

# Act 1220 of 2003 Legislative Report

July of 2023 - June of 2024

By: Child Health Advisory Committee

with assistance from:

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**Introduction:**

**Act 1220 of 2003: An Act to create a child health advisory committee; to coordinate statewide efforts to combat childhood obesity and related illnesses; to improve the health of the next generation of Arkansans; and for other purposes.** \*Act 201 of 2007 and Act 719 of 2007 amend Act 1220 of 2003.

This is the Act 1220 Coordinators report highlighting the work of programs resulting from Act 1220 of 2003 and those that amended the act. Additionally, historical information is included to provide context for Act 1220 of 2003, amending acts, and collaborative, bi-partisan efforts of Governor Mike Huckabee, Senator Herschel Cleveland, and others to address the health concerns facing Arkansas. The article titled “Evaluation of Act 1220 of 2003: Lessons Learned, 2004-2012” published in February of 2014, beginning on page 3 of the article provides this:

**Raising Policymaker Awareness**

“The idea to create a state law that focused on reversing the childhood obesity epidemic in Arkansas emerged in early 2002 after key individuals involved in the creation of the law attended two conferences on health-related issues. The National Conference of State Legislatures, the National Governors Association and the Association for State and Territorial Health Officials held a conference in January 2002 dedicated to developing obesity-related legislation and policy. Delegates from five states participated in the conference, ‘Using Limited Health Dollars Wisely: What States Can Do to Create the Health System They Want.’ Conference objectives included raising awareness of the health goals in each state, learning strategies to use funds more efficiently, promoting collaboration among health policy-makers and identifying the next steps for each state’s health policies... (Raczynski, et al)”

It should also be noted, Act 1220 of 2003 has served as a model for other states and has been cited in national studies and reports on effective strategies to combat childhood obesity. The Child Health Advisory Committee (CHAC) has played an essential role in reducing childhood obesity in Arkansas. The CHACs work has also been valuable in efforts to increase awareness of the link between student health and academic achievement.

**Reasoning**

Childhood obesity is a complex health issue which impacts the health of children in a variety of ways that lead to the decline in both physical and psychological health and has immediate and long-term effects. According to the [Centers for Disease Control and Prevention](#) (CDC), children who are obese are more likely to have or experience:

- High blood pressure and high cholesterol, which are risk factors for cardiovascular disease;
- Increased risk of impaired glucose tolerance, insulin resistance, and Type 2 diabetes;
- Breathing problems such as asthma and sleep apnea;
- Joint problems and musculoskeletal discomfort;
- Fatty liver disease, gallstones, and gastro-esophageal reflux (i.e., heartburn);
- Psychological problems such as anxiety depression, and suicide;
- Low self-esteem and lower self-reported quality of life;

- Social problems such as bullying and stigma.

According to the Arkansas Center for Health Improvement (ACHI) Year 20 Report of the BMI Project, 23.8% of Arkansas students are overweight or obese, which is down from 25.5% from the previous Child Health Advisory Committee (CHAC) report. Overweight and obesity are concerns for children in Arkansas, particularly when 70-80% of children who have obesity are likely to become adults with obesity. Children that become adults who are overweight and obese are more likely to have severe risk factors for heart disease, Type 2 diabetes, and multiple types of cancer when compared to those without obesity from childhood to adulthood.

According to the CDC, research shows a strong connection between healthy behaviors and academic achievement. CHAC previously endorsed the [CDC's Whole School, Whole Community, Whole Child \(WSCC\) model](#). This model supports academic growth by encouraging positive health behaviors and education. The CDC also [found](#) that evidence-based, well-coordinated, and strategically planned school health programs and services-which account for the individual, family, school, and community-are necessary for closing the academic achievement gap as well as addressing the childhood obesity epidemic. Addressing the complexity of childhood obesity requires examining [factors](#) such as:

- Genetics.
- Metabolism-how the body changes food and oxygen into energy it can use.
- Eating and physical activity behaviors.
- Community and neighborhood design and safety.
- Short sleep duration.
- [Negative childhood events](#).

The [CDC's Whole School, Whole Community, Whole Child](#) model for Coordinated School Health takes into account that it is easier to learn healthy behaviors earlier in life rather than changing behaviors as an adult. This model also acknowledges the unique position schools are in to aid children in establishing life-long healthy behaviors. In this model there are ten (10) opportunity areas to address childhood obesity. The 10 areas are:

1. Physical education and physical activity.
2. Nutrition environment and services.
3. Health education.
4. Social and emotional school climate.
5. Physical environment.
6. Health services.
7. Counseling, psychological and social services.
8. Employee wellness.
9. Community involvement.
10. Family engagement.

Since 2003, the volunteer members from the mandated organizations of the CHAC have worked to develop recommendations to address issues, policies, and legislation related to school

health. The members of the CHAC continue to support improved school health policy and program components and are available to provide support to legislators and policymakers as they seek to address issues and develop policies to support schools. The CHAC now meets the second Thursday of each month in a virtual, public meeting. The following report addresses the support provided for the implementation of the nutrition and physical activity standards; professional development provided regarding the wellness rules by staff; outreach by the CHAC; and progress of the Coordinated School Health Program.

### **CHAC Committee**

The organizations mandated to provide representation to the CHAC are appointed by the Secretary of Health, at the Arkansas Department of Health and Secretary of Education at the Arkansas Department of Education. Each organization provides qualified individuals to represent their organization every three years or as needed in the event of a vacancy. Terms begin August 1st of the appointment year and end July 31st of the third year (unless an appointee is completing the term of a predecessor). No organization required replacement appointments due to inability to attend for this reporting cycle. The CHAC operated under the “Operating Guidelines” as stated in the CHAC Bylaws.

#### *Appointed by the Secretary of Health:*

1. Arkansas Department of Health
2. Arkansas Academy of Nutrition & Dietetics
3. American Academy of Pediatrics, Arkansas Chapter
4. Arkansas Academy of Family Physicians
5. Society of Health and Physical Educators (SHAPE), Arkansas
6. Arkansas Heart Association, American Cancer Society & American Lung Association
7. University of Arkansas for Medical Sciences, Fay W. Boozman of Public Health
8. Arkansas Center for Health Improvement
9. Arkansas Advocates for Children & Families
10. University of Arkansas, Division of Agriculture, Cooperative Extension
11. Office of Health Disparities Elimination

#### *Appointed by the Secretary of Education:*

1. Arkansas Department of Education, Division of Elementary and Secondary Education
2. Arkansas School Nutrition Association
3. Arkansas School Nurses Association
4. Arkansas Association of Educational Administrators
5. Arkansas Parent Teacher Association
6. Arkansas Schools Boards Association
7. Arkansas Association of School Business Officials
8. Arkansas Association of Supervision & School Curriculum Development
9. Classroom Teachers

**ACT 1220 of 2003 created the Child Health Advisory Committee to develop nutrition and physical activity standards and policy recommendations to the State Board of Education (BOE) and the State Board of Health (BOH) to combat childhood obesity in public schools, grades K-12 and monitor the progress of implementation of Act 1220 and the Coordinated School Health Program. Additionally, it created the (Act 1220) Program Coordinator(s) and Community Health Promotion Specialist (CHPS). These positions work in essential partnerships discussed in the summaries provided.**

**Summary of the Child Health Advisory Committee Activities:**

In accordance with Act 1220 of 2003 and the amending acts, the CHAC met monthly, sent required media alerts, and maintained representation of the required organizations throughout the year. The following is a brief overview of the work of CHAC.

- Reviewed the *Allowable Competitive Foods/Beverage-Maximum Portion Size List*, updated as needed, and transmitted to ADE-DESE, Child Nutrition Unit for distribution via Commissioner’s Memo.
- The CHAC reviewed the Assessment of Childhood and Adolescent Obesity in Arkansas Year 20 (Fall 2022-Spring 2023) December 2022 [report](#).
- The CHAC reviewed the Arkansas Center for Health Improvement’s Body Mass Index Program page.
- The CHAC hosted
  - Larry Ballard (Arkansas Department of Human Services, TEFRA)
  - Brady Lacy (American Heart Association)
  - Amanda Welch (4-H Youth Development)
  - Sheila Chastain (Child Nutrition Unit)
  - Jennifer Wessel (Arkansas Center for Health Improvement)
  - Dr. Brett Stone (Arkansas Tech University) as guest presenters.
- The CHAC began reviewing all previous recommendations accepted by the State Board of Health and State Board of Education to assess for gaps of implementation. FY 23 and FY 24 recommendations were presented at the June ADH Executive Team Meeting and the July ADH Board of Health Meeting. Questions regarding recommendations addressing mental health and facilities required additional review of specific recommendations.
- CHAC New Member Orientation was provided to the organizations’ new representation.

**Summary of the Act 1220 Coordinators (State Health and Wellness Coordinators) Activities:**

Regarding the requirement for nutrition and physical activity goals and objectives be included in annual school planning and reporting process:

- Beginning October 1st each year, the district and school level School Health and Wellness Improvement plan required by state mandates and Arkansas Education Accreditation standards were noted to be submitted. The due date was October 1st (2023), but many schools' plans required revisions causing delays in acceptance.
- By May of 2024, ADE announced a transition away from the Indistar platform to the AR App. With this change, plans for School Year 2024/2025 were to be submitted by June of

2024. There were some transitional obstacles, but overall, the transition was successful. This transition required communication between the Act 1220 Coordinators, CHPS, Community Health Nurse Specialists (CHNS), and the Coordinated School Health (CSH) Advisors to ensure proper support and guidance were provided. As every school district was required to complete their reports in the AR App. This app replaced the applications for 17 processes/plans required by ESSA and Arkansas Statute.

- School Health Services staff at ADH and ADE provided more than 121 instances of technical assistance on School Wellness Committees, School Wellness Policy, School Health Index, School Health and Wellness Priority Planning.
- In collaboration with Arkansas Center for Health Improvement, [Body Mass Index State Report](#) was developed.
- In collaboration with Arkansas Center for Health Improvement, Body Mass Index reports for school, district, and state level by year were developed and made more accessible through an online dashboard.
- In the 2023/2024 school years the Student Wellness Advocacy Group (SWAG) Program had 5 schools, and approximately 100 instances of students engaging in health education training through ADH partnerships. The participating schools included:
  - **Concord High School**-16 students
  - **Ouachita High School**-39 students
  - **Prescott High School**-15 students
  - **Little Rock Southwest High School**-8 students
  - **Yellville Summit High School**-13 students

There were additional 215 instances of students participating in SWAG activities with more than 830 non-SWAG member participants/attendees. The pre/post assessment indicates participants gained confidence and knowledge related to health and advocacy training topics. Click [Concord SWAG 2024](#) to view highlights from Concord High School's 2023-2024 SWAG program.

- Facilitated the CHAC monthly meetings, maintained records, provided updates to the webpage as necessary, ensured members were provided orientation, and ensured the CHAC was informed on the status and requirements of the presentation of the Rules Governing Nutrition and Physical Activity Standards and Body Mass Index (BMI) Protocols in Arkansas Public Schools, Maximum Portion Size List, The Rules Process, Wellness Policy, School Health Index Reporting (SHI), AR APP, legislation related to nutrition, physical activity, CSH, and BMI.

### **Summary of the Community Health Nurse Specialists (CHNS), and Community Health Promotion Specialists (CHPS) Activities:**

The CHPS/CHNS are part of Hometown Health Improvement (HHI) and provide essential health education in four (4) primary domains (Tobacco/Nicotine, Injury and Violence Prevention, Wellness, General WSCC) in relation to Act 1220 and the amending legislation. Their training and education in these domains have also aided educators in receiving their mandated professional development at no or very low cost. The attendees are divided into 19 years or older and under the age of 19. The total number of participants based on these groups were:

- 11,098 - 19 years or older
- 73,837 - under 19

At tobacco/nicotine prevention trainings, there were 961 attendees 19 years or older and 15,062 attendees under the age of 19.

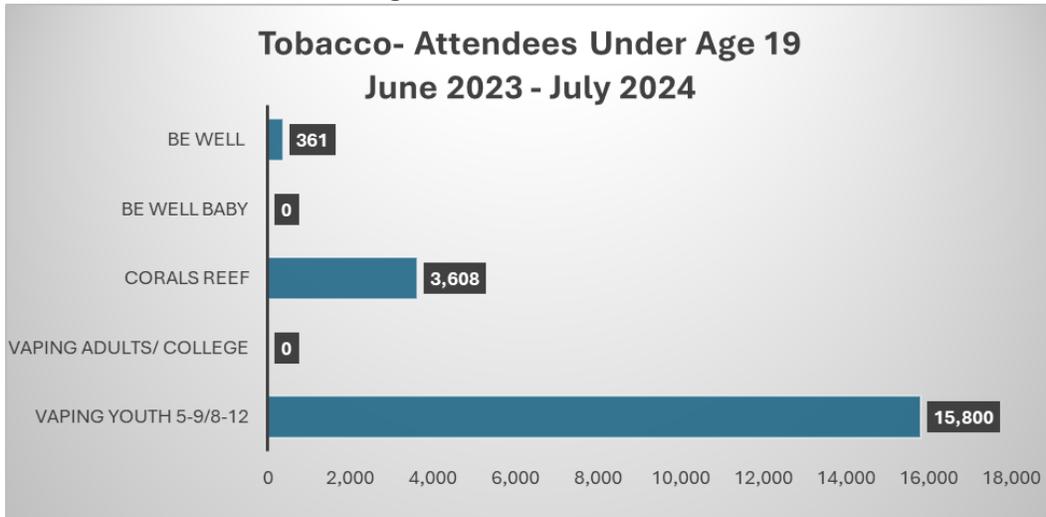


Figure 1. Tobacco Presentation Youth: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

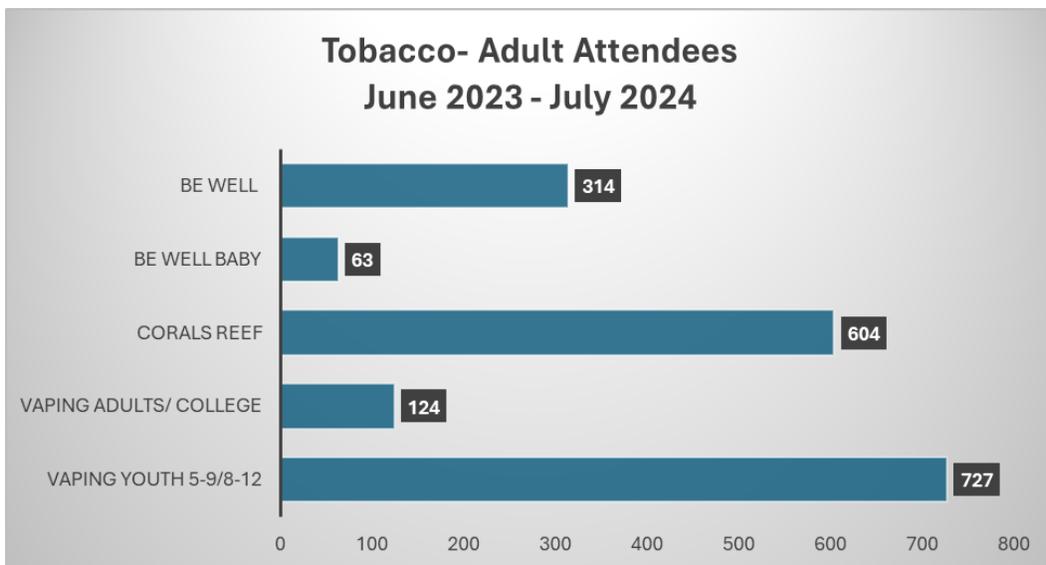


Figure 2. Tobacco Presentation Adults: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

At injury and violence prevention trainings, there were 3,415 attendees 19 years or older and 7,492 attendees under the age of 19.

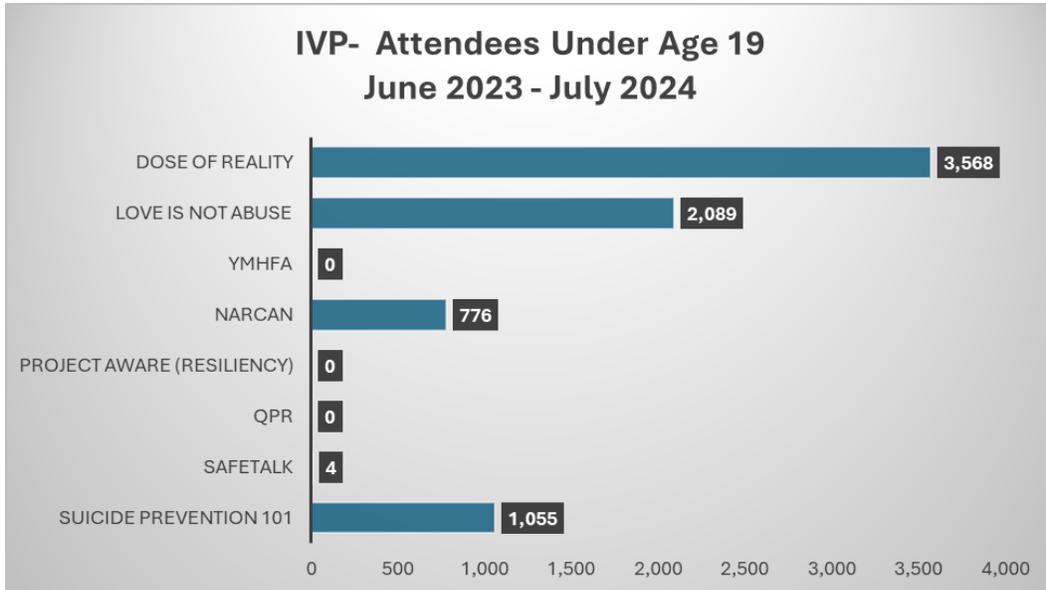


Figure 3. Injury and Violence Prevention Youth: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

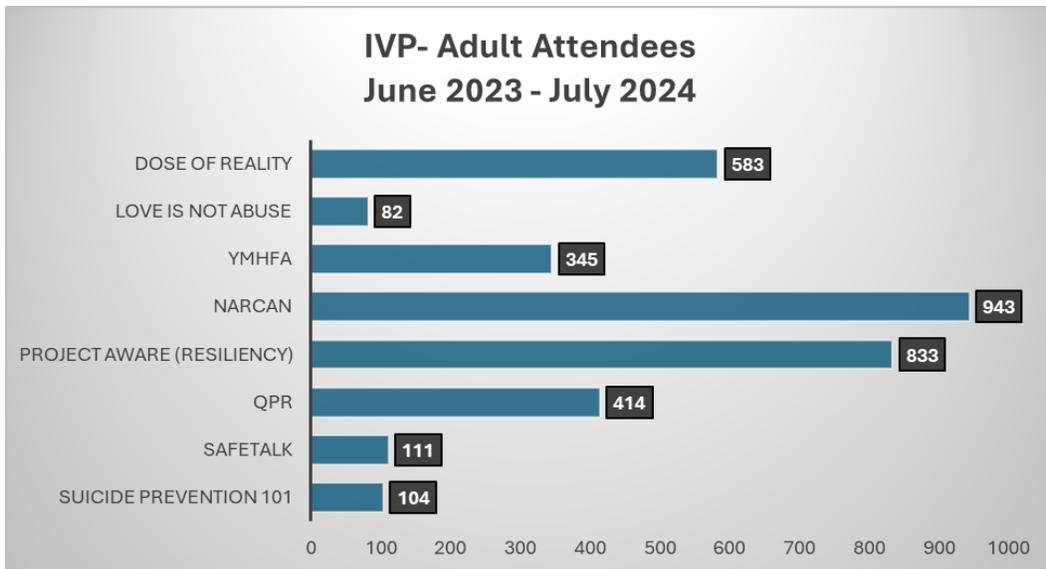


Figure 4. Injury and Violence Prevention Adults: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

At wellness trainings, there were 3,128 attendees 19 years or older and 29,928 attendees under the age of 19.

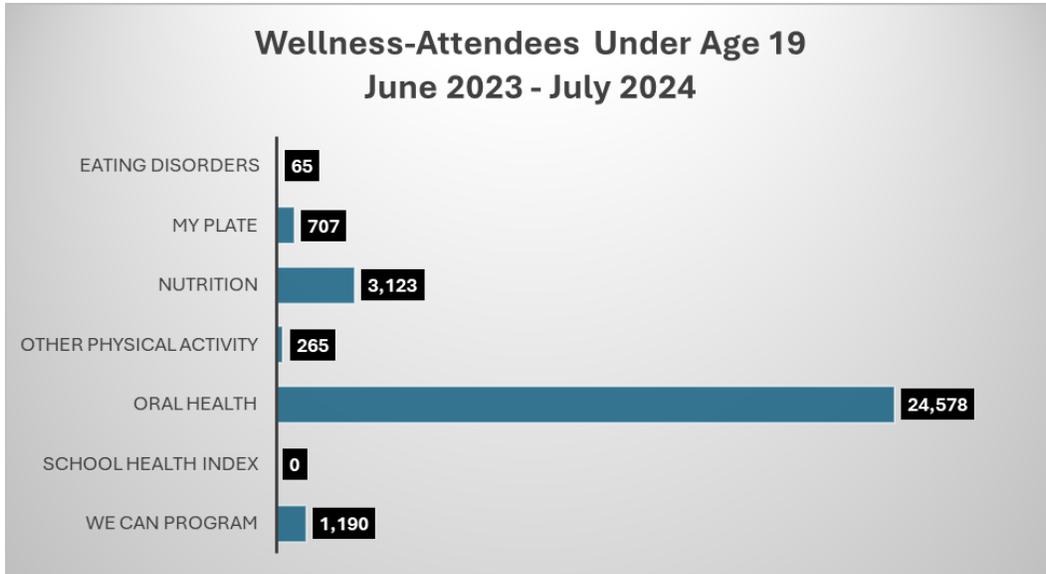


Figure 5. Wellness Youth: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

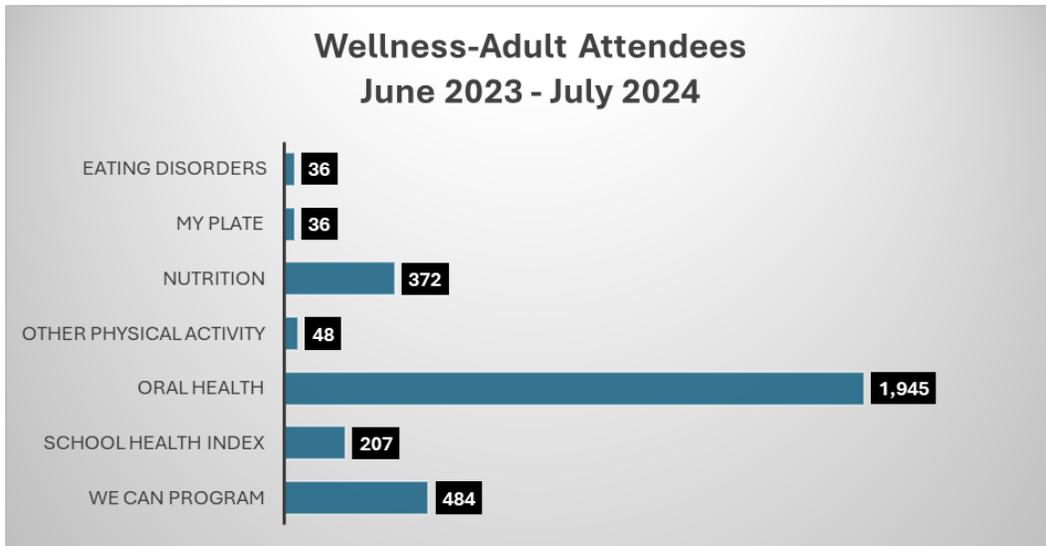


Figure 6. Wellness Adults: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

At general WSCC related training and activities, there were 2,723 attendees 19 years or older and 16,648 attendees under the age of 19.

