact, an estimated 83% of girls and 74% of boys in Kentucky eat fewer than the 5-A-Day recommended number of servings of fruits and vegetables (Centers for Disease Control and Prevention 1997). Nearly 70% of Kentucky high school students are not enrolled in a physical education class, compared to 51% of high school students nationally (Centers for Disease Control and Prevention 1997). In an assessment of 15,000 children in Owensboro, Kentucky, by 1999 20% of children and 21% of adolescents were found to be obese as illustrated in the graph on the following page.
A Call to Action: Addressing Overweight and Obesity Among Kentucky Children

Environmental factors that influence food consumption and physical activity, as previously discussed, seem to be largely responsible for the trend of increased weight in children. Research suggests that programs aimed at individuals, families, communities, and schools are needed to reverse the trend. State and local health departments, schools, and Extension offices are working to provide education and resources to address this problem. Parents, educators, and citizens are concerned about the problem of weight among youth. Government can play a significant role by acting to create a better nutrition and health environment for Kentucky children.

The Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity (U.S. HHS, Surgeon General 2001) calls on state and local governments to facilitate goals for reducing overweight and obesity. Kentucky has already implemented one of the Surgeon General’s suggested actions by forming a statewide coalition to address the problem of overweight, obesity, and type 2 diabetes among Kentucky youth (May 2001).

The Surgeon General calls on governments to create policies that promote an environment in which healthy dietary and physical activity options are readily accessible to all U.S. citizens. The Surgeon General’s Call to Action identifies schools as a key setting for public health strategies to prevent and decrease the prevalence of overweight and obesity. Public health approaches in schools should extend beyond health and physical education to include school policy, the school physical and social environment, and links between schools and families and communities. The Surgeon General’s recommendations for schools are included as Appendix B in this report (page 25).

Schools can and should make valuable contributions to the prevention and treatment of childhood obesity (Story 1999). A comprehensive, integrated model for school-based obesity prevention has been advocated. This model consists of eight interacting components: health instruction, health services, school environment, food service, school site health promotion for faculty and staff, social support services, physical education classes, and integrated, linked
family and community health promotion efforts. The proposal, outlined in Appendix A, is in keeping with this approach.

-Improving Nutrition in Kentucky’s Schools

Kentucky children rely heavily upon the food they receive at school to help meet their nutritional needs. The average daily participation rate in Kentucky’s school lunch program is approximately 72%, well above the national average of 54% (Kentucky School Food Service Association 2001). Participation in Kentucky’s breakfast program is more than double the national average (27% versus 13%). As such, if the nutritional value of food offered in school cafeterias could be improved, many children would benefit.

Kentucky can ensure that schools provide healthful foods and beverages by enforcing existing U.S. Department of Agriculture regulations that prohibit serving foods of minimal nutritional value during mealtimes in school food service areas, including vending machines (USDA 2001). Schools can reduce access to foods high in fat, calories, and added sugars and reduce excessive portion sizes (American Dietetic Association 1999). One method for reducing calories and fat and increasing the satiety in school lunches would be to implement a requirement that school lunches contain at least six (6) grams of naturally occurring fiber per meal. This would ensure that more fruits, vegetables, whole grains and legumes would be offered through the school lunch program. West Virginia implemented this measure several years ago as a method for improving the nutritional quality of school meals.

School Food Service Operations

Each public school district has a school food service (SFS) director or someone who fulfills the duties of a SFS director. This individual is responsible for the administration of the school district’s food service program. The people who oversee feeding Kentucky children up to 33% of their meals need to be well prepared to carry out this important task. Despite the obvious need for highly trained professionals to run these programs, in Kentucky, not all of these SFS programs are being overseen by individuals with the appropriate background and training. Qualifications for SFS directors or food service coordinators vary by state; however, there is a national certification and credentialing program available through the American School Food Service Association (ASFSA). ASFSA is a national organization whose mission is to develop and encourage the highest standards and professional development for school foodservice and nutrition personnel (www.asfsa.org). According to the School Health Policies and Program Studies 2000 (SHPPS), nationally 60% of SFS directors are certified, compared to only 38% of SFS directors in Kentucky.

