




# Childhood Obesity & School Health Initiatives

Presentation to the  
State Board of Education  
October 19, 2006

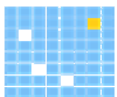
Center for Mississippi Health Policy  
120 North Congress Street, Suite 700  
Jackson, MS 39201  
601-709-2133



# Why Be Concerned about Overweight Children?

---

- Overweight children are at risk for early development of chronic disease, leading to disability and premature death.
- Overweight children miss more school days and demonstrate lower academic performance.
- Parents of overweight children often do not recognize that their child is overweight.

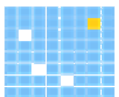




# Mississippi's Problem is Worse

---

- Mississippi has high rates of disease, disability, and death:
  - Premature death
  - SSI beneficiaries, overall disability
  - Heart disease, diabetes, hypertension, & stroke
- Mississippi has the highest rate of adult obesity.

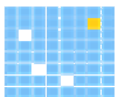




# Obesity Affects the “Bottom Line”

---

- Obesity accounts for approximately 9.1% of total annual medical expenditures.
- The estimated annual health care cost attributed to adult obesity (in 2003 dollars) in Mississippi is \$757 million, of which \$223 million is cost to Medicare and \$221 million is cost to Medicaid.
- Approximately 8% of private employer medical claims are due to overweight and obesity.
- About 27% of the increase in medical costs from 1987 to 2001 was due to obesity.

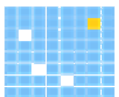




# Now, The Good News

---

- In 2003, the Arkansas Legislature passed landmark legislation that implemented a comprehensive initiative to reduce and prevent overweight among children.
- Data collected during the 2004-05 school year indicate that Arkansas has halted the increase in the prevalence of overweight children.

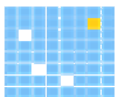




# Arkansas' Results

Category	2003-04	2004-05	2005-06
Overweight	20.9%	20.8%	20.4%
At Risk	17.2%	17.2%	17.1%
Healthy Weight	60.1%	60.1%	60.6%
Underweight	1.8%	1.9%	1.9%
Total Students Assessed	348,710	372,369	371,082

Source: Arkansas Center for Health Improvement. *Tracking Progress: The Third Annual Arkansas Assessment of Childhood and Adolescent Obesity*. August 2006.



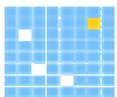


# What Did Arkansas Do?

---

- Act 1220 of 2003
  - Required annual BMI\* reports on each child to be sent to the child's parents
  - Set limitations on vending machine products
  - Created local school district level advisory committees
  - Established a Child Health Advisory Committee (CHAC) to make further recommendations to the State Board of Education

\*BMI=Body Mass Index. BMI is calculated from the child's height and weight and is considered a proxy measure for body fat.



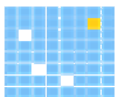


# Regulations of the Arkansas State Board of Education

---

- Mandate the establishment of local School Nutrition and Physical Activity Advisory Committees to assist with the implementation of and monitor compliance with state standards.
- Mandate an annual assessment of each school using CDC's *School Health Index for Physical Activity, Healthy Eating, and a Tobacco-Free Lifestyle*. (5 specific modules as a minimum)
- Mandate that the annual assessment be included in the individual school's improvement plan.

*Note: Many of these recommendations are designed to be phased in over several years.*







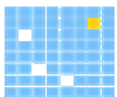
# Arkansas Regulations (Continued)

---

- Restrict access to Foods of Minimal Nutritional Value (FMNV)\*
  - Elementary Schools – prohibited during the declared school day
  - Middle/Junior High & High Schools – prohibited during the declared school day until 30 minutes after the end of the last lunch period
- Limit portion sizes for competitive foods (when allowed)
- Require certain healthy foods to be offered whenever competitive foods are sold.

\*A list of foods published by the U.S. Department of Agriculture that have few nutrients. Carbonated sodas, chewing gum, hard candies, licorice candy, and marshmallows are examples of items on this list.