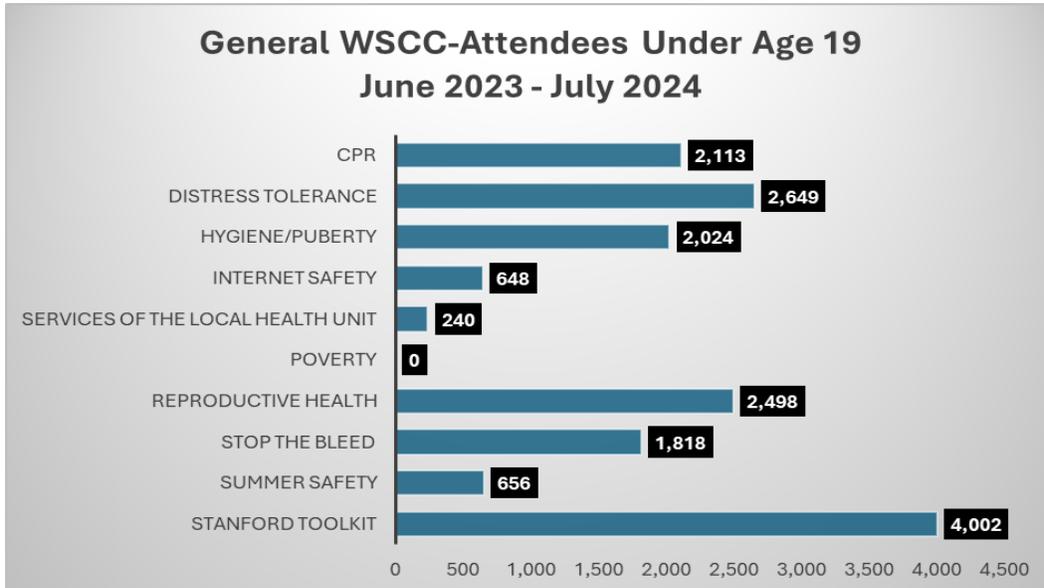


Figure 7. General WSCC related trainings and activities youth: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

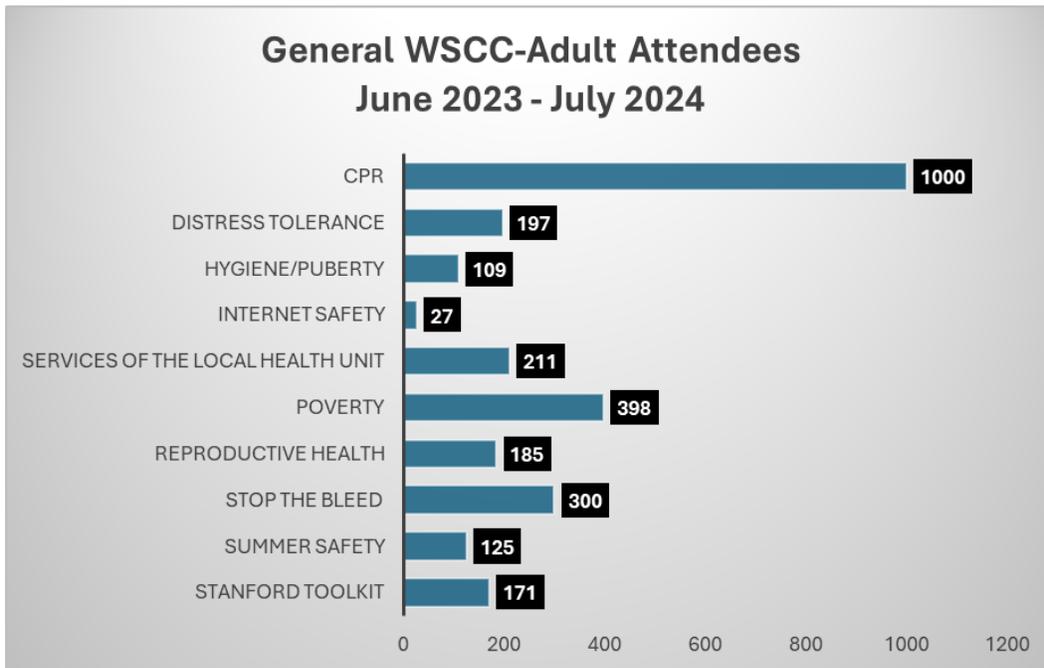


Figure 8. General WSCC related trainings and activities adults: [Arkansas Hometown Health Improvement Arkansas Department of Health](#)

Additional Professional Development

For school nurses to remain well-informed and up to date, the partnership between the Arkansas Department of Education-Division of Elementary and Secondary Education and the Arkansas Department of Health (ADH) provides continuous access to evidence-based education and updates. CHNS, strategically located across the state within the educational cooperatives

and Pulaski County, play a pivotal role in offering grassroots level training and education and working with the state school nurse consultant. Additional key contributors to this collaborative effort include CHPS, the School Health Services Program of DESE and ADH, as well as the invaluable partnership with Arkansas Children's Hospital (ACH). This collective effort ensures that school nurses are equipped with the necessary resources and knowledge to provide optimal care to students.

The CHNS and CHPS provide schools and communities with assistance and resources that will improve the health of students as well as communities in Arkansas. The CHNS primary focus is on the school nurse and the CHPS primary focus is on wellness committees. These positions are housed in the educational cooperatives around the state. The CHNS and CHPS provide professional development to school staff and school nurses. During Summer months when school staff are out with summer break, they are receiving professional development. This group of 13 CHNS and 5 CHPS provided over 180 training sessions statewide from May 30th-August 10th. The CHNS and CHPS offered 27 different training sessions this summer on mental health, tobacco, physical activity, poverty, and injury prevention. The CHNS and CHPS impact the whole community and follow the CDC's Whole School, Whole Community, Whole Child (WSCC) model.

Top 3 trainings/workshops:

- Youth Mental Health First Aid (YMHFA) 28 trainings: 261 participants
- CPR 25 Classes: 78 participants
- Narcan 20 training: 161 participants

Top 3 number of participants:

- Health/ PE: 515
- Oral Health: 350
- Wellness: 263

#### Additional CHPS/CHN Information

As a part of the statewide Hometown Health Team, CHPS/CHNS actively participate in local county coalition meetings to share school updates and opportunities, serving as a vital link between school health and the broader community. Their collaborative efforts include organizing teen summits, teen driving initiatives, Prom Promise, drug and alcohol prevention activities, health fairs, and community and school flu clinics.

In partnership with ACH, CHPS/CHNS offer five regional school nurse academies across the state, hosted by educational cooperatives. In Fiscal Year (FY) 24, Motivational Interviewing was the featured training for school nurses, counselors, and other school staff, provided in collaboration with the AWARE team at ADE.

Each year, CHPS/CHNS coordinate a Back-to-School Workshop alongside State School Nurse Consultant Cheria McDonald to educate school nurses on key topics relevant to their roles.

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Additionally, CHPS provides summer professional development for school staff on wellness-related subjects, such as the School Health Index, wellness requirements, and Yoga for Kids.

In June 2023, CHPS hosted a statewide training for all educational cooperatives, led by PE Specialist Cathryn Bass. Titled *Health and Physical Education – You Can’t Have One Without the Other*, the session focused on integrating physical education into classroom instruction for school staff.

CHNS provide trainings for school nurses who are RN’s on Paraprofessional Training for Unlicensed Assistive Personnel (UAP) in the School Setting, equipping them to delegate nursing tasks to UAP who support students with special needs.

Moreover, CHPS/CHPS deliver essential training and education to students and school staff, aligning with Arkansas state laws, the LEARNS Act, and health and safety standards established by DESE.

CHPS Division of Counties:

NORTH CHPS	CO-OP	# SCHOOL DISTRICTS served by Co-op's	# COUNTIES	SOUTH CHPS	CO-OP	# SCHOOL DISTRICTS	# COUNTIES
Sarah Brisco (NW)	OUR Arch Ford (26) •Faulkner (6) •Baxter	16	11 Baxter, Carroll, Boone, Marion, Newton, Searcy, Pope, Van Buren, Cleburne, Yell, Conway	Detrich Smith (Central + NE)	Central Region Wilbur D. Mills	22	9 Pulaski, Faulkner, Perry, Saline, Garland, White, Lonoke, Prairie
		20				16	
		2				TOTAL 38	
Meggi Augustosky (NW)	Northwest Guy Fenter	17	9 Benton, Madison, Washington, Crawford, Sebastian, Scott, Franklin, Johnson, Logan	Rosemary Withers (SE)	Great Rivers Arkansas River •½ Grant Southeast	10	14 ½ ½ Grant, Jefferson, Arkansas, St. Francis, Lee, Monroe, Phillips, Dallas, Cleveland, Lincoln, DeShae, Bradley, Drew, Ashley, Chicot
		20				6	
		TOTAL 27				15	
						TOTAL 31	
Vacant CHPS (NE)	Northcentral Northeast Crowley's Ridge	16	15 Fulton, Stone, Izard, Sharp, Independence, Randolph, Clay, Greene, Lawrence, Jackson, Cross, Mississippi, Poinsett, Craighead, Crittenden, Woodruff	Vacant (SW)	DeQueen/Mena Dawson •Saline (4) •Garland •½ Grant Southcentral Southwest	12	16 ½ Clark, Hot Springs, 1½ Grant, Ouachita, Calhoun, Columbia, Union, Hempstead, Nevada, Miller, Lafayette, Polk, Montgomery, Howard, Pike, Severe, Little River
		12				11	
		21				1	
		TOTAL 49				11	
						9	
						TOTAL 44	

**Summary of the Coordinated School Health Program Activities:**

- In the 2023/2024 school year, there were 368 participants registered for the Summer Meeting, with over 322 in attendance at the peak of the meeting and 36 school health and other vendors.
- Hosted 10 professional development training sessions with 1,419 attendees. Of these trainings, 7 were conducted virtually and 3 were held in-person.
  - In 6 of 10 post-training surveys, 93.6% of trainees reported strong understanding of the information/concepts presented in the training.

- Evaluations for 6 of 10 trainings indicated 96.2% reported an increase in confidence in their ability to improve school health as a result of the training
- A statewide coalition meeting was held for stakeholders across Arkansas.
- The program identified 276 school health coordinators and 270 school health councils.
- School Health Index was the focus of three (3) trainings with 189 total attendees.
- Of the six (6) priority schools, all six (6) were using the School Health Index to assess policies, practices, and programs.
- The program website was utilized for updates and had a total of 361 users.
- Technical assistance was provided:
  - 121 instances with:
    - 18 instances to priority LEAs (LEAs provided funding through the CDC DP18-1801 Health Schools Grant) on 17 different health topics
    - 103 instances of technical assistance were provided to non-priority LEAs on 23 different school health topics with at least 69 different LEAs having at least one instance

In 2023 the Coordinated School Health Program applied for and was awarded the five (5) year School-Based Interventions to Promote Equity and Improve Health, Academic Achievement, and Well-Being of Students ([CDC-RFA-DP-23-002](#)).

**The State School Nurse Consultant is essential to the implementation of the Act 1220 Program, CSH Program, is responsible for ensuring the State School Health Report is developed annually after collecting data from the state’s school nurses. The following summary was provided from the State School Health Report.**

A Snapshot of School Nursing and Health Data of Students in Arkansas:

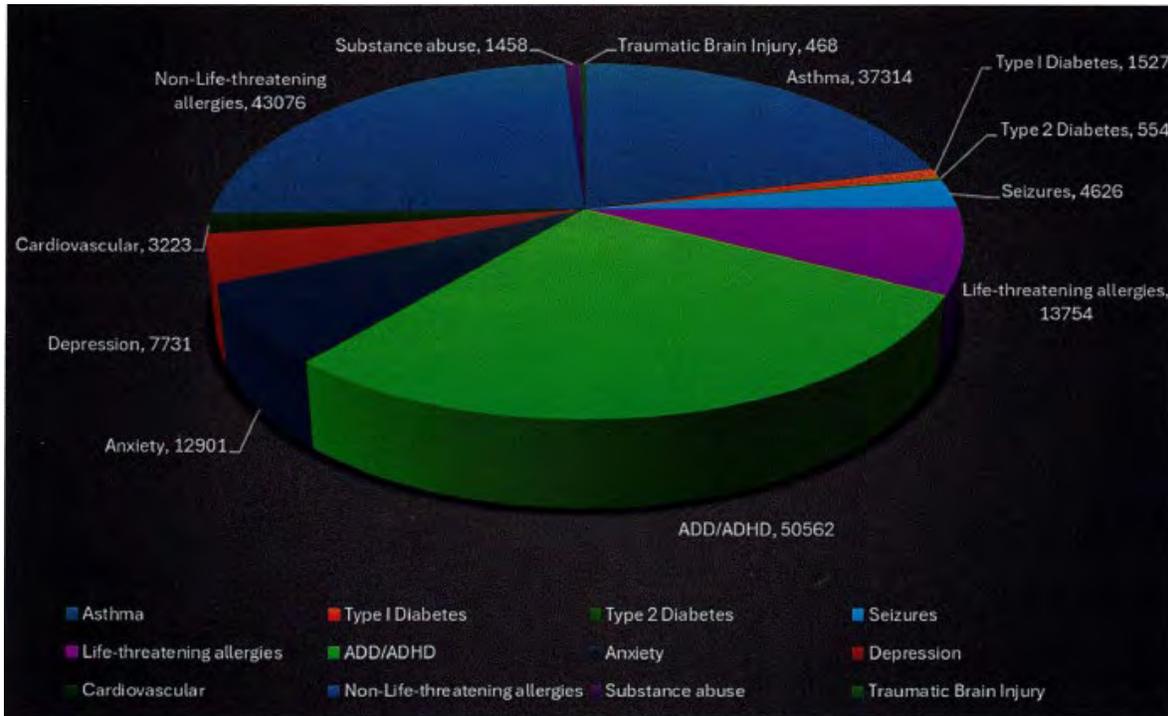
In Arkansas, school nursing can be defined as a specialized practice of nursing that advances the well-being, academic success, and lifelong achievement of students. School nurses in Arkansas play an important role in promoting student health, ensuring safety, and supporting academic success through the development of health care plans, management of chronic conditions, health education, and emergency preparedness.

School nurses in Arkansas have a variety of responsibilities including providing direct care, coordinating with other health professionals, managing health records, and ensuring compliance with state regulations. They also play a crucial role in addressing social determinants of health and advocating for safe and healthy school environments.

Arkansas has specific guidelines and legislation that impact school nursing, such as medication administration protocols and state-mandated health services. The Framework for 21st Century School Nursing emphasizes evidence-based practices and collaborative approaches to enhance student health and academic outcomes.

The Arkansas State Board of Nursing has a position statement outlining school nurse roles and responsibilities to ensure compliance with nursing standards and school health laws. Data

collected by school nurses helps inform health recommendations and guidelines based on student needs.



Chronic Health Conditions  
 (Division Elementary and Secondary Education, 2024)

Students with Prescription (RX) Medication	
Albuterol/Xopenex	13,488
Glucagon	1135
Rectal Diazepam	446
Intranasal Diazepam	809
Benzodiazepine	540
Epinephrine	4841
<b>TOTAL</b>	<b>21,259</b>

(Division Elementary and Secondary Education, 2024)

Having the School Health Services Survey in law ensures schools comply with Arkansas state laws and federal regulations on health services, evaluates current health programs and services, supports funding applications, improves health outcomes for students, and can be used to advocate for better health policies at local and state levels.

In Arkansas this survey falls under broader health and wellness initiatives by state policies, so the school health system effectively addresses the physical and mental health needs of the

student population. Here is a glimpse of the data collected from 838 school nurses in the 2024 survey for 96.5% of the student population in public and charter schools, providing a snapshot of student health across Arkansas.

- The number of students with *more than one chronic health condition*: 68,650
- The number of prescription medications given *every day* in Arkansas schools: 13,828

The number of students having had a:

- **Sudden Cardiac Arrest**: 8
- **Adrenal Crisis**: 25

**Pregnancies**: 544 total

- Delivered < 37 weeks: 28
- Homebound Services: 124
- Dropped Out: 32
- High-risk Pregnancy: 46

**Mental Health**

- Students receiving services on campus: 29,128
- Students receiving services off campus: 7,077

**Nurse/Counselor Team Approach**: 13,945

**Opioid Awareness**

- Students having an opioid overdose: 49
- An opioid antagonist administered for a potential student overdose: 26

**Outcomes of students having been in the health room:**

- Sent back to class: 2,377,766
- Sent to Medical Attention: 28,625
- Sent Home: 177,405
- Sent Home-Parent Decision: 45,781
- Sent to ER: 2,036
- Sent to School-Based Health Center (SBHC): 5,701
- Sent to Administrator: 6,276
- Sent to Counselor: 6,201

**Conclusion**

In conclusion, the Act 1220 of 2003 Legislative Report for July 2023 to June 2024 highlights the continued progress and collaborative efforts of the Child Health Advisory Committee (CHAC), Act 1220 Coordinators, and various stakeholders in addressing childhood obesity and promoting school health in Arkansas. Through the implementation of the Whole School, Whole Community, Whole Child (WSCC) model, the state has made significant strides in improving nutrition, physical activity, and overall wellness for students. The report underscores the

importance of evidence-based policies, professional development, and community engagement in fostering healthier environments for Arkansas's youth. While challenges remain, the dedication of CHAC, school health professionals, and community partners demonstrates a strong commitment to combating childhood obesity and ensuring the long-term health and academic success of students. Moving forward, sustained efforts, an updated evaluation, and adaptive strategies will be essential to building on these achievements and addressing emerging health needs in Arkansas schools.

## Resources

- Assessment of Childhood and Adolescent Obesity in Arkansas Year 20 (Fall 2022 - Spring 2023) December 2023. Retrieved June 6, 2024. 240119-FINAL-2022-23-Arkansas-Student-BMI-Report.pdf (achi.net).
- FY2024 Body Mass Index Data Collection and Comprehensive School Health Report Project, Retrieved September 30, 2024.
- Child Health Advisory Committee, *ACT 1220 of 2003, CHAC History & Select Actions in Arkansas*, [PowerPoint Slides]. Retrieved from files.
- Child Health Advisory Committee, Retrieved September 8, 2024.  
<https://www.healthy.arkansas.gov/programs-services/topics/child-health-advisory-committee>
- Childhood Obesity Causes & Consequences. (2016, December 15). Retrieved October 20, 2023, from <https://www.cdc.gov/obesity/childhood/causes.html>.
- Childhood Obesity Facts. (2019, April 29). Retrieved October 20, 2023, from <https://www.cdc.gov/healthyschools/obesity/facts.htm>
- Division of Elementary and Secondary. (2024). School health services survey (D.C. McDonald, Ed.) {Results}.
- Raczynski J, Phillips M, Bursac, Z., Pulley, L., West, D., Birdsong, M., Evans, V., Gauss, H., UAMS College of Public Health, 2005, *Establishing a Baseline to Evaluate Act 1220 of 2003: An Act of the Arkansas General Assembly to Combat Childhood Obesity*. Retrieved from files.
- Phillips M, Raczynski J, Walker J, 2014, *Evaluation of Act 1220 of 2003: Lessons Learned, 2004-2012*. Retrieved from [Evaluation of Act 1220 of 2003: Lessons Learned, 2004-2012](#)
- Health and Academics. (2019, May 29). Retrieved November 18, 2019, from [https://www.cdc.gov/healthyschools/health\\_and\\_academics/index.htm](https://www.cdc.gov/healthyschools/health_and_academics/index.htm)
- Healthy Schools Year 5 Evaluation Arkansas Department of Education (2021-2022). Division of Elementary and Secondary Education - Offices - Learning Services - School Health Services - Coordinated School Health (CSH) (arkansas.gov)
- McDonald, C., ADE: Division of Elementary and Secondary Education, (2024) *A Snapshot of School Nursing and Health Data of Students in Arkansas*. Arkansas State Board of Nursing Update, 2024, November. Retrieved March 4, 2025, from [ASBN : Edition 129](#)
- Rockenbach, J. (2015). *Child Health Advisory Committee Report 2015*. Retrieved from files.

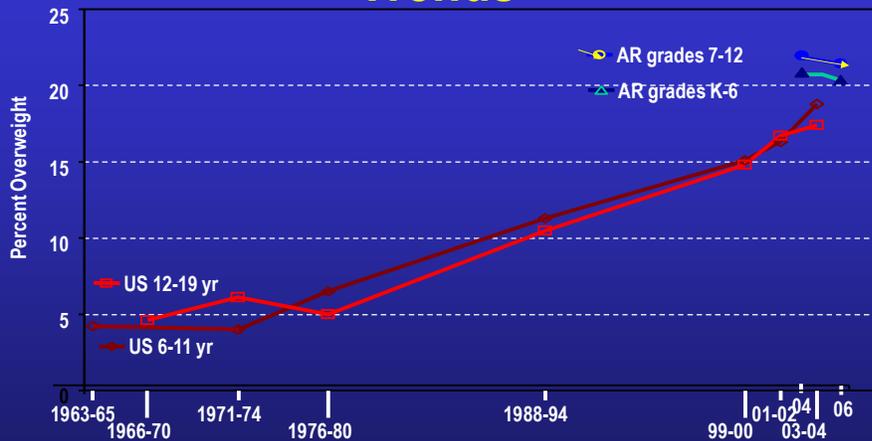
State School Health and Wellness: <https://www.healthy.arkansas.gov/programs-services/topics/state-school-health-and-wellness>

Whole School, Whole Community, Whole Child (WSCC). (2019, May 29). Retrieved May 3, 2023, from <https://www.cdc.gov/healthyschools/wcc/index.htm>.

## ACT 1220 of 2003, CHAC History & Select Actions in Arkansas

1

## National and Arkansas Childhood Obesity Trends



NHANES data sources: Ogden et al. *Prevalence and Trends in Overweight Among US Children and Adolescents, 1999-2000*. JAMA 2002;288(14):1728-1732. Ogden et al. *Prevalence of Overweight and Obesity in the United States, 1999-2004*. JAMA 2006;295(13):1549-1555.



2

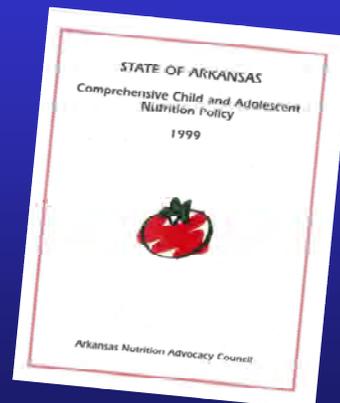
## Timeline – Pre Act 1220

- 1997- 99 Child & Adolescent Nutrition Policy
- 1999 – 2000 Impact of Obesity Study
- 2000 - Governor’s conference on Physical Activity
- 2001 - Act 1748 60 min of PA in K-9
- 2001 - Act 1749 “kids for health” grants
- 2001 - Act 1750 rural trails funds
- 2002 - Arkansas Preventive Nutrition & Physical Activity Summit

3

## From Contemplation to Action Advocacy in Arkansas

- **1997- HR 1033** Arkansas legislature requested comprehensive child & adolescent nutrition policy
- **1999 – HR 1022** Arkansas legislature adopted the policy as guide for development of future legislation and policy



4

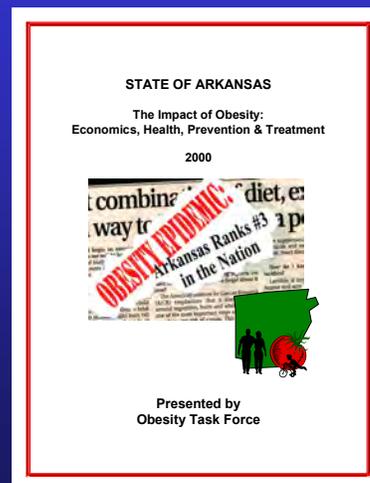
## Comprehensive Child & Adolescent Nutrition Policy - 1999

- Adequate & Safe Food Supply
- Nutrition & Health
- Public Nutrition Education & Promotion
- Access to Consistent Information from Competent Professionals

5

## From Contemplation to Action Advocacy in Arkansas

- **1999- SCR8** Arkansas legislature requested obesity study
- **2000** presented to the legislature
- [www.healthyarkansas.com/newsletters/obesity\\_report.pdf](http://www.healthyarkansas.com/newsletters/obesity_report.pdf)



6

## The Impact of Obesity: Economics, Health, Prevention & Treatment - 2000

- Childhood, Adult & Geriatric Obesity
- Create a State Obesity Council
- Develop legislation for comprehensive programs
- Raise public awareness
- K-12 focus
- Provide incentives through private and public worksites
- Access to health care
- Enhance availability of fruits & vegetables
- Improve physical activity environment
- Surveillance and prevention

7

## From Contemplation to Action Advocacy in Arkansas

- **2002 UAMS/ADH Summit:**
  - Goal – to develop practical, achievable policy and other actions to reduce obesity.
  - Invited leaders from education, government, health care, business and non-profits.
  - 5 workgroups: education, health care, business/food industry, environment, media/marketing



8

## Summit Recommendations

- Vending dollars go to walk to school program
- State office on nutrition & physical activity
- BMI student reports
- Calorie labels on menus
- WIC/SNAP incentives for healthy foods
- Fitness test student reports
- Community PA infrastructure & incentives
- Media to decrease soda & increase fat-free/1% milk
- Fruit/vegetable partnerships with grocers
- Food industry/processor, distributor, USDA dialogue
- Fitness challenge event
- PANT expansion (ADE)
- Clinical chart BMI vital sign
- Grassroots demands to business

9

## Key physicians who helped educate legislators and craft Act 1220



Fay Boozman, MD  
Director, ADH



Arlo Kahn, MD  
UAMS Professor, COM  
Family & Preventive Med.