While there are qualifications and standards for Kentucky SFS directors established in local district classification plans, school districts are not required to hire individuals who perform this function based on the qualifications set forth in the classification plans. A degree or experience in nutrition or a related field is not a mandated condition of employment for Kentucky SFS directors. Furthermore, continued employment is not contingent upon an individual seeking additional education or training.
The proposal outlined in Appendix A would require that SFS directors at the district level obtain and maintain a credential or certification from ASFSA. Current and newly hired SFS directors would be given a three-year grace period from the effective date to complete this requirement. The maintenance of the ASFSA credential and certification requires continuing education, but the topic areas are not specified. The proposal would require that, as part of the continuing education, ten (10) hours be in the area of applied nutrition and healthy menu planning. Continuing education requirements for these proposed topics are readily available through the Kentucky Department of Education, Office of School and Community Nutrition, public health departments and the Kentucky School Food Service Association. The proposal also allows contiguous districts to share one SFS director in a food service area, which would allow smaller districts to maximize resources to hire a qualified individual.

The expected outcome of raising the educational bar for Kentucky SFS directors is an improvement in the nutritional quality and appeal of meals served to Kentucky’s children through the School Lunch and Breakfast Programs. SHPPS 1994 showed that food service managers that have food service credentials implemented significantly more health-enhancing food preparation techniques than those who did not have such a certification. Increasing the knowledge and skill level of the SFS directors will ultimately increase the knowledge base of all the SFS personnel since the SFS directors conduct training for the SFS personnel. Furthermore, in keeping with this approach, it is recommended that school cafeteria managers be required to complete two (2) hours of continuing education annually in nutrition or a related topic.

**Competitive Food Sales in Schools**

In addition to the school lunch and breakfast programs, many American students can purchase food in a variety of places in their schools including vending machines, snack shops, fundraisers and the a la carte section of the cafeteria line. These foods are not a part of the reimbursable school lunch and breakfast meals as outlined by USDA regulations and so are termed competitive foods.

The sale of competitive foods has become quite widespread. According to SHPPS 2000, 98% of senior high schools in the U.S., 74% of middle schools and 43% of elementary schools have a vending machine, canteen or snack bar (Weschler 2001). More than two-thirds of these schools allow students to purchase foods from these sources during school lunch periods. The vast majority of foods sold through these venues are considered to be “junk foods”. In 80% of these schools students can purchase one or more of the following types of foods or beverages: soft drinks, chocolate candy, other types of candy, high fat baked goods, high fat salty snacks and ice cream. It is not uncommon for students to purchase their breakfast and lunch from these offerings.

Beverage marketing contracts with bottling companies are also increasingly common in schools. In one-third of the nation’s elementary schools, half of middle schools and three-fourths of high schools, soft drink companies have contracts that allow them “exclusive pouring rights” in schools (Weschler 2001). In 28% of the schools with these contracts, the company is allowed to advertise in the school building. Free cases of soft drinks are often given as an incentive to the
schools for distribution among teachers and students. These contacts allow the companies to
develop brand loyalty for their product among young people.

Currently the only federal regulation that addresses sales of these foods is that Foods of
Minimal Nutritional Value (FMNV) cannot be sold in the school food service area during the
school meals periods. Foods of Minimal Nutritional Value are foods such as soft drinks, water
ices and gums that provide less than 5 percent of the recommended dietary allowance for key
nutrients. The federal regulations pertaining to FMNV do not prohibit the sale of those foods
outside the food service area any time during the school day. In other words, vending machines
located outside of cafeterias can carry any type of food and can stay on all day.

State agencies and local food authorities are authorized to impose additional restrictions on
the sale of competitive foods. Since the federal guidelines are weak, there has been a strong
movement at both the state and local levels to legislate additional restrictions that would limit the
amount of junk food that are sold to students during the school day. Twenty states and three
territories have already passed competitive foods rules that are more stringent than the USDA
regulation (USDA 2001). A dozen other states are currently considering legislation to improve
the nutritional quality of the competitive foods sold to students in schools (Winter 2001).