*Note: Many of these recommendations are designed to be phased in over several years.*



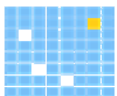


# Arkansas Regulations (Continued)

---

- Prohibit schools from providing extra servings of desserts, french fries, or ice cream in elementary schools even when served during meal periods.
- Develop grade-appropriate academic content standards and learning expectations for nutrition education and integrate nutrition education into the curriculum.

*Note: Many of these recommendations are designed to be phased in over several years.*



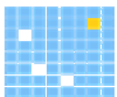


# Arkansas Regulations (Continued)

---

- Require at least 30 minutes of physical activity each day in grades K – 12.
- Require a minimum level of physical education per week that varies by grade level.
- Require that there be at least one certified FTE physical education teacher for every 500 students in grades K-6.

*Note: Many of these recommendations are designed to be phased in over several years.*

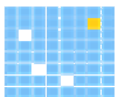




# Other CHAC Recommendations

---

- Establish certain restrictions on fat content and on fried foods.
- Place certain requirements on professional development for child nutrition professionals in the schools.
- Define minimum time periods for lunch and breakfast.

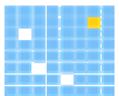




# State Legislation in 2005

---

- In 2005, legislation was introduced in 45 states to address the increasing rate of obesity among children.
- Thirty-eight states considered and 18 enacted legislation setting nutrition standards for school foods and beverages.
- Fifteen states considered and 3 states enacted legislation requiring the assessment of body mass index (BMI) in children.
- Thirty-nine states considered and 22 enacted legislation regulating physical activity, recess, or physical education.
- Twenty states considered and 9 enacted legislation relating to nutrition education in schools.

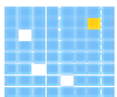




# Legislation & Policies: BMI

---

- Arkansas enacted legislation in 2003 requiring annual BMI reports to parents.
- California legislation in 2003 included BMI measurement as part of a diabetes screening pilot program.
- Missouri, Tennessee, and West Virginia enacted BMI legislation in 2005.
- State health departments in Florida and Pennsylvania require BMI measurement in schools.

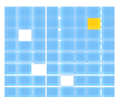




# Legislation & Policies: Nutrition

---

- A number of states enacted legislation mandating State Boards of Education to establish nutritional standards for all food and drinks sold outside the school meal programs. (e.g., KY, NC, SC, TN)
- Arizona legislation prohibits the sale of Foods of Minimal Nutritional Value (FMNV) during the normal school day at any elementary, middle, or junior high school.
- Kentucky enacted legislation that prohibits serving deep-fried foods in schools and requires schools to publish a menu that specifies nutritional information.

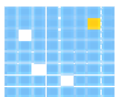




# Kentucky Legislation: Competitive Foods

---

- Requires the Board of Education to issue regulations that set minimum nutritional standards for all food and beverage programs that are sold outside the Nutritional School Breakfast and National School Lunch programs.
- Bans the sale of competitive foods and beverages from the arrival of the first student at the school building until 30 minutes after the last lunch period.
- Allows only “school-day-approved beverages” to be sold in elementary school vending machines, school stores, canteens, or fundraisers during the school day:
  - water
  - 100 percent fruit juice
  - low-fat milk
  - other beverages containing less than 10 grams of sugar per serving



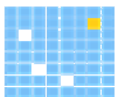




# Kentucky Legislation: Enforcement (Competitive Foods)

---

- Assesses penalties for schools that violate the requirements:
- 1<sup>st</sup> violation – fined at least one week’s revenue from the sale of competitive food
- Subsequent Violations – fined at least one month’s revenue from the sale of competitive food
- “Habitual Violations” (more than 5 within a six month period) – a six-month ban on competitive food sales
- Money from the fines will be transferred to the local school district’s food service fund

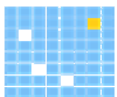




# Kentucky Legislation: School Food Service Personnel

---

- Sets requirements for food service personnel. (CA, HI, NC also target food service personnel)
- Each district must hire a credentialed “school food service and nutrition specialist” within the years of the effective date of the bill.
- The specialist and cafeteria managers are required to receive continuing education in nutrition and healthy meal planning.