Gary Wheeler, MD  
UAMS Professor, COM  
Pediatrics  
Clinton Scholar

10

## **Act 1220 & Activities to 2008**

- **2003 - Act 1220**
- **2003 – AR Action for Healthy Kids Summit**
- **2004 – US Child Nutrition Reauthorization**
- **Healthy Arkansas Initiative**
- **Evaluation**
- **2007 – Act 201 changed BMI periodicity**
- **2007 – Act 317 limited PA requirements**
- **2007 – Act 719 expanded CHAC members & responsibility**

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## **Act 1220 Goals**

**84th General Assembly**

**Representatives Bradford, Biggs, Cleveland, Milligan, and  
Senators Bisbee, Argue**

- *Increase awareness of childhood obesity and environmental factors contributing to the problem*
- *Enhance parental knowledge*
- *Help communities make informed choices*
- *Improve nutrition and physical activity agenda in schools*
- *Long-term impact on childhood obesity*

12

## Basic provisions of Act 1220 of 2003

- Create a Child Health Advisory Committee to develop nutrition & physical activity standards
- Establish positions in ADE & ADH promote healthy lifestyles
- Prohibit student access to vending machines in elementary school
- Convene school district and/or school Nutrition and Physical Activity Advisory Committees
- Report students' body mass index to parents and provide possible health effects of BMI
- Report amount and source of funds/expenditures from food and beverage contracts
- Establish continuing professional development for food service staff

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**Guess what F is for? Fat  
Obesity spurs Arkansas to  
something new: grading fitness**  
Time, Sept 15, 2003



14

## **I. Child Health Advisory Committee mandated by Act 1220 of 2003**

- Fall 2003 – CHAC formed, monthly meetings
- Spring 2005 – Recommendations for nutrition/ physical activity standards delivered to Arkansas Board of Education
- August 2005 – Board of Education revises and approves rules
- 2007 – AR Legislature adds Coordinated School Health to the areas mandated to be examined by CHAC, with recommendations also made to the Department of Health

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## **II. School Nutrition & Physical Activity Advisory Committees**

- Develop local policies to address implementing, integrating, and improving nutrition and physical activity standards in schools
- Conduct and report annual School Health Index assessments (BMI now used as an outcome measure)



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## III. Implementation of BMI Health Screening in Schools

- **Arkansas Center for Health Improvement (ACHI)** – Dr. Joe Thompson, Director, and now State Surgeon General, also Associate Professor of Pediatrics, UAMS
- Set up database, trained RN's, prisoners made stadiometers, did initial personal mailing to parents



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## BMI Initiative in Schools

- ACHI put together **BMI Task Force**
  - Local school districts
  - AR Dept of Education
  - Dept of Health and Human Services
  - Staff from Arkansas Children's Hosp
  - UAMS College of Public Health



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## BMI Task Force

- Developed a timeline
- Act 1220 passed spring 2003, first BMI letters went out within one year
- Developed strategy for implementation



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## Year One (2003-2004)

- Phase One: Eleven pilot schools did measurements on assessment day, recorded data, calculated BMI, and sent home report to parents
- Phase Two: Comparison testing on assessment equipment was done at nearly every school with multiple measures taken, so quality equipment could be recommended
- Phase Three: Rolled out statewide

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## Year Two (2004-2005)

- BMI collection using paper assessment forms, processed through a data entry center
- Schools received child health reports to print and disseminate to parents by using their unique password on a secured web system
- Two school districts piloted a web-based entry system for collecting height and weight (one used pocket PC's, one entered directly into web program)

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## Year Three (2005-2006)

- Expanded the technology component to 16 school districts where over 130,000 students were entered into the new web-based entry system
- Some schools chose to enter data from paper forms



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## Year Four (2006-2007)

- Statewide rollout of web-based entry system
- From the beginning, **Community health nurses** were certified by experts at **Arkansas Children's Hospital** in height and weight research methods. They, in turn, trained school health nurses in appropriate methods to collect data
- Train the trainer program

23

ACHI in the News

What We Do

Governance

ACHI Staff

Strategic Initiatives

- Tobacco Settlement Initiative
- Health Insurance Initiative
- Multi-State Integrated Database Initiative
- Obesity and School BMI Initiative

Data Division

Legislative Updates

Publications

Resources

Home

**ACHI** ARKANSAS CENTER FOR HEALTH IMPROVEMENT

[BMI Project](#)

[Act 1220](#)

[Child Health Report to Parents](#)

[Health Care Provider Information \(New! Free CME\)](#)

[Dietitians, Health Educators and Community Resources](#)

[BMI Calculator for Children](#)

[Helpful Links](#)

[Children's Health Advisory Committee Recommendations - Spring 2004](#)

**New!**  
[BMI, State, District and School Results](#)

<http://www.achi.net/>

24

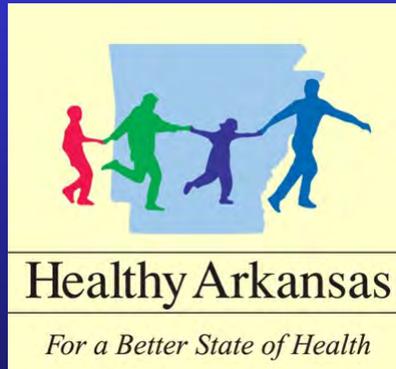
## Governor Mike Huckabee



25

## Healthy Arkansas Initiative

- **Mission Statement**  
To promote public health policies and practices that assure a healthy quality of life for Arkansans.
- **Vision Statement**  
To be the recognized leaders in public health, working with communities to build a healthy future.



**Arkansas Department of Health**  
**Fay Boozman, MD, Director**

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## Healthy Arkansas For a Better State of Health

- **Healthy Arkansas** is a comprehensive effort to clearly define specific areas where behavioral changes can lead to healthier citizens. The burden of chronic diseases, including diabetes, stroke, lung and heart diseases, and cancer, is higher in Arkansas than in the nation generally.
- **Tobacco Use, Obesity, and Physical Inactivity** are the three primary causes of these and other serious chronic conditions. The Healthy Arkansas website provides strategies to reduce and/or eliminate the three primary behavior-related causes of these diseases with information on nutrition, physical activity and smoking cessation.

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## Hometown Health Improvement

- **Vision Statement**  
Empowered local communities taking ownership of health problems and identify and implement solutions that improve the health of the citizens.
- **Mission Statement**  
Provide leadership, guidance, and technical assistance to the local HHI leader to develop Hometown Health Improvement Initiative locally owned and controlled and are working to improve the health of the citizens. Provide Hometown Health Improvement leadership in the region.



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## U of A Cooperative Extension Service

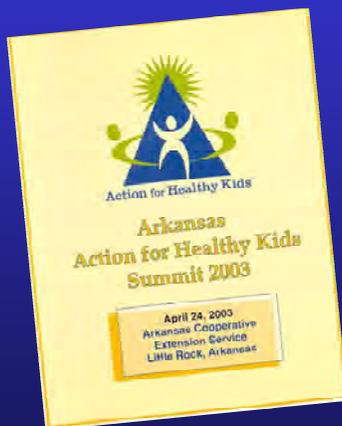
- Delta H.O.P.E. (Healthy Options for People Through Extension)
- AR H.O.P.E. Healthy Options for People Through Extension
- **Body Walk**
- Food Stamp Nutrition Education
- Reshape Yourself Adult Healthy Weight Program
- Eating & Moving for Life Adult Healthy Lifestyle Program

**BODY WALK**



29

## Arkansas Action for Healthy Kids Summit 2003



- School administrators, teachers, parents, advocates
- Food and beverage policies
- Use of school facilities for physical activity by the community

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## Arkansas Action for Healthy Kids

- Be Active and CARE – afterschool program to increase physical activity and promote healthy eating habits.
- Mini-grants for after school physical activity programs
- Statewide essay contests for 7<sup>th</sup> – 12<sup>th</sup> graders “It’s how you eat and move your feet”
- Essay themes varied each year (examples):
  - What students have done personally, what their family has done and/or what has happened at their school since their height and weight was taken at school.
  - What barriers to their healthy eating and/or physical activity that students experience at home, at school and/or in their community.
  - How schools can involve parents more in improving access to healthy foods and increasing opportunities for physical activity in school
  - What is happening in your community related to food and physical activity to make it a healthier place to live? What else should be happening? What can you personally do to help that change?

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## Blue and You Foundation funds UAMS COPH

### Idea Pages for healthy eating and physical activity in schools

Healthy children, ready to learn is a key component for educational success. A confluence of legislation at the state and federal level – including Arkansas Act 1220 of 2003, Arkansas Department of Education Rules Governing Nutrition and Physical Activity Standards August 2005 and the Child Nutrition and WIC Reauthorization Act of 2004 – were enacted with a common goal of creating a school environment that incorporates healthy eating and physical activity.

Through a grant from the Blue and You Foundation four idea pages that address [fundraising](#), [rewards and parties](#), [vending and a la carte food](#), and [physical activity](#) were developed to help school personnel and parents take action to address that goal.

[Fundraising Ideas](#)  
[Physical Activity Ideas](#)  
[Rewards and Parties Sheet](#)  
[Vended Snacks](#)

#### FUNDRAISING IDEAS

Fundraisers are a great way for schools to show their commitment to healthy living while meeting financial needs. Fundraisers can build self-esteem, provide a service and promote school spirit.

[Download the Ideal Page](#)



<http://www.uams.edu/coph/reports/#Obesity>

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## Vended Snacks IDEAS

Snacks sold in vending machines, at school stores and concession stands, and on the lunch a la carte line should provide healthy choices for students, staff and parents. Keeping levels of sugar, total fat, and trans and saturated fat at low percentages as well as having limits on maximum package size ensure snacks are positive additions.

New products, reformulated products and new package sizes may become available. To see if they are good choices, check the list below for maximum package size for each snack type then go to [www.fda.gov/oc/ohrt/snackcalculator.html](http://www.fda.gov/oc/ohrt/snackcalculator.html) to help you determine the nutrient percentages. Follow the website Nutritional Calculator instructions. Check for these 3 items: fat is 30% of total calories, trans or saturated fat is 10% of total calories, added or total sugar is 35% total package weight. Nuts and seeds are exempt from the fat standard. The following list provides examples of packaged items that meet these levels. Remember that fresh fruit & veggies are great snacks.

Cookies & Crackers 1.5 ounces	Pretzels, Baked Snacks & Chips 1.5 ounces	Grips, Pretzels & Snack Mix 1.5 ounces
<ul style="list-style-type: none"> <li>• Keebler Reduced Fat Wheatables</li> <li>• Keebler Teddy Grahams</li> <li>• Nabisco Cheese Nips 100 Calorie Pack</li> <li>• Nabisco Cheese Reduced Fat Crackers</li> <li>• Nabisco Ritz Crisps</li> <li>• Nabisco Teddy Graham Cookie - Cinnamon</li> <li>• Nabisco Vanilla Wafers</li> <li>• Nabisco Wheat Thins 100 Calorie pack</li> <li>• Pepperidge Farm Physicidites Baked Animal Crackers - Lemon</li> </ul>	<ul style="list-style-type: none"> <li>• Pepperidge Farm Physicidites Baked Animal Crackers - Strawberry</li> <li>• Ritz Cracker Chocorays</li> <li>• Sunshine Animal Crackers</li> <li>• Wheatstarch Crackers</li> </ul>	<ul style="list-style-type: none"> <li>• Pepsico Lay Baked Doritos Nacho Cheese</li> <li>• Pepsico Lay Baked Famin' Hot Cheddar</li> <li>• Pepsico Lay Baked KC Masterpiece BBQ Chips</li> <li>• Pepsico Lay Baked Lays</li> </ul>



## Physical Activity IDEAS

Teachers and parents can help children maintain a physically active lifestyle by providing encouragement and opportunities as well as being role models. Make learning fun by adding activity. Plan outings, events and fundraisers that allow and encourage everyone to be active. Regular physical activity improves strength, builds lean muscle, and increases self-esteem and capacity for learning. In addition to physical education classes, try some of these ideas.

Activities at school	Math Jumping-jacks	Pedometer Progress
<ul style="list-style-type: none"> <li>• Walking Club - before school, during lunch, or after school</li> <li>• Walk across Arkansas - learn to add up miles to cross the state. Discuss geography and/or history as they reach towns or regions.</li> </ul>	<ul style="list-style-type: none"> <li>• Math Jumping-jacks - call out a math problem with the answer less than 20. The students answer in jumping-jacks.</li> <li>• Add-a-Drive Memory Game - students memorize up to 10 different movements, then act them out in order.</li> </ul>	<ul style="list-style-type: none"> <li>• Pedometer Progress - class or school step contest. Use math skills to add up daily steps.</li> <li>• Add-verb Fun - spell a verb, act it out, and add an adverb like quickly or slowly and act it out as modified.</li> </ul>

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# The Medical Community

- Policy
- Education
- Treatment
- Prevention
- Research
- Advocacy



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## **Creating Opportunities to Combat Obesity in Arkansas (COCOA)**

- Healthy Tomorrows Partnership for Children COCOA grant submitted by the UAMS Center for Health Promotion at the request of Dr. Fiser, UAMS, DOP Chair, now Dean of COM
- Karen L. Young, M.D., Principal investigator
- Gary Wheeler, M.D., Co-investigator
- Started **Pediatric Fitness Clinic** at Arkansas Children's Hospital March 2001

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## **Arkansas Children's Hospital Pediatric Fitness Clinic**

- Fitness Clinic began with 2 half-day clinics per week, now at 5 half-days/wk
- 3 general pediatricians, with bariatrics and bariatric surgery training and education
- Fitness Coordinator is registered dietitian
- Outreach Coordinator is registered dietitian
- Specialty nurse: half Bariatric Surgery, half Pediatric Fitness Clinic
- Pediatric Psychology and fellows
- Physical Therapist and Pediatric Graded Treadmill Test
- Champions Club of Arkansas

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## **BMI Health Initiative for Act 1220 Provider Education Committee**

- University of Arkansas for Medical Sciences (UAMS) College of Medicine
  - - Dept. of Pediatrics
  - - Dept. of Family and Preventive Medicine
- UAMS College of Public Health
- UAMS Preventive Nutrition Project
- Arkansas chapters of AAP and AFP
- Arkansas Center for Health Improvement
- Arkansas Foundation for Medical Care (AFMC)
- Arkansas Department of Health

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## **Provider Education Committee Activities**

- Determine needs of health care providers in Arkansas in response to Act 1220
- Provide education, tools, resources to meet the expected increased demand for services as BMI Health letters went home to parents
- 1<sup>st</sup> meeting held December 2003, 1<sup>st</sup> big batch of BMI letters home May 2004

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## Committee Education Activities

- **Two-page reference guide** for the busy clinician, how to manage these kids as they arrive for evaluation – mailed to every family medicine and pediatrics PCP in Arkansas 3x by AFMC, Arkansas chapters of AAP and AAFP
- **Continuing Medical Education (CME) program**, free on AFMC website 9/04 “*Management of Pediatric Overweight*”, 1 hour category 1 AMA credit, also CE for nurses. Updated and back on-line 4-07. All school RNs in AR required to take for competency.

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### ARKANSAS CLINICIAN'S GUIDE TO WEIGHT PROBLEMS IN CHILDREN AND ADOLESCENTS

#### Step 1: Calculate BMI

BMI is the relationship of weight to height.

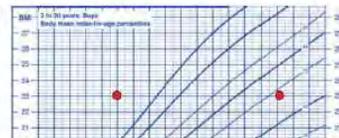
$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)} \times \text{height (m)}} \quad \text{OR} \quad \frac{\text{weight (lb)} \times 703}{\text{height (in)} \times \text{height (in)}}$$

For example, Gary's BMI = his weight (37 pounds) x 703 divided by his height (41 in) squared or 37 x 703/1681. Gary's BMI is 15.5



#### Step 2: Calculate BMI Percentile

To be sensitive to the issue of a child's self-esteem, the term **obesity** is no longer used. Remember that the BMI is only a screen for overweight. Clinical correlation is necessary because adiposity is the actual health risk. For example, kids who are very muscular may have an elevated BMI but may still have low body fat. If



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The screenshot shows the website for the Arkansas Foundation for Medical Care. The main heading is "Management of Pediatric Overweight (Physicians)". The text describes the 2003 Arkansas legislature's Act 1220, which requires BMI measurements for public schoolchildren. It also mentions the Arkansas BMI Initiative and its goals. A "Course Menu" on the right lists various options for course material, testing, and information.

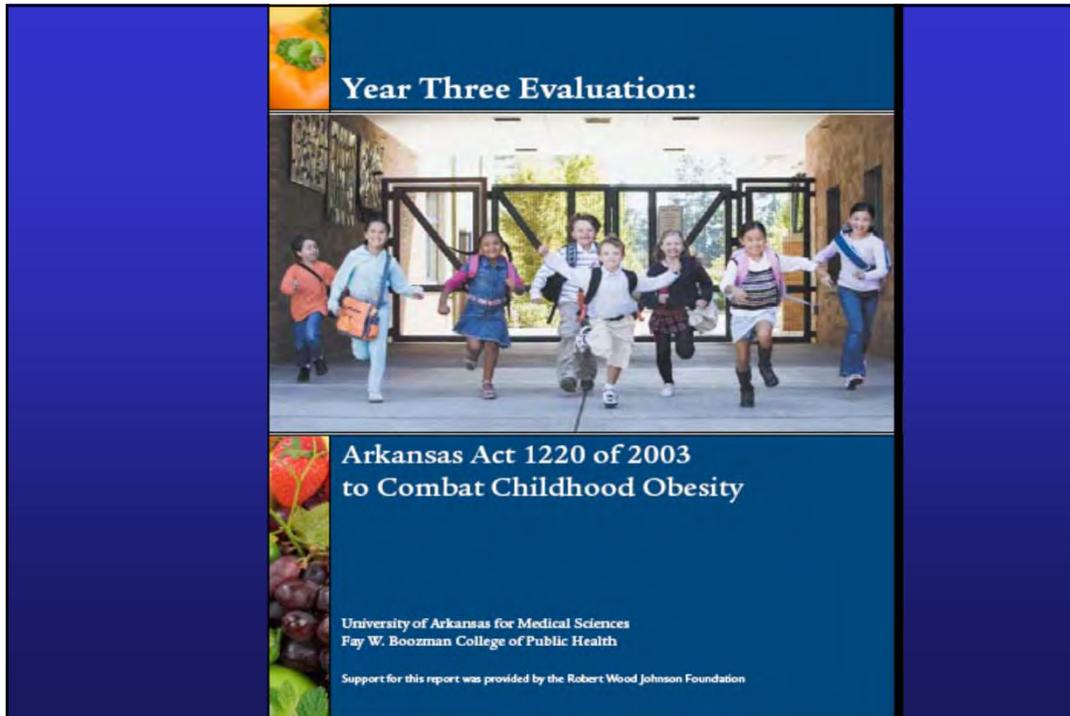
41

## Evaluation

- ▣ **UAMS College of Public Health (COPH)**  
 – Dr. Jim Raczynski,  
 funding by Robert Wood Johnson Foundation
- ▣ [www.uams.edu/coph/reports/2004Act1220Year3.pdf](http://www.uams.edu/coph/reports/2004Act1220Year3.pdf)

Dean James Raczynski, The Honorable Herschel W. Cleveland and Dr. Joe Bates

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## **COPH Evaluation of Act 1220**

- **Surveys of the impact of Act 1220 on parents and children**
- **Surveys of school superintendents and principals about implementation**
- **Documentation of state-level activities**
- **Interviews of state-level decision makers and a select group of school nurses**
- **Site visits to schools to assess whether vending machines have been eliminated**

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## Summary of School District Policies

District Policies	2004	2005	2006
Require 30 or more min PA of recess in elem	30%	32%	42%
Prohibit PA as punishment in PE class	25%	28%	39%
Prohibit PA as punishment in other classes	32%	31%	44%

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## Prohibiting Junk Foods (mostly fat, sugar, and minimal nutritional value)

District Policies	2004	2005	2006
Student parties	2%	5%	21%
After school programs	16%	15%	30%
School stores and/or snack bars	13%	18%	50%
Vending machines	18%	27%	53%

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## Parental knowledge and attitudes towards BMI assessment

Knowledge and Attitudes	2004	2005	2006
Aware of school BMI measurement	75%	83%	87%
Not at all concerned about classmate finding out BMI	N/A	63%	64%
Comfortable getting BMI report from school	70%	67%	68%
Read some or all of BMI report	N/A	95%	95%
Found report helpful	N/A	67%	67%

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## Consequences of BMI Assessments Data indicate that:

- Parents have not put their children on diets. The % reporting putting their child on a diet has decreased from 9% in Year 1 to 6% in Year 3.
- Student reports of starting a diet has dropped slightly from 29% in Year 1 to 26 % in Year 3.
- Students have not skipped meals in any greater frequency.
- Student concern about weight has not increased.
- Reported embarrassment about BMI measurement has declined.
- Students have not increased use of diet pills or herbal supplements.
- Fewer teens reported weight-based teasing than in previous yrs

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## Nutrition and PA changes at home

Parental Behaviors at home	2004	2005	2006
Limiting TV and video game time	73%	71%	75%
Reducing TV time to increase PA	N/A	33%	37%
Trying to change family diet to healthier eating	63%	65%	64%
Trying to limit family intake of chips, sodas, sweets	77%	80%	79%

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## Tracking Progress:

### The Third Annual Arkansas Assessment of Childhood and Adolescent Obesity



AUGUST 2006

**C**hildhood obesity is a leading public health threat in the United States. More than 9 million children over the age of six are affected by the obesity epidemic, with minorities and children living in low-income communities facing the greatest risk. If the epidemic grows unchecked, obesity-related illnesses may cause today's young people to become the first generation in U.S. history to have a lower life expectancy than their parents.

The epidemic is particularly severe in Arkansas, where obesity rates have grown steadily over the past decade and have consistently ranked above the national average. Today, almost 38 percent of Arkansas children and adolescents are overweight or at risk for overweight. These children face an increased risk of developing hypertension, diabetes, heart disease, and other life-threatening illnesses as they age.



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Overall BMI Results Reported to Parents as a Result of Act 1220 Public School Grades K-12				
Weight Classification	Year One 2003-2004	Year Two 2004-2005	Year Three 2005-2006	Year Four 2006-2007
Overweight (now Obese)	20.9% (72,617)	20.8% (76,775)	20.5% (75,596)	20.6% (75,544)
At Risk for Overweight (now Overweight)	17.2% (59,784)	17.2% (63,495)	17.1% (63,315)	17.2% (63,059)
Healthy Weight	60.1% (209,122)	60.1% (221,703)	60.5% 223,642	60.4% (221,513)
Underweight	1.8% (6,230)	1.9% (6,898)	1.9% (6,863)	1.8% (6,685)
Total # students assessed	347,753	368,871	369,416	366,801

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### Challenge in 2007 Attempt to Repeal BMI Screening in Schools: Act 201, 2007 Anderson

- complaints from parents that some overweight students had been stigmatized after receiving the results
- schools were spending too much time and money in gathering the results.