West Virginia, in particular, has been a pioneer in improving the nutritional quality of
foods available to their students. West Virginia policymakers tightened their school nutrition
regulations, which are now among the most detailed in the country (Stuhldreber 1998). All foods
and beverages sold on campus during the school day must meet certain nutritional standards.
This was done in response to the increasing incidence/prevalence of obesity in their state. In a
phone interview, Rick Goff, Assistant Director of School Food Service for the state of West
Virginia, reported that the change has been overwhelmingly positive. Students have become
accustomed to selecting healthier vending options and schools still bring in significant revenue
through vending sales.

Vending machines that are exclusively used for milk sales were recently put into schools
in Madison, Wisconsin. These “milk machines” contain low-fat chocolate, strawberry and white
milk in “chug” bottles. Initial sales have been surprisingly strong and school districts around the
country are watching to see how these machines fare in the long run (St. Paul Pioneer Press
2001). The 2002 session of the Utah legislature will consider bills to limit vending machine
offerings of minimal nutritional value and to increase physical activity to a minimum of 90
minutes per week of structured physical education per student (personal communication 2002).

In addition, the CDC has established “Guidelines for School Health Programs to Promote
Lifelong Healthy Eating” (USDHHS 1996). This report states that “Healthy and appealing foods
should be available in meals, a la carte items in the cafeteria, snack bars, and vending machines;
as classroom snacks; and at special events, athletic competitions, staff meetings, and parents’
association meetings. In addition, schools should discourage the sale of foods high in fat,
sodium, and added sugars (e.g., candy, fried chips, and soda) on school grounds and as part of
fundraising activities”. The report goes on to say, “Although selling low-nutritive foods may
provide revenue for school programs, such sales tell students that it is acceptable to compromise
health for financial reasons” (Caldwell 1991).
In addition to jeopardizing the health of children and sending mixed messages to them, the sale of competitive foods may stigmatize participation in the school meals programs. Since only children with money can purchase competitive foods, children may perceive that school meals are primarily for poor children, rather than nutrition programs for all children. As a result of this perception, the willingness of low-income children to accept free and reduced priced lunches may be compromised. It is important to note that states that have restrictive competitive food policies—Louisiana, Georgia, West Virginia and Mississippi—all have higher rates of school meal participation than the national average.

Competitive foods may also affect the viability of the school meal programs. The increase of the sale of competitive food with its attendant decrease in student participation in the National School Lunch Program has implications of the overall viability of the program. Declining participation rates result in decreased cash and commodity support from USDA for school meals. This undermines the substantial federal investment in the program to provide healthful meals of the nation’s children.

**The status of competitive food sales in Kentucky’s Schools**

Sales of junk foods are common in Kentucky schools as well. Preliminary results (final results expected 2/14/02) of a survey of Kentucky schools show that 53% of elementary schools, 95% of middle schools and 100% of high schools have vending machines available to students, putting Kentucky above national figures for vending machines in schools. In 1991 Kentucky took the first step in limiting the amount of junk food available to students by initiating 702 KAR 6:090. This administrative regulation prohibits the sale or serving of any food or beverage item to students in competition with the School Breakfast Program or the National School Lunch Program on the school campus during the school day until one-half hour after the close of the last lunch serving period. However, because this regulation is not codified in statute, many schools do not comply and continue to sell competitive foods to students throughout the school day. Currently, there is no statewide policy regarding the nutritional value of foods and beverages that can be sold in these vending machines. In July of 2000, the Oldham County Board of Education adopted nutritional standards which emphasize increasing the variety of foods and dietary fiber served, while reducing the dietary fat, sodium and sugar served, in their school lunch and breakfast programs. In addition, competitive foods served in the schools of that county must also meet these revised nutritional standards.