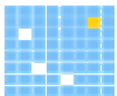




# New Jersey Policy: Competitive Foods

---

- The policy was developed in 2005, and it must be fully adopted by all NJ schools by September 2007.
- Soda, any food item listing sugar as its first ingredient, all forms of candy, and FMNV as defined by USDA cannot be served, sold or given for free anytime during the school day.
- The above applies to vending machines, cafeterias, a la carte items, school stores, school fundraisers, and the after-school snack program.
- Snacks and drinks sold anywhere on a school campus must have no more than 8 grams of fat and 2 grams of saturated fat per serving, and drinks can't exceed more than 12 ounces, except bottled water.
- Time was spent reaching out to parents, teachers, and students, sharing the proposed policy's scientific evidence base and building support.
- Five NJ schools that started the policy early in 2005 have yet to experience any revenue losses.

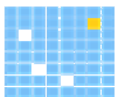




# West Virginia Policy: Competitive Foods

---

- The West Virginia Board of Education prohibits the sale or serving of the following foods in vending machines, classroom parties, and fundraising events during school hours:
  - chewing gum, flavored ice bars, and candy bars;
  - foods or drinks containing 40 percent or more sugar by weight or more than 8 grams of fat per ounce
  - juice or juice products containing less than 20 percent real fruit or vegetable juice
- In addition, soft drinks are prohibited at elementary and middle schools.

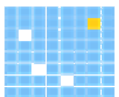




# Alabama Policy: Nutrition

---

- Require each school to develop and implement a strategic plan for improving the school nutrition environment, including phasing out low-nutritive foods and phasing in high-nutritive foods.
- Prohibit schools from using the state's Child Nutrition Program funds to buy new fryers for the school breakfast and lunch programs.
- Encourage schools to switch from self-service cafeteria lines in order to control portion sizes.

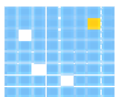




# Legislation & Policies: Physical Education

---

- Many states have established committees, councils, task forces, etc. to develop plans/recommendations and examine current policies to improve physical activity to prepare for future policy actions.
- A number of states have legislation that established time and frequency requirements for physical education and activity.
- At least 28 states have developed standards and/or curriculum frameworks for physical education.
- Standards are usually based on the those set by the National Association for Sports and Physical Education (NASPE).

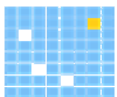




# West Virginia Policy: Physical Activity

---

- West Virginia Board of Education instituted the Fitnessgram physical fitness test for grades 4 - 12.
- The new policy no longer requires children in grades K through 3 to undergo a fitness test so that emphasis can be placed on motor skill development.
- The Board selected this fitness test over the Presidential Challenge Test, which measures students against each other, because it uses criteria to measure students' body composition, muscular strength, endurance, flexibility and aerobic capacity.

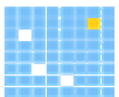





# Kansas School Wellness Policy

---

- Provides guidance in 3 focus areas: nutrition, nutrition education and physical activity.
- There are 3 levels:
  - Basic (meets all federal and state requirements)
  - Advanced (additional healthful guidelines beyond the Basic)
  - Exemplary (incorporate all basic and advanced guidelines in addition to more healthful guidelines)
- The guidelines provide physical activity recommendations for P.E. classes, recess, before and after school, and the community.



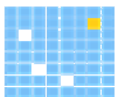




# South Carolina Legislation: Physical Education

---

- SC passed H.B. 3499 setting the student-to-certified P.E. teacher ratios for elementary school to be phased in from:
  - 700:1 for 2006-07
  - 600:1 for 2007-08
  - 500:1 for 2008-09
- Each elementary school must appoint a P.E. teacher to serve as its Physical Education Activity Director to coordinate additional physical activity outside of scheduled physical education instruction times.

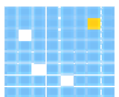




# Recommendations of Leaders in the Field

---

- National Association of State Boards of Education (NASBE)
- Centers for Disease Control
- Institute of Medicine

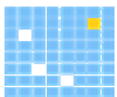




# National Association of State Boards of Education and Centers for Disease Control

---

- Address physical activity and nutrition through a Coordinated School Health Program approach.
- Designate a school health coordinator and maintain an active school health council.
- Assess the school's health policies and programs and develop a plan for improvement.
- Strengthen school nutrition and physical activity standards.
- Implement high quality courses of study in health education and physical education.
- Implement a high quality health promotion program for school staff.