□ Three Provisions:

- Roll back BMI Health Screens to grades K, 2, 4, 6, 8, 10
- Remove requirement to inform parents about health risk of overweight
- Strengthen “opt-out” by parent



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## First Regional Summit on Obesity "Promising Obesity Prevention Strategies in the Southern States,"



- Held in Little Rock – more than 200 delegates from 14 states
- August 26-28, 2007

The summit was sponsored by the Texas Health Institute (THI) in collaboration with the Southern Regional Health Consortium, the Arkansas Center for Health Improvement, the Directors of Health Promotion and Education (DHPE), the National Society of Physical Activity Practitioners in Public Health (NSPAPPH), and the National Association of Chronic Disease Directors (NACDD),

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## The Big Dam Bridge Pulaski County Judge, Buddy Villines



54



River Market Revitalization Project  
Dean Kumpuris, MD,  
Little Rock City Director

55

## The Medical Mile December 2003

- To impact prevention of obesity and heart disease in Arkansas, two dozen physicians with the state's largest cardiology clinic, the **Heart Clinic Arkansas** agreed unanimously to support completion of the Arkansas River Trail by fundraising \$350,000 over two years to create a "medical mile" of trail in the heart of downtown Little Rock. They were supported by physicians, hospitals, and others, and raised \$ 2.1 million



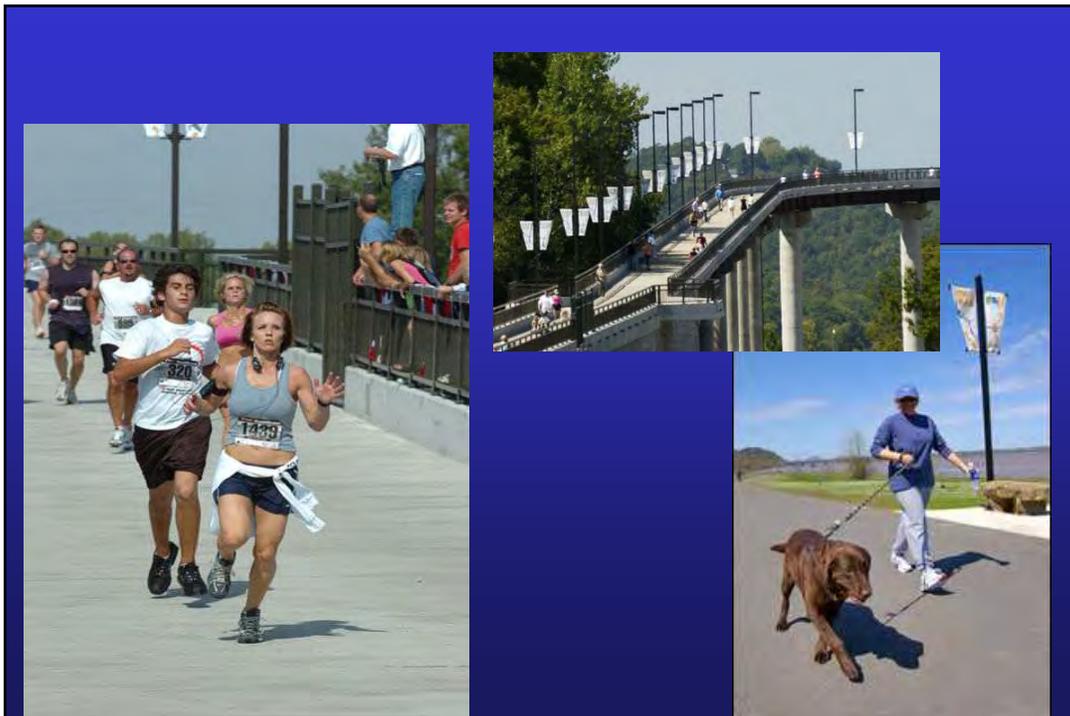
56

## Arkansas River Trail

- Arkansas River Trail will reach from downtown Little Rock to **Pinnacle Mountain State Park** on the southern shore, and from downtown North Little Rock to Cook's Landing on the northern shore. A fourteen-mile loop will be created by the **Big Dam Bridge** across Murray Lock and Dam and a renovated railroad bridge near the **Clinton Presidential Library Center and Park**. All together this project will offer approximately 24 miles of trail in Central Arkansas. This trail will also connect to the 225-mile **Ouachita Wilderness Trail** in **Pinnacle Mountain State Park** adding an additional 17 miles to this nationally recognized trail.



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Establishing a Baseline to Evaluate

# Act 1220 of 2003

An Act of the Arkansas General Assembly  
to Combat Childhood Obesity

## COPH EVALUATION

### RESEARCH TEAM

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Support for this report was provided by the Robert Wood Johnson Foundation

## Executive Summary

In April 2003, Act 1220 of 2003 was passed by the Arkansas General Assembly and signed into law by the governor, creating a comprehensive program to combat childhood obesity in the state. The major provisions of the Act required the following:

- Annual body mass index (BMI) screenings for all public school students, with the results reported to parents;
  - Restricted access to vending machines in public elementary schools;
  - Disclosure of schools' contracts with food and beverage companies;
  - Creation of district advisory committees made up of parents, teachers and local community leaders; and
  - Creation of a Child Health Advisory Committee to recommend additional physical activity and nutrition standards for public schools.
- A historical narrative outlining the process that resulted in adoption of the Act;
  - The results of baseline surveys and interviews of school superintendents and principals about the Act.
  - The results of baseline surveys of parents and adolescents about the Act, their general knowledge about weight control, and health-related behavior patterns of Arkansas youth; and
  - An outline of the next steps in the evaluation process.

With support from the Robert Wood Johnson Foundation, the UAMS College of Public Health will evaluate the implementation of Act 1220 of 2003. This report is the first component of the evaluation effort and includes the following:

The Appendices accompanying this report include a copy of Act 1220 of 2003, an executive summary of the Arkansas Assessment of Childhood and Adolescent Obesity, and an explanation of the methodology used to conduct interviews and surveys for this baseline report.



While it is still too early to tell how actions to date will affect or change patterns of healthy eating and physical activity among the state's children, the state has made considerable progress in establishing a baseline against which future progress can be measured. It also has taken precedent-setting action that has attracted national attention and inspired similar efforts in other states.

Key findings from the report include:

- Act 1220 of 2003 was the product of a remarkable confluence of political, private and institutional support that created an environment conducive to such a broad-based initiative. This environment was fostered in part by meetings held

**Legislators felt the most effective way to address the obesity epidemic would be to focus on creating healthier environments for children through the involvement of schools, parents and communities.**

at both the national and state levels that allowed people from these sectors to engage in collaborative discussions about what goals the state should pursue and how those goals could best be achieved.

- Legislators felt the most effective way to address the obesity epidemic would be to focus on creating healthier environments for children through the involvement of schools, parents and communities.
- There was little, if any, debate or controversy during the conception, drafting, introduction and passage of the legislation. As implementation of the Act's components began, controversy emerged about the requirement that students' BMI be included on the academic report card. This controversy was addressed, in part, with an amendment to the Act, which required that the information be conveyed to parents in a confidential health report.
- The Arkansas Departments of Health and Education worked with the Arkansas Center for Health Improvement to establish protocols for accurate

BMI measurements, train school personnel to measure height and weight accurately, design a useful form for the data, prepare a centralized database and data entry procedures, identify useful methods to calculate BMI levels for schools, and create a personal BMI report for parents. Pilot testing of the program allowed officials to fine tune the process to help ensure the integrity of information collected and to address community concerns.

- Fears about confidentiality of a child's BMI report largely subsided as the process unfolded. In the spring of 2004, as the BMI measurements were being taken, baseline surveys showed nearly three-

fourths of parents and adolescents were aware of plans to measure BMI at school, and that 70 percent of parents and 63 percent of adolescents were comfortable with the idea of getting a BMI report from the school. Only one in five parents were very concerned about the child's friends, classmates or others finding out the BMI measurement.

- Results of the first statewide BMI assessment showed that 38 percent of the state's school-aged youth were either overweight or at risk for overweight. Reaction to these results, which were significantly higher than previous estimates based on self-reports rather than direct assessment, contributed substantially to developing a climate of awareness of childhood obesity in the state.
- Baseline surveys showed 85 percent of Arkansas public schools had vending machines, with 81 percent receiving \$5000 or less in annual revenues from vending machine sales (although these figures did not consider payments made for signing pouring

While it is still too early to tell how actions to date will affect or change patterns of healthy eating and physical activity among children, the state has made considerable progress in establishing a baseline against which future progress can be measured.

- contracts or other incentives provided to schools, such as scoreboards). Only 18 percent of the items available within school vending machines could be classified in the “healthier options” category.
- The data suggested that 90 percent of parents and 80 percent of adolescents were supportive of changes to vending machine contents.
- Nearly half (49%) of the parents and 20 percent of adolescents endorsed a belief that vending machines in schools should offer only healthy items (low-fat and low-sugar snacks, low-sugar and non-carbonated drinks). Another 41 percent of parents and 60 percent of adolescents indicated that machines should offer both healthy and less healthy snacks and drinks so that students could decide for themselves
- More than half (54%) of adolescents reported eating fast food at least once a week. More than one-third of adolescents (37%) reported purchasing drinks or snacks from school vending machines at least twice a week. More than half (55%) of adolescents reported eating evening meals in front of the television more than once a week.
- Baseline surveys showed parents frequently are unable to characterize accurately their child’s weight status, particularly when the child is overweight. More than half (51%) of the parents of children who were overweight according to BMI-for-age percentiles incorrectly perceived the child to be of normal weight. Children with estimated BMI-for-age percentiles in

### Next Steps in Implementation

The Child Health Advisory Committee’s recommendations were delivered to the State Board of Education in June 2004. As of the writing of this report, decisions on the adoption of the recommendations are pending. Plans are under way to complete the second year of BMI assessments in the spring of 2005.

District-level Nutrition and Physical Activity Advisory Committees are being formed. Information from the Arkansas Departments of Education and Health indicates that committees have been formed in most, but not all, school districts at the time of this report. Some committees are meeting regularly and are beginning to consider specific recommendations.



the normal-to-underweight category were more likely to be characterized correctly by their parents (93%) than were children in the overweight (31%) or at-risk-for-overweight (14%) categories.

- Baseline surveys showed that school districts are adopting policies to assure the inclusion of lifetime physical activities within physical education programs. Forty percent of superintendents said their districts had such policies for elementary school programs, 52 percent for middle and junior high school programs, and 56 percent for senior high school programs.
- Most schools (84%) reported that physical education classes are taught by certified physical education teachers. Only 26 percent of districts required that student fitness levels be measured on a regular basis.
- One in every 11 adolescents reported spending 5 to 6 hours per day playing video games or watching TV. Another 32 percent said they spend 3 to 4 hours per day in such activities
- Parents frequently indicated they did not know how much time their children spent in physical activity.

- Less than one-third of parents (31%) and adolescents (30%) were aware of then-current guidelines that recommended eating a minimum of five servings of fruits and vegetables per day.
- Principals and superintendents agreed, nearly unanimously, that there should be healthier nutrition standards for beverages and a la carte foods sold on school campuses outside of the reimbursable meal program or outside of the cafeteria food service. A majority said there would be little to no financial impact for the schools.



Next Steps in Evaluation

Over the next two years, the evaluation team will:

- Continue to monitor the implementation of Act 1220 of 2003, using interviews with legislators, members of the Child Health Advisory Committee, school nurses, community health promotion specialists, principals and district superintendents to capture and describe the processes of implementation;
- Repeat annually the surveys of school principals and district superintendents to monitor changes in school environments; and

- Complete annual interviews with samples of parents and adolescents to assess changes in knowledge, attitudes and beliefs concerning childhood weight control, as well as changes in behavior in the areas of nutrition and physical activity.

These activities, along with the continued monitoring of media coverage, Child Health Advisory Committee activities, and initiatives emerging from the Arkansas Departments of Health and Education, will allow us to assess the implementation and impact of Act 1220 of 2003 as it unfolds over the coming years.

# The History of Act 1220 of 2003

The College of Public Health has compiled the following narrative history detailing the development, adoption and initial implementation of Act 1220 of 2003. This account is based upon interviews conducted between June and November of 2004 with 22 people who were either directly involved or represented groups that were involved in these efforts. The interviewees were selected on the basis of a review of public records, and some were identified in the course of interviews with other people. For more information on the interview process, see Appendix C: Methods.

## Birth of a Bill

Act 1220 of 2003 was the product of a remarkable confluence of political, private and institutional support that created an environment conducive to a broad-based initiative to combat childhood obesity. The major provisions of the Act required the following:

- Annual body mass index (BMI) screenings for all public school students, with the results reported to parents;
- Restricted access to vending machines in public elementary schools;
- Disclosure of schools' contracts with food and beverage companies;

- Creation of district Nutrition and Physical Activity Advisory Committees made up of parents, teachers and local community leaders; and
- Creation of a Child Health Advisory Committee to recommend additional physical activity and nutrition standards for public schools.

The idea to create a state law that focused on reversing the childhood obesity epidemic in Arkansas emerged in early 2002 after key individuals involved in the creation of the law attended two conferences on health-related issues.

The National Conference of State Legislatures (NCSL), the National Governors Association (NGA) and the Association for State and Territorial Health Officials (ASTHO) held a conference in January 2002 dedicated to developing obesity-related legislation and policy. Delegates from five states participated in the conference, "Using Limited Health Dollars Wisely: What States Can Do to Create the Health System They Want."

Conference objectives included raising awareness of the health goals in each state, learning strategies to use funds more efficiently, promoting collaboration among health policy-makers and identifying the next steps for each state's health policies.

Participants from Arkansas included members of the Legislature, the governor's office, and representatives of The Arkansas Departments of Health, Insurance, and Human Services. Some of the Arkansas attendees agreed to pursue a goal of changing patterns of unhealthy behavior in the state, with a focus on children. This would include encouraging schools to promote better nutrition for children and assessing the current regulations requiring physical education in schools.

Arkansas participants credited this conference with planting the initial idea for finding a legislative solution to the growing problem of obesity in Arkansas. Interviews with attendees indicate that the conference was a "good opportunity to really talk and educate folks on what was going on" and that "ideas to promote better health and nutrition in schools" were sown in the minds of the legislators who attended.

Another conference instrumental in the development of the idea for Act 1220 of 2003 took place in March 2002. The University of Arkansas for Medical Sciences (UAMS) Preventive Nutrition Project and the Arkansas Department of Health Cardiovascular Health Program hosted The Arkansas Preventive Nutrition and Physical Activity Summit. It brought together faculty and staff from UAMS, state health department officials, state legislators and health policy-makers, who listened to the featured speakers and then broke into small groups to brainstorm policy ideas and recommendations for addressing the problem of childhood obesity in Arkansas. A total of 13 recommendations emerged, including:

- Creating a new state agency dedicated solely to the nutrition and physical activity of Arkansans;



- Developing a healthier school environment by encouraging a walk-to-school program; and, most radically,
- Placing individual body mass index (BMI) measurements of Arkansas school children on school report cards in an attempt to increase public awareness of the importance of nutrition and physical education.

### Act 1220 of 2003 was the product of a remarkable confluence of political, private and institutional support

This summit inspired policy-makers to consider seriously a statewide approach to counter the growing problem of obesity and was the initial source for one of the more controversial portions of Act 1220 of 2003 – the mandatory BMI screening of all public school students.

Speaker of the House Herschel Cleveland attended the conference and became a leading proponent of a legislative approach to the problem. Cleveland's own health concerns led him to believe the obesity epidemic called for a serious solution. He encouraged leaders at the conference to take a comprehensive approach that would focus on the state's children, regardless of any political backlash that might result.

"Our philosophy... was that maybe it will be worth it if they don't have to have their feet and legs cut off when they are 35 [from diabetes]," Cleveland said later.

A series of planning meetings ensued, involving members of the Legislature and representatives of the Arkansas Department of Health. Participants decided that "we were going to make an effort to do something to help the obesity epidemic in Arkansas, and that something was going to come with a program to help school children." Rather than developing a legislative plan to affect all Arkansans, including adults, the group decided that a legislative plan that focused on children in Arkansas public schools would be the best long-term course of action.

Cleveland asked the Arkansas Department of Health to draft a bill to be introduced into the Arkansas Legislature during the regular session in January 2003. In the fall of 2002, the agency held focus groups, solicited input from health care providers and the Arkansas Department of Education, and reviewed legislation pending or being considered for introduction in other states on the issue. A small group then began drafting what would eventually become Act 1220 of 2003.

## Legislative Intent

In drafting the bill, legislators and health department officials chose to focus on creating healthier environments for children and on increasing community involvement in policy-making related to public schools. They also felt they could achieve the greatest impact by investing in teaching children how to eat well and be physically active – skills they could use for a lifetime.

They were concerned about research indicating that overweight adolescents often grow up to be overweight or obese adults who have significant weight-related health problems.

Some legislators had seen research that demonstrated a clear link between obesity and the consumption of high-calorie/low-nutritional-value “junk” food and sodas, such as those available in vending machines. Prior to the development of Act 1220 of 2003, some legislators were exploring ways to change school environments to provide healthier options to students. The Act provided an opportunity to build on this interest by providing children with more nutritious options and nutrition education.

The bill's authors felt it was important to put procedures and measures in place for the state to determine a baseline prevalence of weight problems in Arkansas children. This would allow officials to assess the impact that policy changes might have over time on rates of obesity and overweight in the state.



They also wanted to employ public health workers in communities statewide to assist with implementation of policy changes to promote healthier school environments, increased physical education and activity, and better nutrition education in schools and neighborhoods.

The Arkansas Department of Health believed it was important to involve physicians and other local experts in the process of determining good nutrition and physical activity standards to be phased into the public schools.

For all of the above reasons, the architects of Act 1220 of 2003 set out to write legislation that was broad-based and multi-faceted, rather than relying upon any single approach to addressing childhood obesity.

Some of the officials interviewed noted that much thought was given to involving schools, parents and communities in the overall process of addressing obesity and to avoiding the imposition of unfunded mandates on schools. The short timeline required by the legislation was also a source of concern.

## Approval and Enactment

After the key issues of importance to legislators were carefully considered and a final version of the bill drafted, it was introduced on February 18, 2003, by Rep. Jay Bradford and co-sponsored by Rep. Gary Biggs, House Speaker Herschel Cleveland, and Rep. Jim Milligan. House Bill 1583, as it was known at the time, was referred to the House Committee on Public Health, Welfare and Labor.

In the House Committee in March of 2003, several amendments were made to the bill, including the placing of a cap on the percentage of tobacco money that could be used for the program. Members of the state Senate also were added as co-sponsors, specifically, Sens. Dave Bisbee and Jim Argue, Jr.

On April 8, 2003, the House of Representatives passed the bill. The next day it passed in the Senate and was transmitted to the governor's office. On April 11, 2003, the bill was signed into law as Act 1220 of 2003. The conception, drafting, intro-

duction and passage of the legislation had all occurred with little debate and in an extraordinarily timely fashion.

The state Child Health Advisory Committee was formed as a requirement of the Act and began to meet monthly in August 2003.

## Controversy and Change

As originally passed, the Act required that each child's BMI would be conveyed to parents through students' report cards, and this eventually became a source of controversy. The requirement received little media attention until the late summer of 2003, when local officials began to make preparations to implement the plan during the new school year. Some school superintendents said they would wait to receive specific guidelines before complying with the law, while others said they were determined to ignore the law because of concern about students' privacy.

Editorial writers and columnists soon became vocal about the issue. Some recounted stories of children giving up regular treats provided by grandparents because they were afraid of failing their "fat test." Many felt that the BMI measurement was none of the government's business. One especially creative columnist suggested that the "BMI rating placed somewhere

**Legislators reassured the public that  
it was never their intent to embarrass  
children or parents.**

on the report card" or "fat card" would have letter grades such as "A for Anorexia, ... AN for Absolutely Normal, CC for Casually Chunky ... ."

Meanwhile, the issue of including BMI measurements on Arkansas report cards was about to explode in the national media. On August 20, 2003, an article in the *Wall Street Journal* indicated that the state sought to "score" students on their weight. The article gave a brief overview of the law and included negative reactions from parents and students in states with similar legislation. It included accounts of children in Michigan using extreme diets to lose weight after seeing their BMI numbers and of students in Florida comparing their BMI assessments.

Backers of Act 1220 of 2003 said the *Wall Street Journal* article had a noticeable impact and highlighted the fact that problems with the Act extended beyond those of privacy concerns. As one supporter put it, "Suddenly we in Arkansas were on the front page of the *Wall Street Journal* with no funding and no plan for how we were going to do the BMI assessment." Many parents expressed their concerns in letters and calls to legislators, newspaper editors, superintendents and principals. They primarily were concerned about how the BMI screenings would affect student privacy and mental health.



The outcry from some parents over placing the BMI measurements on report cards prompted the newly formed Child Health Advisory Committee and others to endorse changing the way BMI measurements were reported. At its September 2003 meeting, the Child Health Advisory Committee voted to adopt recommendations from the Arkansas Center for Health Improvement's BMI Task Force to keep the reports private and off academic report cards.

Legislators responded by passing HB 1011 (later Act 29) in a special December 2003 session on education. The bill amended Act 1220 to require that student BMI assessments would be sent to parents in a separate child health report, instead of on a student's report card. Legislators reassured the public that it was never their intent to embarrass children or parents. One legislator said that the controversy over BMI measurements was helpful, noting that, had there not been the controversy over BMI reporting methods, "the bill would not have been nearly as effective."

As schools began to comply with the law and measure BMI, some parents and students began to consult physicians and health officials for information on how to live healthier lifestyles.

At the same time, Governor Mike Huckabee's personal journey to create a more healthful lifestyle brought additional local and national attention to the state's efforts to reverse the obesity trend. The release by the Arkansas Center for Health Improve-

ment of the findings from the first-year BMI assessments showed that 38 percent of the state's school-aged youth were either overweight or at risk for overweight. Because this number was greater than previous estimates for the state that were based on much smaller sample sizes and self-reports of height and weight rather than direct measurement, the release generated significant attention within the state and at the national level. (See Appendix B for an executive summary of the Arkansas Assessment of Childhood and Adolescent Obesity.)

The measurement of BMI also was seen as crucial to establishing a benchmark, or baseline, for data comparisons. Comprehensive, statewide, empirical data were needed to quantify the problem of obesity in the state and to measure changes over time.

Physicians who were involved in helping to inform the debate during the drafting of the legislation reported great alarm over recent increases in health problems in children, including sleep

**“Kids will make healthy choices if they're given healthy options.”**

*- Member of the Child Health Advisory Committee*

While there were still some vocal dissenters, for the most part, those who were dissatisfied were concentrated in small areas around the state, and the need for policy, environmental, and behavioral change was broadly recognized.

One legislator stated that parents understood the purpose of the law was to promote health for Arkansas' children and adults and that the majority saw the law as a positive step.

## Significance of BMI & Nutrition Standards

Interviews with people involved in creating and implementing Act 1220 of 2003 indicated that many viewed the legislation as a way to educate citizens about important health issues and to encourage Arkansans to begin a dialogue with their health care providers on the importance of physical activity and good nutrition to overall health and well-being. The assessment and reporting of each child's BMI was seen as an important component of that effort.

One legislator stated that “a lot of people didn't realize the severity of the problem” and that the BMI reports were seen as a way to make the problem more relevant to families in Arkansas. After the initial year of the Act's implementation, policy-makers viewed the BMI initiative as having been very successful in achieving these goals. They noted that a great deal of public discussion at the school, community, state and even national level had been generated by the statewide BMI screening initiative.

apnea, type 2 diabetes and hypertension. These physicians gave legislators credit for approving the Act. As one doctor told an interviewer, “It just happened to be that the legislators were interested in hearing about ways of improving child health and were willing to go along and kind of stick their neck out with a bill that was really different from anything that had been done in the rest of the United States.”

One legislator declared that the BMI screening requirement “says that we really meant business. If we can show that we are really making a difference and we are educating our children, our parents, our families and our educators on the importance of providing some guidance in nutrition and physical fitness ... I think we can be leaders in something that is good in this country.”