The proposal, outlined in Appendix A, would result in improvements in the nutritional value of foods and beverages sold in vending machines, school stores, canteens, and items sold for fundraising activities, and as a la carte items in cafeterias during the school day. A survey of vending companies in central Kentucky generated a list of readily available foods that meet the nutritional requirements set forth in this proposal. Appendix C includes the list of the currently available items from central Kentucky vending companies that would meet these new nutritional requirements. As shown, the proposed standards are not exceedingly strict and would allow a number of foods to be sold. In addition, vending company personnel stated that, if the market for these products increases, more items could be added to their lines that would meet these new competitive food requirements. It should be noted that soft drink companies supply the bottled waters and fruit juices that would meet these proposed standards.
A comparison of the fat and added sugar content of items in the current school vending machines with those vending machine items that would meet the new proposed competitive food requirements is striking. If a student chose one typical food and one typical drink each day for a week from the current vending machine offerings he/she would consume 13 teaspoons of fat and 74 teaspoons of added sugar per week. In contrast, if a student selected from the new items that would be contained in the vending machines as proposed, only 4 teaspoons of fat and 17 teaspoons of added sugar would be consumed for the week. Over the course of the school year, this would amount to a considerable caloric difference.

-Improving Physical Activity in Kentucky’s Schools

An abundance of evidence exists to support the benefits of regular physical activity in the reduction and prevention of obesity, type 2 diabetes, cardiovascular disease, hypertension, and other adverse metabolic alterations. Given the evidence of the benefits of regular physical activity concerted efforts should be made to ensure that safe and accessible opportunities are provided for children to engage in daily physical activity. Clearly there is a growing body of evidence indicating that there are important relationships between physical activity, brain development, and cognitive performance (Becraft, Gomez-Pinella 1998). In addition, several studies have indicated that there is concordance with the hypothesis that physical activity enhances academic performance (Dwyer 2001, Tremblay 200, Shepard 1997, Pate 1996). Thus, increasing the amount of physical activity a child receives during the school day is not in conflict with enhancing his/her academic performance.

As an integral part of The Kentucky Education Reform Effort (KERA) the Kentucky Learning Goals and Academic Expectations have specifically been stated to guide development and later evaluate the educational curriculum effectiveness of the state’s schools. The second of four major goals of KERA states “students shall develop their abilities to apply core concepts and principles from mathematics, the sciences, the arts, the humanities, social studies, practical living studies, and vocational studies to what they will encounter throughout their lives.” The practical living studies goals include, but are not limited to, student demonstration of the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being (Section 2.31); and student demonstration of knowledge and skills that promote physical activity and involvement in physical activity throughout lives (Section 2.35). Providing increased opportunity to obtain first-hand experiences by participating in physical activity on a regular basis, as a part of the required curriculum, would help to reinforce these concepts and would promote incorporating daily physical activity as a lifestyle change for the remainder of their lives. Furthermore, the Core Content for Practical Living/Vocational Studies Assessment currently examines at grades 5, 8 and 10 students’ knowledge of the effects of exercise (physical activity), diet, rest and other choices on body systems. Since there is a strong relationship between behavioral choices and habits and a healthy functioning body, providing practice and reinforcement of these concepts by engaging in regular physical activity would be an important addition to the curriculum, and thus the mission of the state education.

Effective physical activity interventions are goal-oriented and include an exercise prescription with sufficient detail pertaining to the mode, intensity, duration and frequency of
physical activity (American College of Sports Medicine 2000). While the optimal mode (or type) of physical activity for children has not been clearly established, recommendations include emphasis on the selection of activities that are age and maturation appropriate. A wide variety of activities should be included and that activities should include the use all major large muscle groups. The physical activities selected should above all be enjoyable to increase adherence and to promote positive childhood and youth physical activity experiences (American College of Sports Medicine 2000 & 2001, Pate 1998). The National Association for Sport and Physical Education and the American College Sports Medicine recommend that all children should accumulate at least 30 to 60 minutes of age-appropriate physical activity per day on most or all days of the week. Further, some physical activity each day should last 10-15 minutes or longer alternating between periods of moderate to vigorous activity.