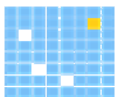




# NASBE & CDC Recommendations (Continued)

---

- Increase opportunities for students to engage in physical activity.
- Implement a quality school meals program.
- Ensure that students have appealing, healthy choices in foods and beverages offered outside of the school meals program.
- Ensure that P.E. teaching involves the ability to provide significant skills and knowledge to students.
- If it is not possible to require all elementary P.E. teachers to be certified at the elementary level, employ at least one certified P.E. teacher per school who is accountable for advising and mentoring other P.E. teachers.

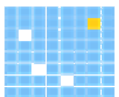




# Institute of Medicine

---

- Establish accountability mechanisms for school nutrition and physical activity standards, including school-specific reports.
- Ensure that children and youth participate in at least 30 minutes of moderate to vigorous physical activity during the school day.

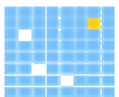




# Other IOM Recommendations

---

- Conduct annual assessments of students' height, weight, and BMI, and report to parents.
- Make schools as advertising-free as possible.
- Will issue recommendations in October regarding appropriate nutrition standards for the availability, sale, content, and consumption of foods and beverages at school.

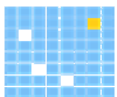




# Mississippi Standards: Health Education

---

- Compliance with all National Health Education Standards
- MS Public School Accountability Standard 20
  - Requires ½ Carnegie unit for high school graduation
- MS Code 37-13-134
  - ALLOWS school health councils to recommend number of hours of instruction

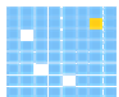




# Mississippi Standards: Physical Education

---

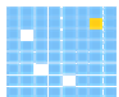
- Compliance with National Physical Education Standards
- MS Code 37-13-134
  - Recommends 30 minutes per day K-6
  - Recommends 2 hours per week 7-12
- MS Public School Accountability Standard 33
  - Requires Physical Education to be part of the basic curriculum in grades K-8 must be based on MS Framework
  - No time or frequency required





# Mississippi Standards: Child Nutrition

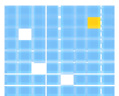
Calories & Nutrient Levels for School Lunch (school <u>WEEK</u> averages)				
	Preschool	Grades K-6	Grades 7-12	Grades K-3 Optional
Calories	517	664	825	633
Protein (g)	7	10	16	9
Calcium (mg)	267	286	400	267
Iron (mg)	3.3	3.5	4.5	3.3
Vitamin A (RE)	150	224	300	200
Vitamin C (mg)	14	15	18	15
Total Fat	No more than 30 percent of total calories for the week should come from fat.			
Saturated Fat	Less than 10 percent of total calories for the week should come from saturated fat.			





---

# Recurring Themes

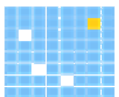




# Recurring Themes - Structure

---

- Work through a Coordinated School Health Program. (Mississippi does this at MDE)
- Establish and maintain effective local school health councils and designate school health coordinators. (Mississippi has done this)
- Schools annually assess the health policies and programs. (CDC School Health Index)
- Develop mechanisms of accountability for adhering to standards.

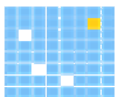




# Recurring Themes - Nutrition

---

- Provide healthy foods, and remove foods with little or no nutritional value. (MS vending regulations for competitive foods)
- Train and/or certify food service staff. (MS standard/training could be increased)
- Provide effective nutrition education. (MS framework in place)
- Coordinate food service and nutrition education.
- Involve and educate parents and communities.