Striving for healthier nutrition standards and offering healthier food and drink options in schools were other important components of the law's overarching goal for encouraging healthier behavior among Arkansans. Physicians, nutritionists, dietitians and other public health professionals who helped draft portions of the legislation wanted to increase nutrition education in the schools and give students more healthy options in foods and beverages.

Most school and public health officials, health care providers and legislators who were interviewed shared the belief that unhealthy foods were too prevalent in the school setting. The decision to tackle nutritionally related health in Act 1220 of 2003 came down to a belief that, at the very least, “Schools should not be contributing to the problem.”



healthy eating and physical activity, and it recommended that families contact their pediatricians or family doctors if they had additional questions.

All parents or guardians of participating children received a BMI letter by September 1, 2004. A full discussion of the procedures, safeguards, and findings of the BMI measurement process is presented in the report prepared by the Arkansas Center for Health Improvement, which can be found at [www.achi.net](http://www.achi.net). (An executive summary of the report is contained in Appendix B.)

**“In order to help people make changes, we need to make it easier to do the healthy thing than to do the unhealthy thing.”**

**- Arkansas pediatrician**

A number of officials interviewed expressed concerns over whether schools would be able to continue to measure and report student BMI scores in future years. Concerns centered on the time involved in preparing for and completing assessments, as well as the cost of mailing letters to parents. They also said annual assessments will be important if data are to be used to inform decision-making and to evaluate programs.

### Child Health Advisory Committee

The Child Health Advisory Committee began to meet in August of 2003 as soon as members could be named by the participating agencies. In monthly meetings throughout 2003 and 2004, the committee considered recommendations concerning the public school environment, specifically related to physical activity and nutrition. The committee's recommendations presented an incremental approach to changing standards over a period of five years.

For 2004-05, the Child Health Advisory Committee offered organizational recommendations for the local Nutrition and Physical Activity Advisory Committees to ensure that communication existed between a committee and all schools in the district and that programs developed by the local committee would be age-appropriate for students.

The committee also recommended that elementary students

should not have any access to foods of minimal nutritional value and that middle and high school students should have restricted access to such foods. Finally, the committee recommended that a physical education specialist position be created at the Department of Education to assist in coordinating statewide physical education standards.

For the 2005-06 school year, the Child Health Advisory Committee recommended that the local Nutrition and Physical Activity Advisory Committees ensure that student-to-adult ratios in physical education classes be 30-to-1 in

grades K-6 and that the community be provided access to school physical activity facilities after hours.

The Child Health Advisory Committee recommended that grade-appropriate nutrition education be developed and gave specific guidelines for such education. It also recommended specific standards and portion sizes for competitive foods in schools, including recommendations regarding access to such foods.

For the 2006-2007 school year, the Child Health Advisory Committee recommended and outlined requirements for professional development for child nutrition personnel in Arkansas schools.

For the years following 2007, the committee listed recommendations related to physical education in schools, including required certification for physical education teachers and an increase in the required number of minutes of physical activity to 150 minutes per week for elementary students and 225 minutes per week for middle and high school students.

These recommendations and their underlying rationale were delivered to the State Board of Education in June 2004. As of the writing of this report, decisions on the adoption of the various recommendations are pending.

## Arkansas Department of Health

Act 1220 of 2003 contained a requirement that the Arkansas Department of Health hire public health workers to assist public schools with raising nutrition standards, increasing student physical activity, and implementing more nutrition and health education in the schools. These individuals were hired in 2004 and currently are working with local Nutrition and Physical Activity Advisory Committees and Hometown Health Improvement coalitions throughout the state.

## Local School District Nutrition and Physical Activity Advisory Committees

In addition to the state Child Health Advisory Committee, the legislation also called for the creation of district advisory committees made up of parents, teachers and local community leaders. Most of these committees had been formed by the end of 2004 and were beginning to address their own local needs to create a healthier environment for children. There is a strongly held belief on the part of the Arkansas Department of Health and the Arkansas Legislature that these local participants know best what health issues are prevalent in their communities and how best to address them.

## Community Participation: Perceived Roles

Schools are part of the community and thus were viewed by legislators and others as a partner with the rest of the community in addressing the complex issue of obesity. Key informants who were interviewed emphatically stated that all members of the community have responsibility for what children eat. They expressed the hope that health education in schools could be connected with good community programs and worksite wellness programs to create a culture that values health.

It was noted that the governor's "Healthy Arkansas" campaign is attempting to support some of these connections. The Arkansas Legislature's investment in the ambitious goals of Act 1220 of 2003 was recognized as a courageous move to try to connect many threads within communities to improve the lives of Arkansans.

## Next Steps

After the initial implementation of the Act, key individuals began to formulate and discuss plans to create healthier school environments for students, encourage healthy communities outside of schools and improve the BMI measurement process. The future of the BMI measurements in schools after the first year was an area of concern for health policy-makers. Key concerns and suggestions included:

- Greater involvement of schools in devising BMI measurement plans;
- Greater efficiency in BMI measurement processes;
- Clear delineation of responsibility for future BMI measurements; and
- Identification of funding to pay for mailing health reports to parents.

## Involvement from local communities was and is seen as imperative for developing effective standards for nutrition and physical activity.

Most policy-makers agreed that healthy nutrition standards should exist for Arkansas public schools. Suggestions included replacing foods in vending machines with healthier choices and not rewarding students with candy or food items. Policy-makers also felt that schools should be concerned about the overall health of students, not just weight. One legislator expressed the frustration of telling students to be healthy while limiting their resources to achieve health, saying, “We get all wound up about kids drinking non-diet [soda] out of a [soda] machine at school, and, at the same time, we are cutting funding for school health clinics.” Many policy-makers felt that, for real change to occur, programs had to be in place to encourage not only thinner Arkansas students, but students with improved overall health.

There were concerns that the cost of funding nutrition standards and the financial effect of limiting access to vending and soda machines would create a situation that schools, districts

and the state would need to address in the immediate future. Some members of the Child Health Advisory Committee and legislators felt that removing machines would likely affect school income, while others felt that removing machines would have little to no effect at all on school finances. This suggests that there has been a lack of information about the resources generated from vending machines and pouring contracts and how the money is used.

One legislator stated that one of the most effective things the Legislature could do would be “to let the soft drink industry know that we’re not going to repeal this legislation, and they’re going to have to work with us” to change school environments. Most interviewees said that, if vending contracts with companies and vending machines in the building were not a part of the future of Arkansas schools, that any lost revenue would have to be made up from other sources.

Interviewees identified a number of barriers to change, including: 1) limited time within the existing school day to

increase time for physical education or lunch periods, and 2) a preference for local initiatives for change, as opposed to change being mandated by a centralized body, such as the Arkansas Legislature or Department of Education.

Involvement from local communities was and is seen as imperative for developing effective standards for nutrition and physical activity.

Members of the Child Health Advisory Committee stressed the importance of establishing efficient and empowered local Nutrition and Physical Activity Advisory Committees to study local needs and develop programs that would work best for the community. They said that membership should be reflective of the entire community and that the committees should consist of “good common sense folks who don’t have special interests.” They said parental involvement in the local committees and in developing programs that worked would be essential in creating healthier schools.

# Response to Surveys: Principals and Superintendents, Parents and Adolescents

Between April and August of 2004, school superintendents, principals, parents and students were surveyed as an initial part of the effort to evaluate Act 1220 of 2003. Surveys were mailed to 1,127 principals and 350 superintendents. A total of 811 principals and 223 superintendents returned those surveys, which asked for information about school environments, policies and practices relating to physical activity, physical education and nutrition.

Meanwhile, telephone interviews were conducted with randomly selected families whose children attended Arkansas public schools in the spring of 2004. Students over the age of 13 and parents were asked about their knowledge of weight control, family and individual behavior patterns related to nutrition and physical activity, and their familiarity with and opinions about the provisions of the Act. A total of 1,551 parents and 202 adolescents were interviewed in this manner. (For more information on how the surveys were conducted, refer to Appendix C: Methods)

## Vending Machines - Availability and Options

The vast majority of Arkansas public schools (85%) reported having vending machines. Virtually all of these schools had beverage machines, while 85 percent had food machines.

Machines were most commonly located in teachers' lounges, gymnasiums, cafeterias, and hallways or other common areas available to students.

Overall, machines were reported to be available to students at all times of the — most frequently during lunch periods (42%), after school (39%) and before school (28%). Machines were less frequently available in the afternoon

after lunch (16%), during breaks (13%) or in the morning before lunch (10%).

On average, principals reported that only 18 percent of the items available within vending machines could be classified as “healthier options.” The items most frequently available for purchase by students included: sodas, lemonade or sweet tea (49%), bottled water (49%), fruit-flavored drinks (46%), cookies or crackers (34%), 100-percent fruit juice (32%), chips (32%), candy (32%), chocolate (29%), and cakes or pastries (21%). Less than 10 percent of schools reported offering low-fat snack options.



## Vending Machines - Revenues and Expenditures

Act 1220 of 2003 mandated that schools report revenues and expenditures from pouring contracts in their annual reports to the community. These reports are not yet available for the majority of schools.

Within our surveys, 80 percent of the school districts reported having a contract with a soft drink bottler, giving the company exclusive rights to sell soft drinks at schools in the district.

The majority of schools (81%) reported that they realized \$5000 or less in annual revenues from vending machine sales. Another 13 percent reported annual revenues between \$5,000 and \$15,000. Only 6 percent reported revenues of \$15,000 or more.

Revenues from vending sales frequently were reported to be used to support academic programs (54%) and extracurricular fine arts or academic programs (29%). With less frequency, revenues were reported to support physical education or physical activity programs (19%), art or music instructional programs (19%) and extracurricular sports activities (18%). Only 5 percent of schools reported using vending revenues to support food service programs.

## Food and Nutrition Policies in Schools and School Districts

Almost two-thirds (62%) of schools allowed food to be sold by students to raise funds. The most common items sold were candy (74%) and cookies (57%). Fewer schools reported selling fruit (24%) or nuts (22%).

Fewer than 5 percent of schools and school districts reported having policies about the types of foods that could be

served at school events or policies requiring that healthy options be offered at student parties, concession stands or meetings attended by families. Very few districts (2%) or schools (7%) reported having policies that prohibit the use of food or food coupons to reward students for good behavior or academic achievement.

About a third of schools (34%) reported having made recent changes to the foods or beverages sold within the school. In addition to altering access to vending machines to be compliant with Act 1220 of 2003 (40%), schools added healthier options to vending machines (22%) or cafeteria offerings (19%), limited access to specific foods (11%), and limited options for fundraising or rewards (4%).



## Physical Activity Policies in Schools and School Districts

Most schools (84%) reported that physical education classes are taught by certified physical education teachers. Physical education is also taught by non-certified physical education teachers (14%), regular classroom teachers (13%) and health education teachers (8%).

Fully 87 percent of schools reported that they require that newly hired physical education teachers be state-certified in physical education. School districts also reported policies requiring newly hired staff who teach physical

education be state-certified in physical education: 69 percent at the elementary level, 87 percent at the middle or junior high school level, and 88 percent at the high school level.

School districts were adopting policies to assure the inclusion of lifetime physical activities — including walking, jogging, bicycling, tennis and golf — within physical education programs and particularly at the secondary level. Forty percent of superintendents noted that their districts had such policies for elementary

school programs, 52 percent for middle and junior high school programs, and 56 percent for senior high school programs

Only one-fourth (26%) of districts require that student fitness levels be measured on a regular basis.

Roughly one-fourth and one-third of districts, respectively, had policies prohibiting the use of physical activity to punish students for bad behavior in physical education class (24%) or in other classes (32%).

## Physical Activity Programs Offered Outside of the School Day

Schools often serve as the center of the community, and a number allow their facilities to be used outside of school hours for physical activity programs for youth. The most common programs offered were basketball (offered at 59% of schools), baseball or softball (47%), running or jogging (37%), football (31%)

and walking (30%). Other programs offered for youth included: volleyball (22%), weight training (21%), cardiovascular fitness (19%), soccer (17%), golf (17%), tennis (13%), dance (12%) and aerobics (11%). Fewer schools reported programs directed toward community adults. The

most frequently noted adult physical activity programs included: basketball (17%), walking (15%), baseball or softball (14%), and running or jogging (10%). Overall, 15 percent of schools reported that school facilities are not used after hours for physical activity programs.

## Awareness of Healthy Eating Guidelines

Parents and adolescents showed limited awareness of dietary guidelines that were in place at the time of the surveys and that recommended eating a minimum of five servings of fruits and vegetables per day.

When asked how many servings of fruits and vegetables a person should eat each day for good health, less than a third of parents (31%) and their adolescents (30%) answered five or more servings per day. More than two-thirds (69%) of parents were unaware of the national recommen-

dation for five or more servings of fruits and vegetables per day for health.

Most adolescents (80%) said they believed that eating more fruits and vegetables would make them stronger, give them more energy and help them think better in class.

Similar percentages indicated that their families believed eating fruits and vegetables is important, but only 17 percent indicated that their peers held those beliefs.

When asked to identify healthy snacks for children, parents most frequently mentioned low-fat salty snacks, such as crackers, pretzels or popcorn (6%), peanut butter (4%), bread or grain items (3%), and cheese (2%). Very few parents (less than 1%) suggested that fruits and vegetables would make good snacks for children.



### Current Eating and Physical Activity Patterns

Arkansas families reported a number of current practices that may not be helpful in establishing and maintaining healthy weights.

One in every 11 adolescents reported spending 5 to 6 hours per day playing video games or watching TV. Another 32 percent reported spending 3 to 4 hours per day in such activities.

Almost one-third (30%) of adolescents reported eating fast food at least once a week.

More than half (55%) of adolescents reported eating evening meals in front of the television more than once a week.

More than one-third of adolescents (37%) reported purchasing drinks or snacks from school vending machines frequently

(at least twice a week). Four of every 10 adolescents reported making vending machine purchases less than once a week.

Adolescents frequently reported lifestyle activities, such as walking the dog, doing yard work and playing with friends. Interestingly, parents frequently indicated that they did not know how much time their children spent engaged in such activities.

### Efforts to Change Behavior

A majority of parents and adolescents reported efforts to establish and maintain healthy eating patterns. Three-fourths (76%) of parents reported that they were attempting to limit the amount of chips, soda or sweets eaten by family members.

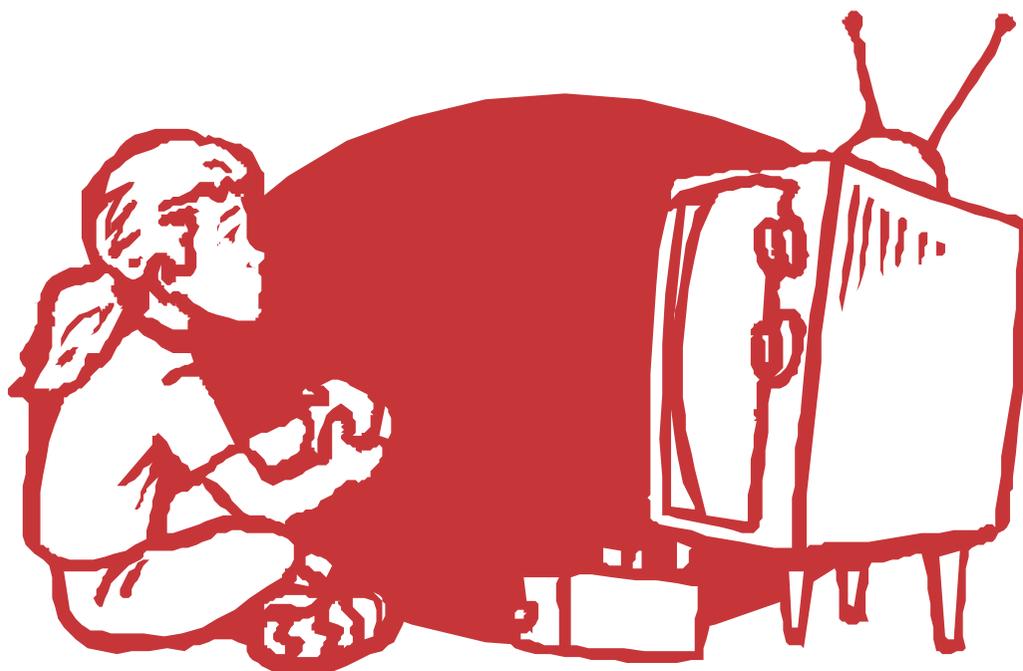
Of the adolescents interviewed, more than half (58%) said that their parents were trying to limit the adolescent's intake of snack foods, while two-thirds

(66%) said they, themselves, were making efforts to eat more healthy foods.

Nearly two-thirds (63%) of parents indicated that they were trying to change the family diet to a healthier one. The most common reasons given for making these efforts included a recent health event in the family (26%), a need to manage weight (13%), a recent visit to the doctor

(9%) and a desire to become healthier (5%). Not unexpectedly, as most parents were interviewed prior to receiving the BMI report, only 2 percent indicated that the BMI report was an impetus for change.

Nearly three-fourths (72%) of parents said they tried to limit the number of hours their children spend watching TV, playing video games or using the Internet.



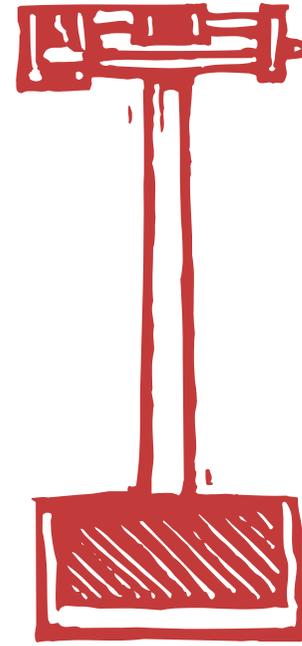
## Knowledge and Opinions about BMI Reporting

Because parent and adolescent interviews were completed after plans to measure and report students' BMI were made public but before the actual reports had been distributed to parents, questions addressed only parental and student awareness of and concerns about the plans.

A large majority of parents and adolescents were aware (74% and 70%, respectively) of plans to measure BMI at school and comfortable (70% and 63%, respectively) with the idea of getting a BMI report from the school. Most parents were comfortable with the confidentiality associated with the planned

processes. Only one in five (20%) were very concerned about the child's friends, classmates or others finding out the BMI measurement.

A limited number of parents (14%) reported that their child experienced weight-based teasing. Twenty-two percent reported that their child was teased for reasons other than weight. Similarly, 12 percent of adolescents reported weight-based teasing, while 21 percent reported teasing for other reasons.



## Knowledge of and Concerns about Weight

Parents were asked as part of the survey to report their child's height and weight, from which an estimated BMI was calculated and BMI-for-age percentiles were generated. Parents also were asked to characterize their child's weight as "overweight, at risk for overweight, a healthy weight or underweight."

Comparisons of the two sets of categories indicate that parents are frequently unable to characterize accurately their child's weight status, particularly when the child is overweight. Roughly half (51%) of the parents of children who were overweight according to BMI-for-age percentiles incorrectly perceived their children as being of normal weight. Children with estimated BMI-for-age percentiles in the normal-to-underweight category were more likely to be characterized correctly by their parents (93%) than were children in the overweight

(31%) or at-risk-for-overweight (14%) categories. Two-thirds of the parents (65%) indicated that they had no concerns about their child's weight, but 15 percent were very concerned.

Roughly two-thirds of parents (67%) said they believed that overweight children are very likely to develop health problems. A similar percentage (60%) recognized diabetes as a potential health problem for overweight children, and 15 percent cited hypertension as a possible problem. Only 4 percent recognized asthma as an associated problem.

As a rule, most adolescents (90%) reported that they did not know their own BMI. However, two-thirds (67%) reported that they perceived themselves to be at a healthy weight. Only 11 percent reported themselves to be overweight.

## Parental and Adolescent Beliefs about Vending Machine Change

Baseline data suggest that a majority of parents (90%) and adolescents (80%) are supportive of changes to vending machine contents.

Nearly half (49%) of the parents and 20 percent of adolescents said vending machines in schools should offer only healthy items (low-fat and low-sugar snacks, low-sugar and non-carbonated drinks). Another 41 percent of parents and 60 percent of adolescents indicated that machines should offer both healthy and less healthy snacks and drinks so that students could decide for themselves. Only 6 percent of parents and 20 percent of adolescents said no changes should be made.

More than half (54%) of parents said vending machines should not be available to students in middle or high schools.

# On The Front Line: Interviews With Principals and Superintendents

To gather more information, the evaluation team conducted interviews with 19 school principals and 21 superintendents from across the state of Arkansas. Stratified, random sampling was used to select principals and superintendents from different regions. The selection process ensured that interviewees represented all regions and that principals represented all levels of schools. The principals and superintendents were encouraged to speak freely and anonymously about their own responses to Act 1220 of 2003, the implementation of the law in their schools, their views on healthy nutrition standards and physical activity requirements, and the possible ramifications of making such changes in the schools.

The majority of those interviewed felt that assessing BMI for all students was a “terrible” idea. Act 1220 of 2003 was typically viewed as just another burdensome mandate from the government. As one school official said, schools “are even being considered to be the main culprit or the one at fault for this [obesity] happening to our youth.”

In contrast, a few principals and superintendents felt that the Act was a necessary and even positive step in the right direction. One principal said the Act showed parents that “we’re looking to help our students any way possible.”

Principals and superintendents reported that they received both positive and negative responses from the community and, in one case, no response. One superintendent reported receiving only a few phone calls, and still another said, “I heard almost nothing from the community.”

Principals and superintendents said they frequently heard from parents, teachers and community members who felt there was no need to calculate the BMI of students, because they believed parents who have overweight kids already know it. Principals said teachers and administrators also were concerned about the actual process of taking the measurements and the amount of time it would take out of the school day. It also was suggested that, to increase the length of physical Education or lunch periods, the school day would have to be increased or other courses would need to be cut.

## Changing Nutrition in Schools and Districts

Principals and superintendents agreed, nearly unanimously, that there should be healthier nutrition standards for beverages and a la carte foods sold on school campuses outside of the reimbursable meal program or outside of the cafeteria food service.

When asked why they supported such changes, one principal said, “Anything we can do to make our students healthier is great for me.” Another said that schools just need healthier food.

One principal said vending machines needed to be completely removed from junior high and high schools, while several mentioned that the machines should be filled with healthier foods. Another thought students should have fewer, not more, food and beverage choices because “kids will eat what is there.”

One superintendent mentioned the importance of the newly formed Nutrition and Physical Activity Advisory Committees in helping schools create healthier nutrition standards, saying their local committee has been formed and already has come up with good ideas.

Regarding the financial impact of replacing a la carte foods and beverages sold on campuses — a concern raised by many of the other people talked to by evaluators, as well as by the media — a majority of principals and superintendents said there would be little to no financial impact for the schools. One principal noted that beverage companies produce water, fruit juices and sports drinks, and said those options could be placed in soda machines. Another expressed the belief that students would be accepting of change, as long as schools offered a variety of healthy options. Another superintendent agreed, saying, “I don’t think kids are going to boycott the machines just because you put something more nutritious in there.”

To promote changes in the beverages and foods that are sold in schools, principals and superintendents agreed that it is important to educate students and to get parents involved. They expected that the benefit of such education would increase over time because “once we get the mind-set changed ... they will pass that on to the next generation and the next.” Most agreed that students needed to be approached in a thoughtful way — not in an authoritarian manner, but in an informative and positive way that would encourage them to make healthy choices on their own.

When asked how changes might affect participation in reimbursable meal programs, principals and superintendents had varied responses. Some worried about the survival of the meal programs. Others felt that, without a vending machine option, students would participate in the cafeteria food program. Many felt that there would be no change in the reimbursable meal program if healthier nutrition standards were implemented.

Most principals and superintendents said they believed students were receiving sufficient nutrition education. Students receive such education within their science, health or physical education classes, depending on the grade level. Some principals and superintendents felt that more needed to be done, but they expressed concerns for what that might mean for schools. One superintendent asked, “It might be wonderful to offer more health or require more health education, but at what expense?”

### Changing Physical Activity in Schools, School Districts and Beyond

When asked what they would do to change physical activity policies in their school or district, principals and superintendents offered a variety of suggestions, including increasing physical activity among students and allowing recess time to count towards required minutes of physical activity.