Many individuals assume that the physical activity recommendations stated above are currently being met by physical education classes provided by public school systems. The 2001 Shape of the Nation Report: Status of Physical Education in the USA reported that while physical education is mandated by the state of Kentucky, there is no mandated time (duration) for physical education (NASPE 2002). The report estimated that elementary students participate in 1-2 days of physical education lasting 30-40 minutes in duration. Middle school students have physical education for 9-16 weeks per year. High school students are required to attend physical education 16 weeks to one year (depending on weekly frequency) to earn a mandated 0.5 credit hour for graduation. Even if all children and youth are physically active during the entire duration of the physical education period, the state of Kentucky is still falling drastically short of meeting the activity needs of its children and youth.

Extracurricular physical activity participation may help to provide the much-needed opportunity for the youth of Kentucky to meet daily physical activity requirements. However we cannot be assured that all children will chose to participate, or have available safe and/or accessible opportunities to engage in daily physical activity. Barriers to physical activity participation include, but are not limited to, socioeconomic issues (cost of programs and facilities, equipment costs, transportation costs, etc.); demographic issues (availability of proper terrain, and climate/weather conditions); family and/or community perception of the importance of physical activity; and safety issues (availability of sidewalks, playgrounds and playing fields/courts, lighting of outdoor recreational areas, and child-protected areas void of criminal behavior) (Brownson 2001, Wilcox 2000, Sallis, 2000, Trost 1997). In addition, many of the available extracurricular physical activity programs are "sport or team-oriented" where positive experiences are likely reduced for obese, overweight or under-skilled children.

Sedentary activities, such as television/movie viewing and computer based activities, contribute to the problem of increasing incidence of childhood obesity. These types of sedentary activities reduce energy expenditure and often increase energy intake, as children are more likely to be consuming food during this time (Dietz 2001). A study in low-and middle income children reported that odds ratios of obesity were 12% higher for each hour of television viewing per day, but 10% lower for each hour of moderate or vigorous physical activity per day. The children in this study reported an averaged of 4.1 hours of television viewing per day (Hernandez 1999). Although there are no available data providing information concerning the time spent in sedentary behaviors of the youth of Kentucky, a study of large group of sixth and seventh graders in Boston reported total viewing (including television, videos, movies, and computer
games) times of 3.35 hours per day combined with an average of 1.6 hours of reading and homework per day (Wiecha 2001).

In keeping with the findings and conclusions of the Surgeon General’s Call To Action to Prevent and Decrease Overweight and Obesity (2001), it is recommended that daily physical education be implemented in preschool through grade twelve. The proposal outlined in Appendix A calls for a gradual phase-in of daily physical activity in Kentucky’s public schools.

Common Health for the Commonwealth: Improving Kentucky’s Future

The current knowledge on the state of overweight and obesity is clear on several points. First, the prevalence of overweight and obesity is high and that the prevalence of obesity is rapidly increasing. Second, overweight children and adolescents are at high risk of becoming overweight or obese adults. Third, being overweight and/or obese increases the risk for serious diseases such as type 2 diabetes, hypertension, and high blood cholesterol. Fourth, being overweight and/or obese is associated with psychosocial consequences and with premature death and disability. Lastly, a healthy diet coupled with adequate physical activity will aid in achieving and maintaining a healthy weight [U.S. HHS Surgeon General 2001].

The Surgeon General has called for a national public health response to address this epidemic and to develop adequate prevention and treatment strategies. This response must focus on group influences, institutional and community influences, and public policy, in addition to strategies designed to address individual behavioral changes. One target area identified in the Surgeon General’s report is schools. Since most children spend a large proportion of time in school, many opportunities exist to engage and reinforce healthy eating practices and regular physical activity.

Interventions designed to improve the nutritional and physical activity environment of schools are provided in Appendix A, Proposed Interventions from the Kentucky Coalition on Type 2 Diabetes and Overweight In Children. It is strongly believed that the strategies proposed will have a positive impact on school nutrition and physical activity, thereby resulting in the improvement of health status among Kentucky’s children. These measures are important first steps as Kentucky begins to address this issue. It is also recommended that a legislative task force be created to assist in acquiring a broader understanding of this issue, including the economic and societal impact to Kentucky.