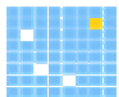




# Recurring Themes – Physical Education

---

- Require minimum levels of physical education.
- Establish standards and curriculum frameworks for P. E. (Mississippi does this)
- Require P. E. to be provided directly by or under the supervision of certified P. E. teachers.
- Encourage students to participate in sports and extracurricular physical activity programs. (Mississippi does this)

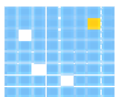




# Recurring Themes - Vending Machine Legislation

---

- Prohibit access to vending machines and school stores in elementary schools.
- Require middle/junior high and high schools to keep vending machines turned off during regular school hours or until the end of the last lunch period.
- Require, if soft drinks are allowed, that “healthy beverages” account for more than half of the total beverages offered and be located near the vending machines containing soft drinks.

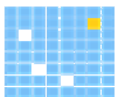




# Nutrition Action Items to Consider

---

- Prohibit schools from providing extra servings of desserts, fried foods, or ice cream in elementary schools even when served during meal periods.
- Restrict fat content of any and all food offered on school campus.

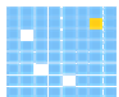




# References

---

- Anderson, P.M., & Butcher, K.F. (2005). Reading, writing, and Raisinets: are school finances contributing to children's obesity? Working Paper 11177. Cambridge, MA: National Bureau of Economic Research, 2005.
- Arkansas Center for Health Improvement. (2006). *Tracking Progress: The Third Annual Arkansas Assessment of Childhood and Adolescent Obesity*. August 2006
- Baughcum, A. E., Chamberlin, L. A., Deeks, C. M., Powers, S. W. Whitaker, R. C. (2000). Maternal perceptions of overweight preschool children. *Pediatrics*, December 2000, 106 (6): 1380 – 1386.
- Centers for Disease Control (CDC). (2004). National Center for Health Statistics. Prevalence of Overweight among Children and Adolescents: United States, 2003-2004. Accessed from [www.cdc.gov/nchs/products/pubs/pubd/hestats/obese03\\_04/overwght\\_child\\_03.htm](http://www.cdc.gov/nchs/products/pubs/pubd/hestats/obese03_04/overwght_child_03.htm) September 2006.
- Centers for Disease Control. (2006). *Morbidity & Mortality Weekly Report*, January 13, 2006, 55(1): 5-8.
- Centers for Disease Control. (2006). Youth Risk Behavior Surveillance—United States, 2005. *Morbidity & Mortality Weekly Report* 2006;55(SS-5):1–108.
- Datar, A. Sturm R., & Magnabosco, J.L., (2004). Childhood overweight and academic performance: national study of kindergartners and first-graders. *Obesity Research*,12(1):58-68.
- Datar, A. & Sturm R. (2006). Childhood overweight and elementary school outcomes. *International Journal of Obesity*, 30(9):1449-1460.



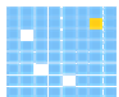




# References

---

- Ebbeling, C.B., Feldman, H.A., Osganian, S.K., Chomitz, V.R., Ellenbogen, S.J., and Ludwig, D.S. (2006). Effects of decreasing sugar-sweetened beverage consumption on body weight in adolescents: a randomized, controlled pilot study. *Pediatrics*, March 2006, 117(3): 673-680.
- Eckstein, K. C., Mikhail, L. M., Ariza, A. J., Thomson, J. S., Millard, S. C., and Binns, H. J. (2006). Parents' perceptions of their child's weight and health. *Pediatrics*, March 2006, 117 (3): 681 – 690.
- Finkelstein, E. A., Fiebelkorn, I. C., & Wang, G. (2003). National medical spending attributable to overweight and obesity: how much and who's paying? *Health Affairs*, Web Exclusive, May 2003.
- Finkelstein, E. A., Fiebelkorn, I. C., & Wang, G. (2004). State-level estimates of annual medical expenditures attributable to obesity. *Obesity Research*, 12 (1): 18-24.
- French SA, Story M, Jeffery RW. (2001). Environmental influences on eating and physical activity. *Annual Review of Public Health* 22:309–335.
- French SA, Lin BH, Guthrie JF. (2003). National trends in soft drink consumption among children and adolescents age 6 to 17 years: Prevalence, amounts, and sources, 1977/78 to 1994/1998. *Journal of American Dietetic Association*, 103(10):1326–1331.
- Health Policy Tracking Service. (2006). *2005 State Actions to Promote Nutrition, Increase Physical Activity and Prevent Obesity: A Legislative Overview*. Thomson West, 2006.
- The Henry J. Kaiser Family Foundation. (2006). [www.statehealthfacts.org](http://www.statehealthfacts.org) accessed September 14, 2006.