One superintendent noted that taxpayers and legislators need to be aware that, if physical education requirements were to be increased, there would be costs in terms of new staff, programs, equipment and facilities. However, he said such changes ultimately would create fewer problems than taxpayers otherwise would have to pay for through higher insurance premiums.

## Future Directions

Having established a baseline against which future data can be compared, the evaluation team believes it is essential to continue the assessment of how Act 1220 of 2003 affects Arkansas students, families and public schools. The COPH has received funding from the Robert Wood Johnson Foundation for at least two additional years of evaluation activity.

During this time the evaluation team plans to:

- Complete interviews with members of the Child Health Advisory Committee, legislators, physicians, school nurses, community health promotion specialists and members of the local Nutrition and Physical Activity Advisory Committees;

- Repeat annually the surveys of school principals and district superintendents; and
- Complete interviews with additional samples of parents and adolescents.

These activities, along with continued monitoring of media coverage, Child Health Advisory Committee activities, and initiatives emerging from the Arkansas Departments of Health and Education, will allow the assessment of implementation and impact of Act 1220 of 2003 as it unfolds over the coming years.



# APPENDICES

**APPENDIX A: ACT 1220 OF 2003**

State of Arkansas  
84th General Assembly  
Regular Session, 2003

*As Enrolled: H3/3/03 H3/10/03 H3/12/03 S4/1/03*

**A Bill**

**Act 1220 of 2003  
HOUSE BILL 1583**

By: Representatives Bradford, Biggs, Cleveland, Milligan By: Senators Bisbee, Argue

**For An Act To Be Entitled**

AN ACT TO CREATE A CHILD HEALTH ADVISORY COMMITTEE; TO COORDINATE STATEWIDE EFFORTS TO COMBAT CHILDHOOD OBESITY AND RELATED ILLNESSES; TO IMPROVE THE HEALTH OF THE NEXT GENERATION OF ARKANSANS; AND FOR OTHER PURPOSES.

**Subtitle**

AN ACT TO CREATE A CHILD HEALTH ADVISORY COMMITTEE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

SECTION 1. Arkansas Code Title 20, Chapter 7, Subchapter 1 is amended to add three (3) additional sections to read as follows:

6-7-117. Committee - Creation.

(a) There is created a Child Health Advisory Committee to consist of fifteen (15) members.

(b)(1) The Director of the Department of Health shall appoint:

(A) One (1) member to represent the Department of Health;

(B) One (1) member to represent the Arkansas Dietetic Association;

(C) One (1) member to represent the Arkansas Academy of Pediatrics;

(D) One (1) member to represent the Arkansas Academy of Family Practice;

(E) One (1) member to represent the Arkansas Association for Health, Physical Education, Recreation, and Dance;

(F) One (1) member to represent jointly the Arkansas Heart Association, the American Cancer Society, and the American Lung Association;

(G) One (1) member to represent the Arkansas School of Public Health of the University of Arkansas for Medical Sciences;

(H) One (1) member to represent the Arkansas Center for Health Improvement;

(I) One (1) member to represent the Arkansas Advocates for Children and Family; and

(J) One (1) member to represent the University of Arkansas Cooperative Extension Service.

(2) The Director of the Department of Education shall appoint:

(A) One (1) member to represent the Department of Education;

(B) One (1) member to represent the Arkansas School Food Service Association;

(C) One (1) member to represent the Arkansas School Nurses Association;

(D) One (1) member to represent the Arkansas Association of Education Administrators; and

(E) One (1) member to represent the Arkansas Parent Teacher Association.

(c) Terms of committee members shall be three (3) years except for the initial members whose terms shall be determined by lot so as to stagger terms to equalize as nearly as possible the number of members to be appointed each year.

(d) If a vacancy occurs, the officer who made the original appointment shall appoint a person who represents the same constituency as the member being replaced.

(e) The committee shall elect one (1) of its members to act as chair for a term of one (1) year.

(f) A majority of the members shall constitute a quorum for the transaction of business.

(g) The committee shall meet at least monthly.

(h) The Department of Health shall provide office space and staff for the committee.

(i) Members of the committee shall serve without pay but may receive expense reimbursement in accordance with § 25-16-902, if funds are available.

6-7-118. Powers and duties.

(a) The Child Health Advisory Committee shall meet at least once per month and make recommendations to the State Board of Education and the State Board of Health consistent with the intent and purpose of §§ 6-7-117 through 6-7-119.

(b) The Committee shall develop nutrition and physical activity standards and policy recommendations with consideration of the following:

- (1) Foods sold individually in school cafeterias but outside the regulated National School Lunch Program;
- (2) Competitive foods as defined by the United States Department of Agriculture, as in existence on January 1, 2003, and offered at schools typically through vending machines, student stores, school fundraisers, food carts, or food concessions;
- (3) The continuing professional development of food service staff;
- (4) The expenditure of funds derived from competitive food and beverage contracts;
- (5) Physical education and activity;
- (6) Systems to ensure the implementation of nutrition and physical activity standards; and
- (7) The monitoring and evaluating or results and reporting of outcomes.

6-17-119. Nutrition and physical activity standards - Implementation.

(a) The State Board of Education, after having consulted the committee and the State Board of Health, shall promulgate appropriate rules and regulations to ensure that nutrition and physical activity standards are implemented to provide students with the skills, opportunities, and encouragement to adopt healthy lifestyles.

(b) Beginning with the 2003-2004 school year, the Department of Health, in consultation with the Department of Education, shall:

- (1) Employ one (1) qualified community health promotion professional, with training, experience, or both, in nutrition, chronic disease, or another related field to be housed within the Department of Health to plan, develop, implement, and evaluate pilot or model programs to support schools and communities, if funds are available;
- (2) Employ one (1) statewide health promotion consultant to be housed within the Department of Education, if funds are available;
- (3) Employ one (1) person as a community health promotion specialist to support implementation of pilot or model programs in schools and communities in nutrition and physical activity in several distinct geographical areas of the state, if funds are available; and
- (4) Not use more than five percent (5%) of the annual Department of Health Master Settlement Agreement funds for the salaries or programs created under this subsection (b).

(c) Beginning with the 2003-2004 school year, every school district shall:

- (1) Prohibit, for elementary school students, in-school access to vending machines offering food and beverages;
- (2) Require schools to include as part of the annual report to parents and the community the amounts and specific sources of funds received and expenditures made from competitive food and beverage contracts;
- (3) Require school to include as part of the student report card to parents an annual body mass index percentile by age for each student; and
- (4) Require schools to annually provide parents with an explanation of the possible health effects of body mass index, nutrition and physical activity.

(d) Beginning with the 2004-2005 school year, the Department of Education shall:

- (1) Begin the implementation of standards developed by the committee and approved by the Department of Education; and
- (2) Annually monitor and evaluate the implementation and effectiveness of the nutrition and physical education standards.

(e) Beginning with the 2004-2005 school year, every school district shall:

- (1) Convene a school nutrition and physical activity advisory committee that shall include members from school district governing boards, school administrators, food service personnel, teacher organizations, parents, students, and professional groups such as nurses and community members, to:
  - (A) Help raise awareness of the importance of nutrition and physical activity; and
  - (B) Assist in the development of local policies that address issues and goals, including, but not limited to, the following:
    - (i) Assisting with the implementation of nutrition and physical activity standards developed by the committee with the approval of the Department of Education and the State Board of Health;
    - (ii) Integrating nutrition and physical activity into the overall curriculum;
    - (iii) Ensuring that professional development for staff includes nutrition and physical activity issues;

Appendix B

- (iv) Ensuring that students receive nutrition education and engage in healthful levels of vigorous physical activity;
  - (v) Improving the quality of physical education curricula and increasing training of physical education teachers;
  - (vi) Enforcing existing physical education requirements; and
  - (vii) Pursuing contracts that both encourage healthy eating by students and reduce school dependence on profits from the sale of foods of minimal nutritional value;
  - (2) Begin the implementation of standards developed by the committee with the approval of the Department of Education and the State Board of Health; and
  - (3) Require that goals and objectives for nutrition and physical activity be incorporated into the annual school planning and reporting process.
- (f) The Department of Education and the Department of Health shall report annually on progress in implementing nutrition and physical education standards to the cochairs of the House and Senate Interim Committees on Public Health, Welfare, and Labor.

/s/ Bradford APPROVED: 4/10/2003

## APPENDIX B: ACHI EXECUTIVE SUMMARY - THE ARKANSAS ASSESSMENT OF CHILDHOOD AND ADOLESCENT OBESITY

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### THE ARKANSAS ASSESSMENT OF CHILDHOOD AND ADOLESCENT OBESITY

#### Executive Summary

*NOTE: The document below was produced by the Arkansas Center for Health Improvement, and is not a product of the COPH Assessment of Act 1220 of 2003.*

Arkansas and the US are experiencing unprecedented increases in the number of overweight children causing what many consider to be an obesity epidemic. Nationally, more than 30% of high school students were estimated by the Centers for Disease Control and Prevention (CDC) to be overweight or at risk for overweight in 2002. Overweight adolescents also have a 70% chance of becoming overweight or obese adults, which will lead to higher risks in adulthood of type 2 diabetes, heart disease, cancer, stroke, hypertension, and other medical problems.

Recognizing the pressing epidemic of obesity in general and that problems associated with obesity commonly begin in childhood, the State of Arkansas passed Act 1220 of 2003. This landmark legislation was implemented to “coordinate statewide efforts to combat childhood obesity and related illnesses to improve the health of the next generation of Arkansans.” This Act represents the first statewide multifaceted approach to combat childhood obesity in the US. Included in Act 1220 are multiple strategies to engage, inform, and activate parents, schools, and community leaders. Specifically, to address overweight children in the state’s public school system, Act 1220 required that, beginning with the 2003–2004 school year, every Arkansas public school student have an annual body mass index (BMI)-for-age assessment performed and reported confidentially to parents. Schools were also required to provide parents with an explanation of the possible health effects of BMI-for-age, nutrition, and physical inactivity.

Upon request by the Arkansas Departments of Education and Health, the Arkansas Center for Health Improvement (ACHI) led statewide efforts in 2003–2004 to collect data on approximately 440,000 school children and adolescents and to create and disseminate reports to parents and communities. More than 93% of schools reported data on 94% of Arkansas public school students in pre-kindergarten through 12<sup>th</sup> grade. Analyses of data collected by ACHI show childhood obesity to be even more serious than expected. Based on BMI assessments, 38% of school children in Arkansas were classified as overweight or at risk for overweight in 2003–2004—a figure more than one-fourth higher than the national estimates for this population. This large-scale screening of school-age children in Arkansas may herald a more rapid evolution of the obesity epidemic than originally anticipated.

Evaluation of individual school and school district results and analyses of subpopulations most affected by the obesity epidemic reveal that no area of the state, type of school, or demographic group of children is spared the risk of this epidemic. All parents should take steps to be aware if their child already is overweight or is at risk for overweight.

In an unprecedented way, the State of Arkansas can now accurately detail the obesity epidemic. As children start kindergarten and elementary school, approximately one-third of children enter school either overweight (15%) or at risk for overweight (17%). The obesity epidemic slowly increases until the middle school years—5<sup>th</sup>–7<sup>th</sup> grades—where 42% of children are in one of the two high-risk categories (23.3% overweight, 18.4% at risk for overweight in the 6<sup>th</sup> grade). Through the high school years, the proportion of adolescents in one of the two high-risk categories decreases largely due to the reduction in number of females in the heaviest risk group. However, almost 40% of graduating males remain in one of the two high-risk groups.

Across the state, all schools should take steps to combat the epidemic, but some schools and their communities should take immediate action. While the state average is 38% of children in the two high-risk groups, 41% of the school districts have more than 40% of their students in the overweight or at risk for overweight categories. These findings represent a major risk for the children; an educational opportunity for schools and communities; and a critical need for the families to prevent the diabetes, heart disease, and high blood pressure that these children will predictably develop. These schools are in every region, are both urban and rural, and include all ethnic groups.

Ethnic differences in susceptibility to the obesity epidemic reflect national estimates but again suggest that a larger proportion of these subgroups are affected than previously estimated. While 37% of Caucasian youth are in a high-risk category, 41% of African-American youth and 46% of Hispanic youth are in a high-risk category. Examination of gender differences within ethnic groups reveals even more alarming results: 44% of African-American females and 49% of Hispanic males are in a high-risk category.

Finally, the reporting of health risk information to parents based upon the BMI information is a nationally recommended screening test for every child. Parents in Arkansas are the first to benefit from a statewide effort to raise awareness and identify risks. Early reports indicate that many parents were not aware of their child’s health risk and the child had not been previously identified by a doctor as having a health risk. Combined with efforts to support parents and families through other components within Act 1220, this new information promises to stimulate discussion; engage parents, educators, and clinicians; and support change.

In conclusion, through a broad-based collaboration at the local and state levels, including the health and education communities, parents now have new and critically important health information about their children. With school and school district reports, school boards and the new School Nutrition and Physical Activity Advisory Committees will have real information to deliberate and inform local school policy decisions. State and national leaders will have a better portrait of the obesity epidemic. Targeted interventions can be developed and deployed to provide needed support to families with children at risk.

No parent would knowingly place his or her child at risk. Through the Child Health Reports, parents are now aware of the problem. Through summary reports to schools, Arkansas’s teachers, schools, doctors, nurses, and communities are now aware of the problem. The next step is to mobilize resources to support these families and reverse the childhood and adolescent obesity epidemic. We must help parents eliminate risks to their children and help the state’s children become healthy and productive adults.

**APPENDIX C: METHODS**

**METHODS**

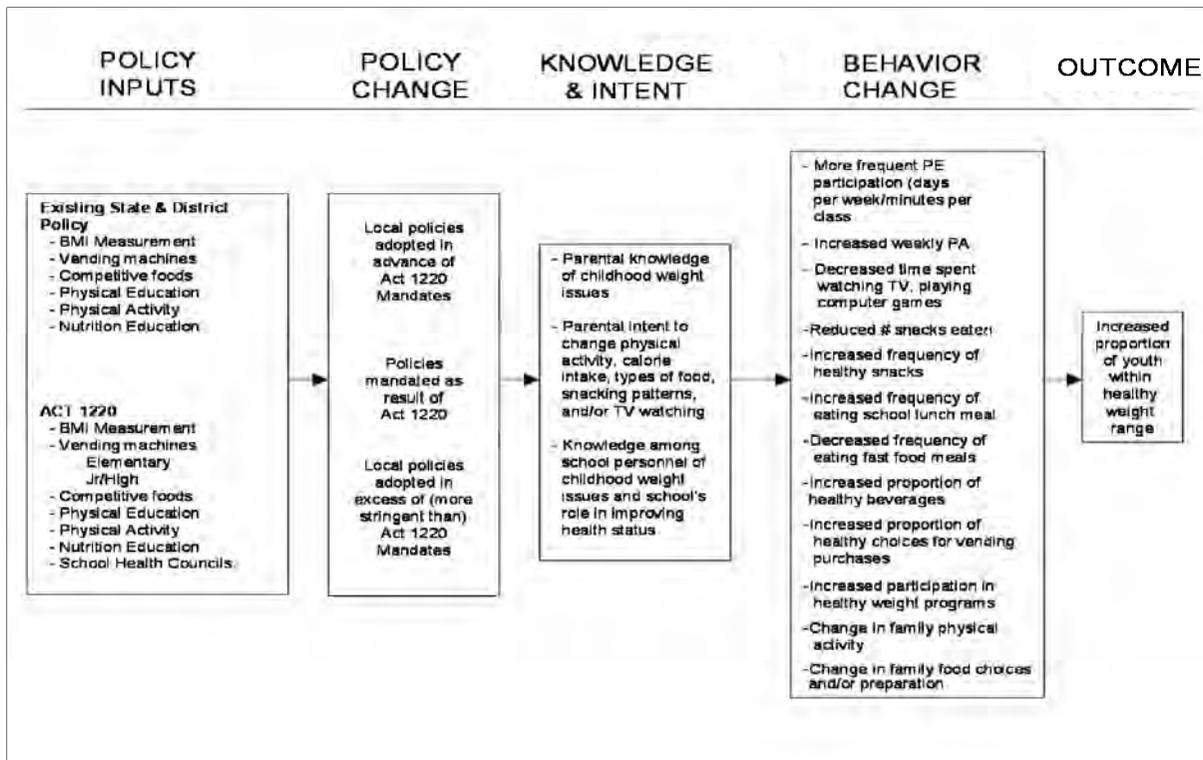
The University of Arkansas for Medical Sciences College of Public Health (COPH) secured funding in February 2004 from the Robert Wood Johnson Foundation to support efforts to evaluate the implementation of Act 1220 of 2003.

Using these funds, a team of COPH investigators, led by Drs. Jim Raczynski and Martha Phillips, have completed the initial portion of a three-year evaluation of the implementation of the Act and the effects it may have on school environments, knowledge concerning weight control, and family nutrition and physical activity behavior patterns experienced by Arkansas students. The weight status of Arkansas students also will be monitored using the annual BMI assessments mandated by Act 1220 of 2003.

The evaluation is designed to assess the impact of the full range of Act 1220 components. Annual evaluation activities will provide snapshots of policies and procedures and also allow us to see change over time. The evaluation is based on a conceptual model that proposes that existing environments will be changed by the implementation of state and local policies, which will in turn change the knowledge, attitudes, beliefs, and behaviors of families and students. Those behavior changes should ultimately affect the weight status (as measured by the BMI) of Arkansas students, although we do not expect to see significant changes in weight status in the three years of the evaluation.

The information presented in this report has been gathered over the past year through a series of activities.

- □ Interviews were completed with a total of 22 individuals who were either involved in or represented groups involved in the development, passage and implementation of Act 1220 of 2003. These individuals were identified as a result of a review of public records, as well as referrals from other people who were interviewed.
- Interviews were completed by telephone, audio-taped for accuracy, and transcribed to protect informant confidentiality. Discussions were focused by semi-structured interview guides.
- □ Interviews were conducted with 19 principals and 21 superintendents. Each of these school leaders was randomly selected using a stratified selection procedure that ensured representation from each of the geographic regions of the state, as well as from each school level (primary, middle, high school). Telephone interviews were completed using the same methods explained above. Interviews of principals and superintendents focused on their experiences with and reactions to particular components of Act 1220 (i.e., vending machine changes, BMI measurements).
- □ Surveys were mailed to each principal and school district superintendent in the state, accompanied by a stamped, self-addressed envelope for use in returning the survey to the evaluation team.
- □ Those who failed to respond were sent a second survey and return envelope. Those who failed to respond to the second request received a reminder call. A total of 811 principals and 223 superintendents returned surveys. The return rate was just over 70% for each group.
- □ Telephone interviews were conducted with families whose children attend Arkansas public schools. A total of 110 schools were selected using a stratified random selection procedure that ensured the inclusion of families in all areas of the state and with students attending schools of all grade levels and enrollment sizes. Households within the attendance zones for those schools were contacted by phone and, if the family had a child attending the selected school and agreed to the interview, the parent was interviewed. If the eligible child was over the age of 13 and the parent and adolescent gave consent, the adolescent was interviewed as well. Data from these parents and adolescents were weighted so that the results presented in this report can be considered representative of the state overall.





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# Evaluation of Act 1220 of 2003: Lessons Learned, 2004 – 2012



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For the Act 1220 Evaluation Team

February 2014

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## Introduction

In 2003 the Arkansas General Assembly passed Act 1220 of 2003, a legislative initiative to combat childhood obesity by creating changes in the nutrition and physical activity policies, practices, and environments in public schools.

Recognizing the opportunity, the Robert Wood Johnson Foundation provided funding, starting in February 2004, for an evaluation of the process and impact of the law's

implementation. A research team in the Fay W. Boozman College of Public Health (University of Arkansas for Medical Sciences) worked quickly to design the evaluation, secure needed research approvals, and obtain baseline information in the spring of 2004, prior to the implementation of changes in schools.

The results of this evaluation, which has now spanned nine years of data collection, are summarized in the following sections. The presentation is framed in terms of lessons learned through the process of listening to the voices of those charged with creating new rules and regulations (i.e., members of the statewide Child Health Advisory Committee, legislative champions, and other stakeholders), those charged with implementing changes (i.e., school principals, school district superintendents, physical education teachers, school nurses and school food service managers), and those affected by those changes (i.e., students enrolled in Arkansas' public schools and their parents).

Summary findings are presented in the following sections; more detailed results are presented in appendices that follow the text. A final appendix is included to direct the interested reader to additional articles that have been published over the past 10 years, articles that will present additional information on specific aspects of the law and the response to the law by schools and families.



## History of the Act and Its Implementation

Act 1220 of 2003 was the product of a remarkable confluence of political, private and institutional support that created an environment conducive to a broad-based initiative to combat childhood obesity. The major provisions of the Act required the following:

- Annual body mass index (BMI) screenings for all public school students, with the results reported to parents;
- Restricted access to vending machines in public elementary schools;
- Disclosure of schools' contracts with food and beverage companies;
- Creation of district Nutrition and Physical Activity Advisory Committees made up of parents, teachers and local community leaders; and
- Creation of a Child Health Advisory Committee to review the evidence and recommend additional physical activity and nutrition standards for public schools.

### Raising Policymaker Awareness

The idea to create a state law that focused on reversing the childhood obesity epidemic in Arkansas emerged in early 2002 after key individuals involved in the creation of the law attended two conferences on health-related issues. The National Conference of State Legislatures, the National Governors Association and the Association for State and Territorial Health Officials held a conference in January 2002 dedicated to developing obesity-related legislation and policy. Delegates from five states participated in the conference, "Using Limited Health Dollars Wisely: What States Can Do to Create the Health System They Want." Conference objectives included raising awareness of the health goals in each state, learning strategies to use funds more efficiently, promoting collaboration among health policy-makers and identifying the next steps for each state's health policies.

Participants from Arkansas included members of the Legislature, the Governor's office, and representatives of the Arkansas Departments of Health, Insurance, and Human Services. Some of the Arkansas attendees agreed to pursue a goal of changing patterns of unhealthy behavior in the state, with a focus on children. This was planned to include encouraging schools to promote better nutrition for children and assessing the current regulations requiring physical education in schools. Arkansas participants credited this conference with planting the initial idea for finding a legislative solution to the growing problem of obesity in Arkansas. Interviews with attendees indicate that the conference was a "good opportunity to really talk and educate folks on what was going on" and that "ideas to promote better health and nutrition in schools" were sown in the minds of the legislators who attended.

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A second influential conference took place in March 2002. The University of Arkansas for Medical Sciences (UAMS) Preventive Nutrition Project and the ADH Cardiovascular Health Program hosted The Arkansas Preventive Nutrition and Physical Activity Summit. It brought together faculty and staff from UAMS, ADH officials, state legislators and health policy-makers, who listened to featured speakers and then broke into small groups to brainstorm policy ideas and recommendations for addressing the problem of childhood obesity. A total of 13 recommendations emerged, including, among others, creating a new state agency dedicated solely to the nutrition and physical activity of Arkansans, developing a healthier school environment by encouraging a walk-to-school program, and placing individual body mass index (BMI) measurements of Arkansas school children on school report cards in an attempt to increase public awareness of the importance of nutrition and physical education;

### **Planning the Arkansas Initiative**

This summit inspired policy-makers to consider seriously a statewide approach to counter the growing problem of obesity and was the initial source for one of the more controversial aspects of Act 1220 of 2003 – the mandatory BMI screening of all public school students. Speaker of the House Herschel Cleveland became a leading proponent of a legislative approach to the problem. Cleveland's own health concerns led him to believe the obesity epidemic called for a serious solution. He encouraged leaders at the conference to take a comprehensive approach that would focus on the state's children, regardless of any political backlash that might result.

A series of planning meetings ensued, involving members of the Legislature and representatives of the ADH with input from a few others including those at the developing CPH. Participants decided that "we were going to make an effort to do something to help the obesity epidemic in Arkansas, and that something was going to come with a program to help school children." Rather than developing a legislative plan to affect all Arkansans, including adults, the group decided that a legislative plan that focused on children in public schools would be the best long-term course of action.