Overweight and obesity are public health problems and must be treated as such. As outlined in the Surgeon General’s report, actions to reduce overweight and obesity must take an integrated, multidimensional approach. Public policy must be addressed within a framework that incorporates input from key stakeholder groups across many different areas.
References


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Appendix A – Proposed Interventions from the Kentucky Coalition on Type 2 Diabetes and Overweight in Children

This proposal was developed in partnership with the leadership of the Kentucky Food Service Association (KSFSA).

Proposal for Addressing Obesity in Kentucky’s Schools:

1. Additional Requirements for School Food Service Directors (American School Food Service Association Credentialing or Level 2 Certification and continuing education) and continuing education for school cafeteria managers.

A. Work with the Kentucky School Food Service Association (KSFSA) to recommend amending KRS 160.431 to provide the following:

That each Superintendent shall appoint a School Food Service Director who is responsible (pursuant to Kentucky Board of Education administrative regulations) for the operation of the food service program in each public school district, except as set forth in B. below;

That any person holding the position of School Food Service Director on the effective date of the Act who does not hold the School Foodservice & Nutrition Specialist (SFNS) credential or the Level 2 certificate issued by the American School Food Service Association (ASFSA) shall obtain the credential or Level 2 certification (if they are not eligible by ASFSA rules to obtain the credential) within three (3) years of the effective date of the Act and shall maintain it (as part of the maintenance of the credential or certificate at least ten (10) hours of the required continuing education shall be directly related to applied nutrition and healthy meal planning and preparation);

That any person appointed to the position of School Food Service Director after the effective date of the Act, shall be required to obtain the ASFSA credential or Level 2 certificate (if they are not eligible by ASFSA rules to obtain the credential) within three (3) years of the appointment and shall maintain it (as part of the maintenance of the credential or certificate at least ten (10) hours of the required continuing education shall be directly related to applied nutrition and healthy meal planning and preparation);

B. Create a new section of KRS 160 that would allow two or more contiguous districts to form one “School Food Service Area” and to allow the superintendents from the districts to appoint a School Food Service Director to oversee the program in the School Food Service Area.

C. Create a new section of KRS 160 that would direct the Department of Education to amend 702 KAR 6:045 to require that school cafeteria managers receive 2 hours of continuing education annually in applied nutrition and healthy meal planning and preparation.
2). Competitive Food Rules

Create a new section of KRS 156 to provide the following:

A. The “school day” is defined as the period of time between the arrival of the first student at the building and the end of the last scheduled instructional period;

B. That during the school day, schools are prohibited from selling the following items through vending machines, school stores, canteens, student, teacher or group fundraisers, etc.:
   i. “chewing gum” as defined by 7 CFR 210, Appendix B;
   ii. “soda waters” as defined by 7 CFR 210, Appendix B;
   iii. “water ices” as defined by 7 CFR 210, Appendix B;
   iv. “candy” as defined as any item that contains more than 40% added sugar by weight;
   v. any juice or juice product that contains less than 35% real juice; or
   vi. excluding seeds and nuts, other items not previously described that contain more than 8 grams of fat per serving.

C. High schools (as defined by the configuration of grades 9-12, 10-12 or 11-12) may sell soda waters but only after one-half hour after the close of the last lunch serving period.

D. That a school may offer for a la carte sale on the cafeteria line only those items that meet the USDA standard for a breakfast or lunch component.

E. That schools are encouraged to offer, serve, sell or otherwise make water available to students.

F. That any public school that violates the provisions of this Act shall be subject to a penalty assessed by the district or the Department of Education. The first violation shall result in a fine of no less than one week’s revenue from the sale of the competitive food or beverage. Subsequent violations shall result in a fine of no less than one month’s revenue from the sale of the competitive food or beverage. Habitual violations, defined as five or more violations in one sixth-month period, shall result in a six-month ban on competitive food and beverage sales for the violating school. Revenue collected as a result of the fines shall be transferred to Fund 51 of the local school district.