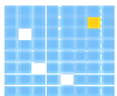




# References

---

- Institute of Medicine. (2005). *Fact Sheet drawn from Preventing Childhood obesity: Health in the Balance*. National Academy of Sciences, Institute of Medicine.
- Institute of Medicine. (2005). *Progress in Preventing Childhood Obesity: Focus on Schools – Brief Summary: Institute of Medicine Regional Symposium; Committee on Progress in Preventing Childhood Obesity, 2005*. National Academy of Sciences, Institute of Medicine.
- Kolbo, J. R., Penman, A. D., Meyer, M. K., Speed, N. M., Molaison, E. F., and Zhang, L. Prevalence of overweight among elementary and middle school students in Mississippi compared with prevalence data from the Youth Risk Behavior Surveillance System. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, July 2006, 3(3): 1 – 10.
- Krisberg, K. (2005). Schools Taking Center Stage in Battle Against Childhood Obesity: Reaching Students Where They Learn. *The Nation's Health*. September 2005.
- Lakdawalla, D., Goldman, D.P., Bhattacharya, J., Hurd, M.D., Joyce, G.F., & Panis, C.W.A. (2003). Forecasting the nursing home population. *Medical Care* 41(1):8-20.
- Lakdawalla, D.N., Bhattacharya, J., & Goldman, D.P. (2004). Are the young becoming more disabled? *Health Affairs*, 23(1):168-176.
- Ludwig, D.S., Ebbeling, C.B. (2001). Type 2 Diabetes mellitus in children: primary care and public health considerations. *Journal of the American Medical Association*, Sept. 2001
- Narayan, K.M, Boyle, J.P., Thompson, T.J., Sorensen, S.W., & Williamson, D.F. (2003). Lifetime risk for diabetes mellitus in the United States. *Journal of the American Medical Association*, October 8, 2003, 290(14):1884-1890
- National Association of State Boards of Education. (2000). *Fit, Healthy, and Ready to Learn: Part 1 - Physical Activity, Healthy Eating, and Tobacco Use Prevention, 2000*.
- National Conference of State Legislatures. (2005). Childhood Obesity – 2005 Update and Overview of Policy Options. <http://www.ncsl.org/programs/health/ChildhoodObesity-2005.htm>





# References

---

- National Heart, Lung, and Blood Institute (NHLBI). (2000). *The Practical Guide: Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults*, 2000.
- Rand Corporation. (2004). *Obesity and Disability: The Shape of Things to Come*. Santa Monica, CA. 2004.
- Schwimmer, J.B., Burwinkle, T.M., & Varni, J.W. (2003). Health-related quality of life of severely obese children and adolescents. *Journal of the American Medical Association*, April 9, 2003, 289(14):1813-1819.)
- Stevenson, G.D., & Matich, R. (2004). *Obesity among Mississippi's Children*. Mississippi State University, Health Policy Research Center, Social Science Research Center. January 2004.
- Thorpe, K.E., Florence, C.S., Howard, D.H., Joski, P. (2004). The impact of obesity on rising medical spending. *Health Affairs*, Web Exclusive, October 29, 2004.
- U. S. Health Resources and Services Administration. (2005). *Overweight and Physical Activity among Children: A Portrait of States and the Nation, 2005; The National Survey of Children's Health*. 2005.
- U. S. Office of the Surgeon General. (2001). *Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*, 2001.
- Wald, E. R., Ewing, L., Cluss, P., Goldstrohm, S., Cipriani, L., and Colborn, C. (2005). Establishing a family-based intervention for overweight children in pediatric practice. *Annals of Family Medicine*, 3 (Suppl 2):S45-S47.
- Winterfeld, A. (2006). *Childhood Obesity: Legislative Policy Approaches and the Evidence Base to Date*. National Conference of State Legislatures, July 2006.