### **Gathering Stakeholder Opinions**

Cleveland asked the ADH to draft a bill to be introduced into the Arkansas Legislature during the regular session which started in January 2003. In the fall of 2002, the agency held focus groups, solicited input from health care providers and the Arkansas Department of Education (ADE), and reviewed legislation pending or being considered for introduction in other states on the issue. A small group then began drafting what would eventually become Act 1220 of 2003. The group chose to focus on creating healthier environments for children and on increasing community involvement in policy-making related to public schools. They also felt they could achieve the greatest impact by investing in teaching children how to eat well and be physically active – skills they could use for a lifetime. They were concerned about research indicating that overweight adolescents often grow up to be overweight or obese adults who have significant weight-related health problems. Some legislators had seen research that demonstrated a clear link between obesity and the consumption of high-calorie/low-nutritional-value "junk" food and sodas, such as those available in vending machines. Prior to the development of Act 1220 of 2003, some legislators were exploring ways to change school environments to provide healthier options to students. The Act provided an opportunity to build on this interest by providing children with more nutritious options and nutrition education. The bill's authors felt it was important to put procedures and measures in place for the state to determine a baseline prevalence of weight

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problems in Arkansas children. This would allow officials to assess the impact that policy changes might have over time on rates of obesity and overweight in the state.

The bill was introduced during the regular session of the Arkansas General Assembly in 2003 and passed without undue debate or discussion.

### **Implementing the BMI Measurement and Notification Provisions**

Act 1220 required that parents be sent weight screening information, utilizing the BMI-for-age percentiles established by the US Centers for Disease Control and Prevention. This BMI measurement/reporting requirement was inconspicuously stated in only four lines of the Act, provided no funding for schools to implement the requirement, and required schools to measure and report this information to parents of students in all grades (K-12) every year. Though the original Act required the reporting of the BMI on the report card, a modification of the Act (during a special session held in December 2003) changed the format of the report to that of a separate child health report to be sent to parents. Recognizing the importance of providing accurate information to parents, the health and school communities began to wrestle with developing processes for implementation of this new unfunded mandate.

In response, the Arkansas Center for Health Improvement (ACHI) established a working group that included the Departments of Health and Education, local school districts, and the research and clinical communities to devise a standard protocol for BMI assessment and data collection. The working group's initial statewide assessment of school-based resources for implementation found critical shortages in both hardware (scales and stadiometers to measure weight and height, respectively) and personnel trained to conduct school-based assessments. A staged process led to the development of an assessment protocol, identification and procurement of appropriate scales, manufacture and distribution of stadiometers by the Arkansas Department of Corrections, and the development of a process of data collection that complied with the requirements of the US Health Insurance Portability and Accountability Act of 1996. Ultimately, the height and weight of more than 450,000 children in approximately 1,300 schools were assessed during the first year following passage of the Act, using procedures that promoted confidentiality and accuracy.

Funding was obtained from state agencies and national organizations, including the ADH and the American Diabetes Association, to support the overall implementation of BMI measurement. In addition, a grant awarded by the Robert Wood Johnson Foundation supported the development of the statewide database and data analysis of the BMI measurements. The first distribution of confidential child health reports sent to parents occurred in June of 2004 and provided tailored information to over 90,000 parents of overweight or obese children, to raise awareness and recommend changes within the household. The remaining children received information to reinforce good nutrition and adequate physical activity. Recognizing that BMI is only a screening tool, not a definitive determination of overweight status, feedback also made it clear that families should follow up with their child's health care providers for further assessment, determination of overweight status, and recommendations.

From the data amassed in the statewide BMI database, ACHI generated school, school district, and county-level reports highlighting the obesity risks in children. With each successive year, additional individual reports to parents and sets of school geographical reports were generated. These reports allowed for the tracking of progress and identification of achievements at the state level but also at the level of each school, school district, and county.

### **Child Health Advisory Committee Recommendations**

The framers of Act 1220 chose, rather than include specific mandates related to nutrition and physical activity, to establish a statewide panel of experts and stakeholders who were charged with making recommendations to the ADE regarding evidence-based practices that should be implemented in Arkansas public schools. After a year of considering the evidence and deliberation, the Child Health Advisory Committee in 2005 made its first recommendations, including:

- *Restricting access to competitive foods and beverages on school campuses by:*
  - Restricting direct or indirect sales or use as a reward to the afternoon (30 minutes after the last lunch period has ended);
  - Establishing portion sizes for vended carbonated and sweetened non-carbonated beverages;
  - Establishing maximum portion size restrictions and nutrition standards for all competitive foods and beverages;
  - Prohibiting the use of foods or beverages as rewards for academic, classroom, or sport performances and/or activities;
- *Increasing the availability of healthier food and beverage options in schools by:*
  - Requiring that fruits and fruit juices must be offered for sale at the same time and place whenever competitive foods are sold;
  - Requiring that at least 50% of beverage selections offered in vending machines, school stores, and other sales venues be 100% fruit juice, low-fat or fat-free milk, and/or unflavored unsweetened water;
- *Increasing opportunities for physical activity during the school day in a phased manner to ease the burden on schools by:*
  - Requiring that schools include 30 minutes of physical activity each day for all students;
  - Requiring, beginning in the 2006-07 school year, that physical education classes in grades kindergarten through 6 have a maximum student-adult ratio of 30:1 and that at least one of the adults supervising be a certified physical education teacher;
  - Requiring, beginning in the 207-08 school year,

Those recommendations were adopted by the ADE in 2005 for this phased implementation starting in the 2005-06 school year. Legislative action in 2007 (see Lesson 1 below) modified the physical education/physical activity requirements and broadened the Committee's charge to include examining the progress of the state's Coordinated School Health program (see program description in next section) and making recommendations regarding that program.

Thus, the Child Health Advisory Committee continued its work, making additional recommendations in 2010 to the Departments of Health and Education. Consistent with the legislative mandate to focus on nutrition and physical activity in the context of Coordinated School Health program initiatives, recommendations were made in each of the Coordinated School Health components: physical education and physical activity; staff wellness; nutrition services; counseling, psychological, and social services; family and community involvement; health education; health services; and healthy school environments. Recommendations related to nutrition and physical activity policy, programs, and environment included:

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- *Increasing physical activity* by requiring classroom teachers to provide two minutes of movement or physical activity for every hour of seated time, promoting the use of physical activity in the regular curriculum, and returning to the long-term goal of physical activity totaling 150 minutes per week for elementary students and 225 minutes per week for secondary students;
- *Helping schools improve physical education/activity facilities* by making funds available, requiring that designated facilities in schools built after 2015, and requiring that all playgrounds, fields, and gymnasiums conform to National Association for Sport and Physical Education guidelines;
- *Assuring that competitive foods are healthy* by requiring that cafeteria a la carte lines that offer entrée items meet the requirements of a reimbursable meal, and that items sold by for school organizations to raise money for schools consist only of non-food or healthy food items;
- *Strengthening nutrition policies in schools* by requiring a minimum of 20 minutes of seated time for lunch and 30 minutes of serving time for breakfast, and by restricting food and beverage industry signage;
- *Improving cafeteria settings and offerings* by requiring that schools built after 2015 with a capacity of 350 or more students have cafeteria facilities (kitchen and dining) in the building and by promoting the use of locally-grown produce in school meals; and
- *Strengthening family and community involvement* by establishing joint use agreements, and promoting partnerships that help engage the entire family in wellness activities.

### **Additional Initiatives Ongoing During the Period**

Not surprisingly, efforts to reduce obesity, particularly for children, went well beyond the specific elements of Act 1220. State agencies supported the work of the local schools, partnerships, communities and cities as they worked to encourage healthy eating and physical activity in their communities and their schools. Some of these efforts included:

- As of the 2013-14 school year, 54 school districts are participating in the **Coordinated School Health (CSH)** program managed by the ADE. The CSH model is comprised of eight elements, focused on the overall health and well-being of children in the schools. Arkansas CSH school activities included many innovative local programs as well as increased use of available physical and health education curricula. More and more schools in Arkansas continue to adopt the CSH model each year, although no additional CSH funding is available. A key element of the ADE's CSH program is the distribution of grant funding to support physical activity and nutrition improvements in schools. In the most recent year, grant funds were available to establish: wellness centers; school garden programs; joint-use partnerships with schools and local community businesses, agencies or groups in order to encourage physical activity by children and adults in a community; and the Community Health Child Wellness Intervention Program (CWIP; funded by the Arkansas Tobacco Settlement Commission) to increase physical activity and physical education in 30 funded schools. These grant programs are administered by the CSH office of ADE, which also conducts numerous trainings, conferences, and evaluation activities around nutrition and physical activity for the public school system.
- **Safe Routes to School** partnership grants are managed by the Arkansas State Highway and Transportation Department. Arkansas' federally funded Safe Routes to School (SRTS) program

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has awarded Safe Routes to School funding to more than 120 schools since its beginning in 2005. With more than 10 community partners working to make walking or biking to school safe and fun for students, the Safe Routes program continues to grow across the state.

- The **Arkansas Coalition for Obesity Prevention (ARCOP)** was formed in 2007, and received the Arkansas *Public Health Hero* award from the Arkansas Public Health Association in 2010. The Coalition has more than 50 agency members as well as many individual members. It boasts five very active working committees addressing access to healthy foods, the built environment, worksite wellness, early childhood and schools, and healthcare. The coalition is active in assisting communities to develop their own coalitions to address health and wellness, promoting school garden projects, addressing food insecurity among Arkansas families, and other activities to address obesity control and prevention in the state.
- In 2010, more than 700 Arkansas school nurses participated in **School Nurse Childhood Obesity Prevention Education (SCOPE)** training. The program, developed by the National Association of School Nurses, is designed to empower school nurses to develop strategies to assist students, families, staff and the community to promote healthy weight. It included an historical review of Act 1220 and its effects as well as ideas and strategies for better nutrition and activity in the schools.
- The UAMS Fay W. Boozman College of Public Health (**COPH**) received funding from the Centers for Disease Control and Prevention to establish the **Arkansas Prevention Research Center (ARPRC)** to develop infrastructure to support research and community work to combat chronic disease, including obesity. Focusing on 19 counties in the southeastern part of the State (part of the Mississippi Delta region), the research project funded by AR-PRC is working with communities to develop projects to bring families, schools, and communities together to prevent childhood obesity.
- The **Nutrition and Physical Activity Self-Assessment in Child Care (NAPSACC)** program for pre-schools is administered jointly by Arkansas Department of Human Services and the ADH. In 2010, this program involved 25 sites, each of which received training and small grants to help provide more nutritious snacks to children in pre-kindergarten and daycare settings. The needs of very young children have become more of a concern in Arkansas over the past few years, and in 2010 an increased effort to improve the health environment of these pre-schools was seen.
- The ADE makes funds available for public and charter schools to join with their communities to establish **joint use agreements** to make school physical activity facilities (e.g., gymnasiums, playgrounds, tracks, fields) available for use by community residents. The funding is made possible and supported by the Governor's Office and the Arkansas Tobacco Excise Tax, created by Act 180 of 2009.
- The **Fresh Fruit and Vegetable Program** is a U.S. Department of Agriculture program that provides reimbursement for fresh fruits and fresh vegetables served free to elementary students during the school day (not before school or after school) and outside the lunch and breakfast meals. The fresh fruits and vegetables cannot be served at regular student meal periods. Elementary schools could apply to participate in the program, administered through the Department of Education's Child Nutrition Unit, starting in 2010.

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- The Arkansas Tobacco Settlement Commission began during the 2010-11 school year to provide funding to schools for the **Child Wellness Intervention Project**. Within 3 consecutive years, the Commission provided grants to approximately 115 schools in more than 75 school districts throughout the state to implement evidence-based physical education and physical activity programs. The grants averaged \$15,000 per school and included technical assistance and program materials to help schools implement SPARK® (a physical education curriculum), PE4Life® (a highly interactive physical activity program), HealthTeacher® (a curriculum promoting lifelong health and health behaviors), and FitnessGram® (a fitness assessment tool used to evaluate the program).
- The **Alliance for a Healthier Generation** (Healthy Schools Program), a collaboration between the Clinton Foundation and the Robert Wood Johnson Foundation, was initiated in 2006 in 231 schools in 13 states. In 2011-12, a total of 73 Arkansas schools were engaged with the initiative, which focuses on preventing childhood obesity by influencing the foods students eat and the opportunities available for physical activity, both in school and in before- and after-school programs.
- The **Let's Move** initiative was launched in early 2010 by First Lady Michelle Obama. Key elements of the initiative that supported the implementation of Act 1220 include promoting healthy food in schools, increasing physical activity, improving access to healthy and affordable foods for families and empowering parents and caregivers. Component programs focused on cities, towns, communities, school, child care facilities, and faith communities have been promoted throughout the nation and in Arkansas.
- In December 2010 the **Healthy, Hunger-Free Kids Act** was signed into law. This federal legislation and the ensuing rules and regulations have increased the offering of fresh fruits, vegetables, and whole grains in school meals.

The co-occurrence of these programs and initiatives supporting the implementation of Act 1220 require a cautious interpretation of evaluation findings. Changes in school environments, policies and practices, as well as any changes in individual or family behaviors that may be observed cannot be attributed solely to the influence of Act 1220. However, it is clear that Act 1220 was an early stimulus for child health activity, particularly school policy and environmental change, and likely contributed to changes described below.

### **Lesson 1: Successful passage of legislation does not stop controversy and challenge.**

Although elements of the legislation were discussed and debated after its passage, Act 1220 was initially passed into law with scant attention by the media,

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education interest groups, or the general public. This is likely attributable both to the simplicity of the bill as well as that, during 2003, the energy and attention of education stakeholders and potential opponents were focused on other more contentious issues (e.g., resolution of school funding shortfalls and calls to consolidate rural school districts). However, limited, but nonetheless vocal, opposition began to mobilize during the summer of 2003, focusing on the lack of state funding for schools to implement the Act's mandates, potential loss of funding to local school districts from changes to vending contracts, and/or concerns related either to unintended adverse consequences of BMI measuring and reporting or infringement on parental rights.

### **Misunderstanding and Misrepresentation**

National press headlines mischaracterized the intent of the legislation, e.g., "In Arkansas, Schools to Score a Child's Weight" (Wall Street Journal, August 2003). This mischaracterization reinforced the concerns of some in the state. Act 1220 was modified in subsequent legislative sessions. In brief, the first modification of Act 1220 occurred during a special legislative session in 2004 and was intended to mitigate concerns by some that providing BMI information to parents on a student report card (i.e., a periodic, written report to parents of a student's progress, generally given to students at school) would not be sufficiently confidential and could result in teasing and other adverse events. The modification made explicit the requirement that BMI information was to be transmitted to parents "confidentially" and separately from the standard report card. Funding secured by the Arkansas Center for Health Improvement was used to mail the child health reports (consisting of a letter with the child's BMI assessment as well as health education information), reducing the potential for access by persons other than parents.

### **Changes to the BMI Measurement and Notification Requirements**

Additional opposition to the BMI assessment and reporting requirement surfaced in late 2006 before the initiation of the 2007 regular session of the Arkansas General Assembly, centering around lack of an express parental choice to "opt out" of participation (i.e., choose not to participate) and concerns that the annual assessment requirement was unnecessarily burdensome. The original legislation did not speak of parents' ability either to opt in or out of their children's participation in the school-based BMI assessment program; thus, parents and students always had an implied ability to opt out of the program. However, because the Commissioner of the ADE had issued several advisory letters to school district superintendents instructing them to comply with the mandates of Act 1220 and assess all students, there was at least some perception that participation was mandated. The overwhelming majority of school districts had complied with the instruction. In practice, parents who did not want an assessment and students who refused to participate were allowed to make that choice without consequence.

A number of school districts developed parental consent forms, which were completed by parents as a part of the annual registration at the beginning of each school year. However, a minority of school district officials and parents remained opposed and vocal in their dissatisfaction with the lack of a specific "opt out" provision in the statute. In response to these concerns, combined with school leadership concerns regarding the non-academic demands being placed on schools, the 2007 Arkansas General Assembly modified the original annual assessment requirements. Beginning with the 2008–2009 school year, the assessment for each

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child was to be done every 2 years, completed for students enrolled in even-numbered grades from Kindergarten through grade 10. In addition, an explicit parental opt out provision was adopted that required parents to notify their child's school, annually and in writing, of their desire to avoid school-based screening and their acceptance of the assessment responsibility.

### **Changes to the Physical Activity Rules and Regulations**

Other legislative activity in 2007 modified ADE rules and regulations (promulgated in response to Child Health Advisory Committee recommendations) to eliminate physical activity requirements in grades 6–12. Although the pressures placed on the academic school day by state and federal academic requirements were clearly evident, continued support for health was apparent in the legislative expansion of the Child Health Advisory Committee's mission beyond physical activity and nutrition to include a broader focus on child health programs within schools. That legislation also required additional school representation on the Child Health Advisory Committee.

### **Lesson 2: School environments, policies, and practices changed after the passage of Act 1220.**

The annual surveys of school personnel throughout the State have documented substantial changes to school environments, policies, and practices related to nutrition and physical activity.<sup>1-7</sup> Detailed summaries of the changes observed over time are presented in Appendix A. Some changes were mandated by the rules and regulations of the ADE (see discussion above, page 6) and were reflected in changes reported by school district superintendent. For example, superintendents reported that school districts enacted policies related to the serving of junk foods in classroom parties and school stores, as well as policies prohibiting the use of food or food coupons for rewards. Many other voluntary changes were observed by the evaluation team, however, including:

- *Vending machines are less available to middle and high school students (see Tables A-1 and A-2).*
  - Fewer schools have beverage vending machines in cafeterias, gymnasiums, snack bars, and hallways.
  - More schools report that vending machines are never available to students (50% in 2006, 62% in 2012).
  - Among those schools with vending machines available to students, machines are typically not available for student purchase before lunch periods.
- *The contents of vending machines have changed substantially (see Tables A-3).*

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- The less healthy vending machine options (e.g., chocolate candy, other candy, cookies, cakes and pastries, chips, sodas and other sweet beverages, fruit-flavored drinks) are less available for student purchase.
- Healthier options (e.g., low-fat/sugar cookies, low-fat crackers, low-fat salty snacks, bottled water) are more available for student purchase.
- *Competitive foods are less available in other venues within schools (see Table A-4).*
  - Fewer schools to have snack bars on campus (22% in 2004, 8% in 2012).
  - Fewer schools sell foods or beverages in their school stores (28% in 2004, 11% in 2012).
- *Milk options changed in schools (see Table A-5).*
  - Whole milks, both white and chocolate, were less available in school cafeterias.
  - Skim milks, both white and chocolate, and low-fat (1-2%) chocolate milk were more available in school cafeterias.
- *Policies related to fundraising changed (see Table A-6).*
  - Fewer schools allow food items to be sold for fundraising by student or faculty groups.
  - No change was observed in policies related to fundraising by parent groups.
- *Policies related to nutrition environments changes (see Figure A-1).*
  - More schools have policies requiring point-of-sale signage with nutrition information (13% in 2005, 23% in 2012).
  - More schools prohibit commercial advertising related to foods and beverages 32% in 2005, 44% in 2012).
- *Policies related to foods served during school events were modified (see Table A-7).*
  - Policies prohibiting foods being used as rewards in classrooms and limiting the number of classroom events involving food (i.e., classroom holiday and birthday parties) were imposed by the ADE.
  - Policies requiring that healthy options be provided at student parties, after-school programs, staff meetings, and meetings attended by families were adopted by more schools.
  - More schools reported having policies requiring that healthy options be offered in concession stands (2% in 2004, 8% in 2012).
- *School districts changed policies affecting access to 'junk foods' within the school (see Table A-8 and Figure A-2).*
  - More school districts have policies prohibiting or restricting junk foods in school stores and vending machines.
  - Fewer school districts have exclusive contracts with soft drink bottlers (80% in 2004, 60% in 2012).
- *Schools changed hiring practices related to physical education (see Table A-9).*
  - More schools have teachers certified in physical education teaching their physical education classes (84% in 2004, 99% in 2012).
- *Schools changed policies about the use of physical activity or the restriction of physical activity as punishment for bad behavior (see Table A-10).*
  - Fewer schools allow the use of physical activity as punishment for bad behavior.
  - Fewer schools allow the exclusion of students from physical education or physical activity for bad behavior.
- *School districts change policies related to physical activity and physical education programs in their schools (see Table A-11).*
  - More school districts require regularly scheduled recess for elementary students.

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- More school districts require lifetime physical activity programs be included in elementary physical education programs; changes were not observed for middle or high school programs.
- More school districts requires that schools measure student fitness (26% in 2004, 44% in 2012).
- More school districts prohibited physical activity as punishment.
- More school districts required that newly hired physical education staff in elementary schools be certified in physical education (69% in 2004, 88% in 2012).

Adolescents also reported important changes to the school environment, including:

- *Reductions in vending machine availability (see Table A-12).*
  - The proportion of adolescents reporting that their school had vending machines from which students could purchase beverages dropped from 97% in 2004 to 45% in 2012.
  - The proportion of students reporting that their school had food vending machines dropped from 64% in 2004 to 31% in 2012.
- *Changes to vending machine contents (see Table A-12).*
  - When vending machines were present in the school, students reported that they were less likely to contain sodas and fruit-flavored drinks.
- *Changes to school cafeterias (see Figure A-3).*
  - Fewer adolescents reported that their school cafeteria served students fast food prepared by restaurants such as Burger King and Taco Bell (12% in 2004, 4% in 2012).

### **Lesson 3: Policy change is not necessarily permanent change.**

In reviewing change for various school policies, four distinct patterns were observed: 1) gradual change over time, with a steady rise in the percentage of schools indicating that they had endorsed the specific policy or practice; 2) early adoption and maintenance of the policy; 3) early adoption with return to baseline levels; and 4) no change or inconsistent pattern of change over time. In many cases, policy change occurred and appears to have been sustained once the adoption was made, given that the percentage of schools reporting such a policy either increased steadily over time or peaked and stayed at that level in subsequent years. In a number of cases, however, there was evidence of increased adoption in

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the years immediately after the passage of Act 1220, followed by a decline in the percentage of schools reporting such a policy (see, for example, Figure 1).

This “hump” pattern was most common in policies related to the location of vending machines in cafeterias and snack bars, prohibition of ‘junk foods’

in the schools and school-sponsored events, and the sale of food items for fundraising. It is noteworthy that the decline typically began after 2007, the year in which aspects of Act 1220 were successfully challenged in the legislature.

### **Possible Explanations for Differing Patterns**

Information gathered during key informant interviews of stakeholders and advocates points to three potential explanations for this observed pattern:

1) Schools were empowered to be non-compliant during that period. Challenges to the recommendations of the Child Health Advisory Committee, which were enacted as rules and regulations by the ADE, resulted in the Arkansas General Assembly passing legislation that reduced physical activity and physical education requirements. In that same legislation session, complaints by school administrators about the burden of the annual assessment of body mass index for all students led to legislation that reduced the frequency of measurements. The success of these legislative challenges were thought by some informants to have given schools the message that nutrition and physical activity policy and practice changes were no longer valued by policy makers and that the voluntary changes that had been made could be reversed with immunity.

2) The enthusiasm for change had waned and was no longer being actively stimulated by messages promoting change in nutrition and physical activity. Research in organizational behavior and change has shown that policy initiatives, while often viewed as permanent, are actually subject to change over time as attention and resources are diverted to new initiatives.<sup>8</sup> Some informants expressed the opinion that over time schools lost interest in the issue and ‘moved on’ to other pressing issues (e.g., bullying, violence, substance use).

3) The broadening of the focus of the Child Health Advisory Committee to encompass child health generally, including but not limited to nutrition and physical activity, diffused the attention that committee and, ultimately, schools paid to childhood obesity, including nutrition and physical activity policies and practices. In 2010, the Child Health Advisory Committee made recommendations in each of the eight Coordinated School Health program components (physical education and physical activity; staff wellness; nutrition services; counseling, psychological, and social services; family and community involvement; health education; health

services; and healthy school environments). While recommendations were made that were specific to nutrition and physical activity, embedding those recommendations in the context of a much larger number of recommendations made it possible for schools to attend selectively to those recommendations that were perceived to be more acceptable within their communities (e.g., prevention of bullying, violence, substance use).