3). School Lunches

Require that school lunches provide at least 6 grams of naturally occurring fiber per meal averaged over the course of one week.

4). Daily Physical Activity

Under the authority of KRS 156.160, direct the Kentucky Board of Education to promulgate or amend administrative regulations to require the following:
That beginning in the 2003-2004 school year, thirty (30)-minutes of structured, moderate to vigorous physical activity per day shall be initiated in the preschool through intermediate programs (preschool – grade 5); beginning in the 2004-2005 school year, thirty (30)-minutes of daily, structured, moderate to vigorous physical activity be initiated in the middle school program (grades 6-8); beginning in the 2005-2006 school year, thirty (30)-minutes of daily structured physical activity be initiated in the high school program (grades 9-12). The required physical activity shall be completed in at least fifteen (15)-minute segments. The Department of Education shall develop alternative plans and activities that address how this requirement can be integrated into the school day.

**Proposal to Create a Task Force to Address and Promote Child Health:**

5). Legislative Task Force to Address and Promote Child Health

Ask the General Assembly to create a legislative task force to address the obesity epidemic and the health consequences of obesity in Kentucky’s youth. Allow the existing task force to nominate up to seven (7) members. Task force membership, including leadership would be decided by the legislature. Goals of the legislative taskforce include:

1. Ascertain local and statewide data to determine actual statistics on the number of overweight and obese children in the state and the economic impact to the state;
2. Raise public awareness of the health issues related to childhood obesity, including the increased risk for cardiovascular disease, type 2 diabetes and other chronic diseases as well social issues associated with childhood obesity;
3. Identify agencies/programs currently available for the prevention and treatment of obesity;
4. Examine what role the Departments of Education and Public Health may play in prevention of overweight/obesity and the education, referral and support of overweight and obese children and their families;
5. Identify associations interested in addressing the issue;
6. Examine the current federal guidelines for the National School Breakfast and Lunch programs to determine if the state should adopt additional guidelines (such as fiber and water requirements) that would improve the nutritional value of meals served in schools;
7. With partners including those identified above, recommend a strategic plan based on *The Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity*; and
8. Present recommendations to the General Assembly no later than August 2003, unless this date is extended by the chair of the task force.
Appendix B

The *Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity (2001)* includes these specific recommendations for action in schools:

- Provide age-appropriate and culturally sensitive instruction in health education that helps students develop the knowledge, attitudes, skills, and behaviors to adopt, maintain, and enjoy health eating habits and a physically active lifestyle.

- Ensure that meals offered through the school breakfast and lunch programs meet nutrition standards.

- Adopt policies to ensure that all foods and beverages available on school campuses and at school events contribute toward eating patterns consistent with dietary guidelines.

- Provide food options that are low in fat, calories, and added sugars, such as fruits, vegetables, whole grains, and low-fat or nonfat dairy foods.

- Ensure that healthy snacks and foods are provided in vending machines, school stores, and other venues under the school’s control.

- Prohibit student access to vending machines, school stores, and other venues that compete with healthy school meals in elementary schools and restrict access in middle, junior, and high schools.

- Provide an adequate amount of time for students to eat school meals and schedule lunch at reasonable hours around midday.

- Provide all children, from preschool through grade 12, with quality daily physical education that helps develop the knowledge, attitudes, skills, behaviors, and confidence needed to be physically active for life.

- Provide daily recess periods for elementary students, featuring time for unstructured but supervised play.

- Provide extracurricular physical activity programs, especially inclusive intramural programs and physical activity clubs.

- Encourage use of school facilities for physical activity programs offered by the school and/or community-based organizations outside school hours.

- Evaluate the financial and health impact of school contracts with vendors of high-calorie foods and beverages with minimal nutritional values.
Appendix C

Snacks Available to Meet Proposed Vending Guidelines
The following are available through Lexington area vendors:

Doritos Nacho Cheesier (1 oz. snack package)  Andy Capp’s Hot Fries (1 oz. package)
Doritos Cooler Ranch (1 oz. snack package)    Zoo Animal Crackers
Cheese Nips Air Crisps (1.75 oz package)      Chex Mix Original
Rold Gold Tiny Twist Pretzels                 Fig Newtons
Rold Gold Classic Thin Pretzels               Rice Krispies Treats
Snyder’s Thin Pretzels                       Keebler Elfin Crackers
Snyder’s Olde Tyme Pretzels                  Snack Well’s Crème Sandwich
Baked Lays Crisps Regular                    Grandma’s Oatmeal Raisin Cookies
Baked Ruffles Cheddar and Sour Cream         Saltine Cracker 8 pack
Baked Lays KC Masterpiece                    Nature Valley Granola
Lance Products:
  Pistachios/ long tube                       Cinnamon
  Grilled Cheese Crackers                     Oats & Honey
  Salsa and Lanchee Crackers                   Chewy Fruit & Nut Trail Mix Bar
  Reduced Fat Toast-Chee Crackers             Kellogg Nutri Grain Bars
  Reduced Fat Toasty Crackers                 Strawberry
Wahoo’s (.75 oz package)
  Original
  BBQ
  Nacho Fiesta

Kentuckiana Vending and Williams Food Service noted that the following could be made available:
Austin’s Reduced Fat sandwich crackers:
  Cheese & Peanut butter
  Whole Wheat and Cheese
  Other reduced fat varieties
Reduced Fat Cheez-its                        Gold Fish Crackers
Sun Chips (1oz. package)                     Famous Amos Reduced Fat Ginger Snaps
  Original                                 Famous Amos Reduced Fat Lemon Snaps
  French onion
  Harvest cheddar

Other vending size products that meet guidelines:
Corn Nuts
  Original (0.8 oz, 1.7 oz)
  Ranch (1.7 oz.)

Beverages available
  Juices
Examples of Snacks Eliminated by Proposed Guidelines

**Candy Bars**
- Snickers
- Twix
- Milky Way
- Hershey Milk Chocolate
- Baby Ruth
- Butterfinger
- Chips deluxe,
- Pay Day
- Reese’s Stix
- Nutrageous
- Nestle Crunch

**Cookies**
- Oreo
- Nutter Butter
- Grandma’s Peanut Butter, Molasses, Chocolate chip
- Famous Amos regular variety of cookies
- Austin’s Crème filled cookies
- Keebler (Fudge Stripes, Pecan Sandies, Droxies,
- Rainbow chips, Soft Batch)

**Candy**
- Reese’s Cups
- M & M’s
- Twizzlers
- Starbursts
- Skittles
- Rollo’s
- Spree’s
- Sweet Tarts

**Fried Snacks**
- Regular Lays Chips (all flavors)
- Lays Bistro
- Fritos (all flavors)
- Cheetos (all varieties)
- Bugles (all flavors)
- Gardetto’s Snack mix
- Cheddar Chex mix

**Snack Crackers**
- Austin’s (peanut butter, cheese, all regular fat
- Ritz Bitz (peanut butter or cheese sandwiches)
- Frito Lay (Peter Pan, Dorito, or Cheeto brand)
- Cheez- its

**Cakes**
- varieties)
- Zingers
- Honey Bun
- Hostess Cupcakes (other brands)
- Hostess Brownies (other brands)

**Other**
- Cracker Jacks
- Chester’s Brand Butter or Cheese Popcorn
SCHOOL SNACKS
Healthy Choices
for a Healthy Future

COMPARISON
CURRENT vs PROPOSED

CALORIES
1955 vs 1230

FAT
60 grams vs 18 grams
14 teaspoons vs 4 teaspoons

SUGAR
297 grams vs 68 grams
74 teaspoons vs 17 teaspoons

One Week of Snacks Contain:
CALORIES = 1955
FAT = 13 teaspoons
SUGAR = 74 teaspoons (added)

Proposed School Vending Machine

Snyder's Pretzels
Zoo animal crackers
Snackwell
Nature Valley
Rice Krispies Treat
H2O
1% milk
H2O

One Week of Snacks Contain:
CALORIES = 1230
FAT = 4 teaspoons
SUGAR = 17 teaspoons (added)