### **Lesson 4: Administrative and financial support are critical to changing school environments, policies, and practices beyond legislative mandates.**

In 2009 125 schools (just over 10% of the schools in the State) were visited, half being schools that had evidenced reductions in the proportion of overweight or obese students and half being schools that had not shown such reductions. The goal was to determine if there were identifiable characteristics or practices within the more successful schools that would distinguish them from the less successful schools. Data collection included interviews with school principals, physical education teachers, and food service managers, in part to identify facilitators and barriers to changing nutrition and physical activity policies and practices. Several common themes emerged, including:

- *The need for updated facilities and equipment.* This was especially important for food service managers, who needed more ovens for baking and more refrigerated space to store fresh produce but were limited by the existing square footage and layouts of older cafeteria and kitchen spaces.
- *The need for additional funding.* School personnel reported needing additional funds to hire more staff, to update facilities and purchase additional equipment, and to support innovative programming.
- *The critical need for support.* Universally, school personnel indicated that they were able to make changes, often difficult changes, because of the support they received from within the school and school district (from district administrators, school principals and teachers) and from the communities they served.
- *The challenge of time.* Schools struggle to meet the academic needs of students and also face pressure to increase physical activity time and lengthen time allotted for meals in a single school day. Substantial transportation time to and from schools is an issue and limits schools' ability to lengthen the school day or address needs through after-school, extramural programs. Physical education teachers in particular noted the challenge and indicated that administrative support was essential in overcoming the challenge.

These same themes emerged in 2012 when project personnel visited four elementary schools and one high school identified as having made significant changes in their nutrition and physical activity policies and practices and as having seen important reductions in the percentage of

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overweight and obese students in the school over a 6-year period (2004 – 2010). Comprehensive case studies were completed in an attempt to identify factors that might be contributing to their success. In these schools, it was observed that healthier school environments rested upon *strong administrative support* at the district and school-level for school wellness initiatives and school policy that go beyond state and federal regulations for physical education and nutrition.

### **Lesson 5: Parents and school personnel adapted to the measurement and reporting of BMI.**

As noted above (see pages 9-10), the measurement and reporting of student BMI, though initially unnoticed within the legislation, became controversial. Opponents within schools, communities and even some national experts expressed concern about infringement on parental rights, the accuracy of measurements, and the likelihood of negative consequences (i.e., eating disorders, weight-based teasing). Starting in 2005, the evaluation gathered information from principals and parents to assess the level of opposition to the measurements (see Appendix B for detailed results).

The percentage of parents who reported being somewhat or very uncomfortable with getting a BMI report from the school remained essentially steady at approximately 35% (see Table B-1). However, the percentage of principals and superintendents who reported receiving calls from parents decreased steadily over the 9 years of evaluation. Thus, while concern may have remained steady, it appears that over time fewer and fewer parents were sufficiently concerned to express that concern directly to their school administrators (see Table B-2).

In addition, the percentage of principals who reported problems with the BMI assessments declined over time. In 2005, after one year of experience with the measurement protocols, 26% of principals reported problems; by 2012, that percentage was 13% (see Figure B-1). A similar pattern was reported by superintendents. These reports are supported by information obtained from principals and superintendents during key informant interviews. While some reported continuing challenges related to the measurements (e.g., time away from classroom instruction, burden on school nurses, parental objections), others indicated that the measurements had become routine and that the school had found ways to incorporate the BMI measurements with other health or fitness screening for efficiency and maximum benefit for parents.

### **Lesson 6: Parental awareness of children's weight status and accuracy in categorizing their child's weight improved.**

Though the BMI measurements were somewhat controversial, reporting that information to parents appears to have been beneficial in terms of how parents interpret their child's weight. In fact, the evaluation indicated that after one year of reporting, parents improved their ability to accurately characterize their child's weight status.<sup>2,9</sup>

The baseline survey in 2004 indicated that a majority (60%) of Arkansas parents with overweight children underestimated their child's weight category, classifying them as healthy or even underweight.<sup>2,9</sup> Parents of younger overweight children (65%) were more likely than parents of overweight adolescents (51%) to misclassify.<sup>2,9</sup> Accuracy was not associated with the weight of the parent, their socioeconomic status, or parental education.<sup>2,9</sup> However, African American parents were twice as likely to misclassify as white parents.<sup>2,9</sup>

However, the 2005 survey, which took place after the first year of BMI screening and confidential reports to parents, evidenced significant improvements in the accuracy of parental assessments of their child's weight status compared to the previous year. In 2005, a majority (53%) of parents accurately classified their overweight or obese child.<sup>2,9</sup> This improvement in accuracy of parental notification was apparent across all parental groups. Parents of younger children significantly increased their *accurate* identification of overweight from 35% before the screening to 42% after, and parents of adolescents significantly improved from 49% to 56%.<sup>2,9</sup> Importantly, correct identification of overweight children among African American parents significantly improved from 30% to 44% following screening, approaching the accuracy of white parents.<sup>2,9</sup>

### **Lesson 7: Changing school environments was associated with only specific and modest changes in family behavior.**

In general, parents made only modest changes to the family diets or exercise patterns (see Appendix C for detailed results). In terms of family nutrition (see Table C-1), parents reported:

- Reducing servings of sodas, from an average of 25.4 per month in 2004 to 17.4 per month in 2012;
- Reducing servings of high-fat foods (e.g., French fries, chips, desserts); and
- Less frequent preparation of vegetables with added fats (15.9 times per month in 2004, 13.2 times per month in 2012).

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Approximately three-fourths of parents in all years reported that they were trying to limit family intake of less nutritious foods. However, parents reported fewer servings, on average, of fruits, vegetables and fruit juices.

In terms of physical activity, parents reported a greater frequency of walking for exercise (2.7 times per week in 2004, 2.9 times per week in 2012) but did not report increased frequency of any other form of exercise or exercising with the family (see Table C-2). Perhaps most notably the percentage of parents who reported requiring that their children stay inside after school rather than playing outside declined from 11% in 2004 to 6% in 2012 (see Figure C-1). Similarly, parents more frequently reported increasing their child's exercise or physical activity (28% in 2004, 34% in 2012) and/or signing the child up for sports or exercise classes (see Figure C-2).

### **Adolescent Behavior Changes**

Adolescents responded to the changes in school environments and policies and to the increased emphasis on nutrition and physical activity in at least two important ways (see Table C-3):

- They reported less frequent purchases from beverage and snack vending machines at school.
- They reported less frequent purchase of sodas and other sweetened beverages from beverage vending machines at school.

Adolescents also reported changes to eating habits outside of school (see Table C-3). Of particular importance, they reported less frequent eating in fast food restaurants, with frequencies that were 25% lower in 2012 compared to those in 2004. They did not, however, increase their consumption of fruits and vegetables.

With regard to physical activity, adolescents did not report positive changes (see Table C-4). The percentages of students reporting that, within the past 7 days, they had not engaged in the various physical activity options (e.g., walking, playing with friends, playing sports, exercising with family) typically rose over time while the percentages of students engaging in the activities 3 or more days a week remained steady or declined. These findings may be associated with very hot summers in the later years, during which interviews were being conducted. Outdoor activity would reasonably have been reduced during those later years.

### **Lesson 8: Changing school environments, practices, and policies is not sufficient to change student BMI at the population level.**

Not surprisingly, in the absence of significant changes in family nutrition and physical activity behaviors, the changes in school environments, practices, and policies did not result in observed

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changes in the proportion of Arkansas youth who are overweight or obese for the State overall. As seen in Figure 2, the proportions in each category did not change across the 9 years. In all years, the following distribution among the weight categories was observed:

- Underweight 2%
- Healthy weight 60% - 61%
- Overweight 17%
- Obese 20% - 21%

Similarly, the percentage of children who were categorized, based on their kindergarten BMI measurements, as overweight or obese remained steady across all years at 16%-17% and 15% - 16%, respectively.

### **Lesson 9: Focusing attention on childhood obesity and weight overall did not lead to increases in unhealthy student behavior.**

Since the early days of the implementation of Act 1220 and throughout the 9-year period of the evaluation, concern has been expressed by policy makers, school personnel, mental health professionals, and parents about the possibility that the BMI measurement, in particular, and the attention being focused on weight status, more broadly, would result in adverse consequences, such as eating disorders, unhealthy weight loss behaviors, and weight-based teasing. Findings from the evaluation have consistently indicated that there have been no unintended adverse consequences at the population level (see Appendix D for detailed results). Specifically, the evaluation has shown that, compared to baseline levels, there have been no increases in:

- Adolescent weight concerns;
- Adolescent dieting;
- Skipping meals or snacks by adolescents;
- Adolescent use of diet pills or supplements;

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- Weight-based teasing reported by adolescents and parents; or
- Parents engaging in unhealthy weight control behaviors (e.g., having their children skip meals, giving their children diet pills or supplements, putting their children on diets) beyond the levels found at baseline.

### **Lesson 10: It takes changes in both nutrition and physical activity to make changes in BMI at the school level.**

Analyses of data linking school policies to the weight status of enrolled students did not suggest that the adoption of any single policy was associated with reduced percentages of overweight students.

However, the evaluation team recognized that schools were not likely to adopt policies in isolation, or one at a time. Rather, it was expected that schools would adopt clusters of policies related to nutrition and/or physical activity. Thus, indices were created to

capture the number of policies endorsed by the school, separately for nutrition and physical activity and overall.<sup>10</sup> These indices (the Nutrition Policy Index [NPI] and the Physical Activity Policy Index [PAPI]) were then compared to changes in the weight status of the school's students.

Findings indicated that schools that adopted more nutrition policies (i.e., were in the top tertile of NPI change scores) did not see reductions in the proportion of students who were overweight or obese, compared to schools that did not change policies as aggressively over time. Similarly, strong changes in physical activity policy alone were not associated with changes in student weight status over time. However, when those schools who adopted the greater number of nutrition and physical activity policies (i.e., were in the top tertiles for both NPI and PAPI change) showed reductions in student body weight status, compared to schools with the least change (i.e., in the lowest tertiles for both NPI and PAPI change) (see Figure 4). Thus, it appears that strong, aggressive policy change in both nutrition and physical activity is required to shift the distribution of weight status within a school.

#### **Findings from Case Studies of Successful Schools**

These findings are supported by findings from case studies. Schools were identified as “Arkansas Success Schools” if the school showed significant reductions in the percentage of

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students identified as overweight and reported substantial school-level changes in nutrition and physical activity policies between the 2004/2005 and the 2009/2010 school years. Five schools were then randomly selected and visited. Site visits included interviews with key school personnel, including the school's principal, physical education instructor, food service director, food service manager, and the school district's superintendent and food service director. The visits identified several common themes that may be informative for other schools and districts.

- Healthier school environments rest upon **strong administrative support** at the district- and school-levels for school wellness initiatives and school policy that go beyond state and federal regulations for physical education and nutrition. Rather than a single key policy or practice, a **combination of activities focused on wellness** contributes to the success. The combination of nutrition and physical activity changes on campus made the difference over the years.
- **A commitment to wellness** as a long-term, dedicated goal for the school is more important than the specific programs being implemented. Wellness is ingrained in the culture at each school and all the systems are aligned to support wellness, including the physical education (PE) program, the cafeteria, nutrition education, classroom structure, curricula, strong parent participation and community involvement.
- The schools take every opportunity to secure **extramural funding** for programs to improve child health and dedicate time to writing grant proposals whenever possible. Each **Wellness Committee is empowered** and instrumental in assessment of the school's progress, grant-writing and advocating campus changes. These active wellness committees share characteristics such as monthly meetings, devotion to ensuring compliance with state and federal regulations, working to integrate health education into the curricula, applying for grants, engaging community partners and keeping everyone accountable for improving child health.
- School nurses conduct annual **body mass index screening** and become active when a child is identified as overweight, working privately with the child and family to address nutrition and physical activity lifestyle changes. The PE program requires a **certified PE instructor** and elementary students enjoy **more PE time than set forth by the state requirements**. Additional resources are put into fitness assessments, good facilities and lifetime activities, while an emphasis is also placed on fun and incorporation of activity into traditional classrooms. Before and after school programs and facilities are available and open to the community/parents.
- A **'comprehensive 'message'** about healthy living is interwoven and clear in the PE, health education, nutrition services, and classroom activities. Changes in **nutrition** were made in advance of the federal regulations from the Child Nutrition and WIC Reauthorization Act of 2004, and innovations continue to occur. The schools provide **nutrition education**, in cooperation with the cafeteria services, which is integrated into health and other classes and incorporates active student opinion and participation.
- Each school stresses the importance of teachers and parents as good **role models** for students; the administration and staff also try to lead by example. **Flexibility in program approaches** and a willingness to work with the needs and desires of community members, students and parents are vital keys to success of the wellness initiatives at all the schools. Principals view their school as an important gathering place and source of knowledge for their community. The schools have a **shared vision** to create an atmosphere of wellness and healthy living so that "everybody wants to be a part of it because it was such a success".

### Conclusions

Taken together these findings suggest that Arkansas Act 1220 of 2003 stimulated important changes in Arkansas schools and in the ways that Arkansas families, school personnel, and policy makers thought about childhood obesity and its associated risks. A wide variety of resources and initiatives were available to help schools implement the policy and environmental changes that were observed. Although it was hoped, and even expected, that families would translate new understandings into behavior change – i.e., eating more fruits and vegetables, using less added fat in cooking, frequent fast food restaurants less often – those changes were more limited. Adolescents did report purchasing from vending machines in schools less often. While the changes that did occur in families were important, they were not sufficient to effect reductions in the proportion of Arkansas students who are overweight or obese. These proportions remain stable but no reductions have been seen overall or in any racial/ethnic or gender subgroup.

A limited number of schools did show significant changes in policy and reductions in the proportion of students who were overweight or obese. An exploration of the factors associated with their success suggested that these schools had champions who promoted healthy environments, policies and programs; were aggressive in obtaining funding to make changes; and were comprehensive in their approaches to helping students and families engage in healthy behaviors. Importantly, these schools increased physical activity during the school day, exceeding the minimum requirements set by state policy, and promoted nutrition throughout the school buildings and activities.

Overall, results indicate that there is no single policy that was effective in reducing childhood obesity in this statewide investigation. Rather, it appears to require strong implementation of positive policies in both nutrition and physical activity to achieve the desired effect. In Arkansas, as in other states, school personnel endorse the concepts of creating healthy school environments and creating a culture of health. They are, however, working under significant constraints in terms of time, schedules, finances, and demands imposed by state and federal overseers. To balance the demands and achieve their goals, schools need financial and administrative resources – i.e., funding to make critical physical modifications to kitchens and cafeterias, administrative support to make schedule modifications to accommodate additional physical activity time, and support for creative problem solving and innovation, among others.

The Arkansas experience of the past 10 years has indicated that change is possible as a result of legislative initiatives to address childhood obesity. However, to maintain that change and build on those successes, sustained messages need to be delivered along with supportive resources. Successful schools need to be highlighted so that others may learn from their experiences. Fresh messages need to be crafted and delivered, along with oversight, monitoring, and accountability, to assure that policies, practices and environments do not drift back to baseline levels. Continued surveillance of both policies and student BMI will be important to assure that areas that need continued attention as well as areas of success can be identified and addressed.

Appendix C

## **Appendix A**

### **Nutrition and Physical Activity Policies and Practices in Schools and School Districts**

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### Nutrition Policies and Practices in Schools and School Districts

Table A-1. Presence and location of vending machines in schools

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Vending machines present on campus	85%	82%	80%	80%	79%	80%	79%	80%	83%
Among those schools with vending machines:									
Beverage machines are located:									
Cafeteria**	13%	11%	10%	9%	8%	8%	7%	5%	7%
Gymnasium****	30%	26%	24%	23%	18%	19%	14%	13%	12%
Snack bars/school stores****	6%	6%	4%	4%	3%	1%	1%	1%	1%
Hallways*		20%	18%	18%	18%	17%	17%	17%	14%
Teachers' lounges		78%	78%	78%	80%	82%	86%	86%	86%
Food machines are located:									
Cafeteria	6%	3%	5%	4%	2%	3%	2%	2%	3%
Gymnasium****	11%	5%	8%	6%	4%	4%	4%	3%	3%
Snack bars/school stores	10%	6%	6%	4%	6%	2%	2%	3%	2%
Hallways		9%	13%	10%	12%	14%	10%	10%	8%
Teachers' lounges***		63%	72%	79%	79%	81%	85%	84%	85%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-2. Availability of vending machines to students

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Vending machines are available:									
<b>Before school</b>	47%	29%	40%	36%	38%	40%	37%	39%	37%
<b>In the morning before lunch</b>	18%	10%	19%	14%	14%	11%	9%	15%	17%
<b>During the lunch period****</b>	72%	40%	42%	39%	37%	29%	23%	28%	30%
In the afternoon after lunch****	26%	18%	55%	48%	51%	48%	55%	48%	52%
Snack/break times	23%	13%	16%	9%	8%	9%	9%	11%	10%
After school	62%	64%	62%	61%	59%	64%	64%	67%	62%
Never****			50%	51%	52%	54%	59%	61%	62%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-3. Vending machine contents available for student purchase

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Food machines:									
Chocolate candy****	85%		74%	70%	75%	67%	70%	53%	53%
Other candy****	89%		76%	77%	70%	68%	74%	56%	56%
Cookies, crackers***	91%		91%	99%	91%	88%	87%	83%	80%
Cheese/peanut butter crackers	89%		90%	96%	91%	87%	89%	87%	89%
Cakes, pastries**	61%		59%	57%	53%	55%	50%	40%	38%
Potato chips, salty snacks****	91%		80%	87%	84%	83%	80%	57%	67%
Low-fat/sugar cookies**	23%		58%	48%	59%	56%	57%	57%	49%

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	2004	2005	2006	2007	2008	2009	2010	2011	2012
Low-fat crackers*	26%		55%	51%	54%	59%	60%	59%	51%
Low-fat/sugar cakes, pastries	16%		37%	24%	22%	31%	36%	16%	19%
Low-fat salty snacks**	43%		85%	78%	77%	82%	73%	66%	66%
Beverage machines:									
Sodas & sweetened beverages****	84%		83%	81%	74%	58%	56%	54%	52%
Fruit-flavored drinks****	77%		81%	70%	63%	58%	44%	46%	35%
Water (bottled)****	82%		93%	92%	92%	95%	96%	95%	93%
Fruit juices	53%		71%	61%	56%	65%	62%	53%	52%
Vegetable juices	16%		21%	13%	18%	19%	19%	16%	17%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-4. Other venues for competitive foods in schools

	2004	2005	2006	2007	2008	2009	2010	2011	2012
School has snack bar/cart on campus****	22%	24%	9%	9%	8%	9%	8%	9%	8%
School has school store on campus****	33%		72%	73%	28%	26%	24%	23%	23%
When school store present, foods or beverages sold in school store**	28%	39%	10%	7%	9%	9%	13%	9%	11%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-5. Milk options in school cafeteria

	2004	2005	2006	2007	2008	2009	2010	2011	2012
White									
Whole****	78%	74%	57%	45%	42%	34%	33%	26%	16%
1-2%	92%	94%	94%	96%	96%	95%	95%	93%	93%
Skim****	26%	32%	40%	44%	41%	42%	40%	41%	42%
Chocolate									
Whole****	36%	30%	23%	16%	16%	13%	14%	10%	7%
1-2%****	69%	76%	80%	84%	84%	83%	83%	81%	80%
Skim****	9%	13%	18%	24%	24%	26%	26%	25%	29%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

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Table A-6. Policies related to fund-raising in schools

	2004	2005	2006	2007	2008	2009	2010	2011	2012
School allows food to be sold as fund-raising activity by:									
Student groups*	62%	58%	44%	40%	45%	51%	52%	54%	53%
Faculty groups***	21%	15%	11%	10%	11%	13%	17%	16%	15%
Individual students	8%	10%	10%	9%	11%	13%	14%	14%	11%
Parent groups	48%	48%	41%	39%	40%	44%	46%	48%	47%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

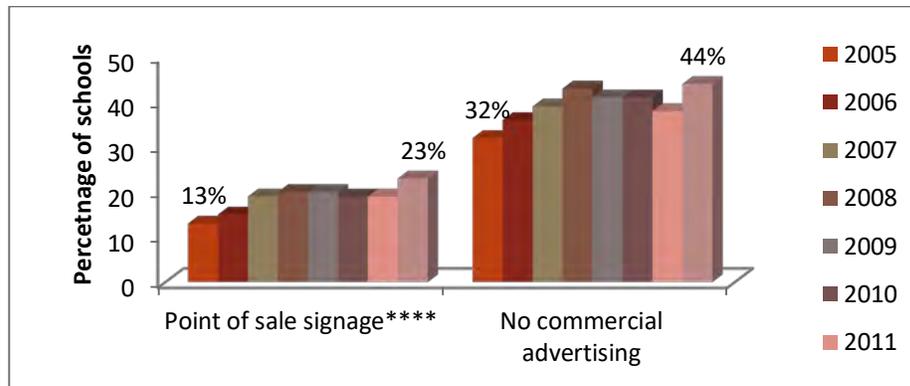
Table A-7. School policies about types of foods served at school events

	2004	2005	2006	2007	2008	2009	2010	2011	2012
School has policy regarding foods that can be served at:									
Staff meetings	2%	2%	3%	5%	4%	3%	6%	3%	4%
School sporting events	4%	4%	7%	8%	7%	6%	7%	5%	6%
School assemblies****	4%	5%	25%	28%	25%	23%	23%	21%	21%
School events****	5%	7%	30%	36%	32%	29%	29%	26%	23%
School has policy requiring that healthy options be served at:									
Student parties****	4%	8%	39%	40%	37%	32%	27%	25%	28%
After-school programs****	11%	15%	37%	41%	35%	38%	32%	33%	35%
Staff meetings****	3%	5%	8%	11%	9%	7%	6%	9%	9%
Meetings attended by student families****	4%	5%	14%	17%	14%	12%	10%	12%	12%
Concession stands****	2%	4%	11%	11%	10%	8%	7%	8%	8%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Figure A-1. School policies regarding available nutritional information and advertising



Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

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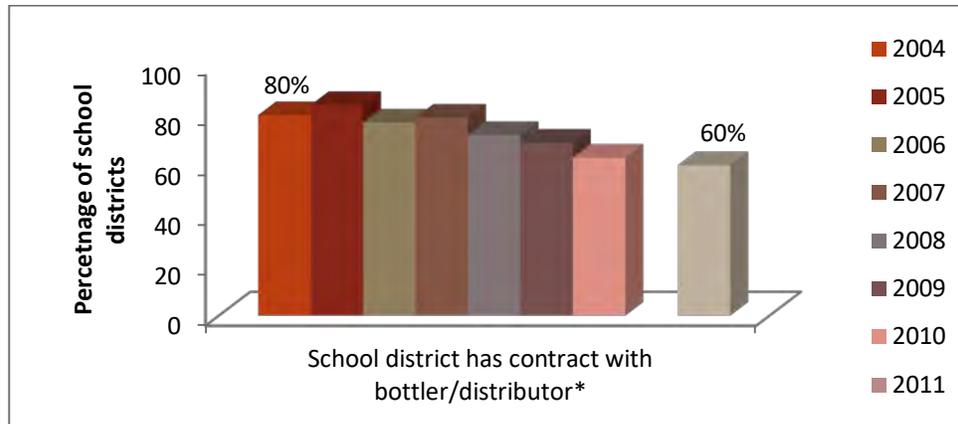
Table A-8. School district policies regarding nutrition in schools

	2004	2005	2006	2007	2008	2009	2010	2011	2012
School district has policy that:									
Provides students a minimum amount of time to eat lunch									
Requires	27%	16%	30%	31%	36%	38%	30%		31%
Recommends	35%	36%	33%	34%	34%	34%	38%		32%
Offers low-fat alternative to whole milk									
Requires	51%		63%	68%	70%	64%	65%		74%
Recommends	21%		24%	24%	20%	27%	23%		19%
Prohibits junk foods in:									
A la carte lines during breakfast and lunch periods	40%	33%	58%	63%	69%	67%	65%		59%
Student parties****	2%	3%	21%	28%	21%	19%	21%		19%
After-school programs	16%	15%	30%	35%	32%	28%	30%		26%
Staff meetings	1%	<1%	3%	0%	2%	3%	3%		2%
Meetings attended by families	1%	2%	3%	<1%	4%	5%	7%		3%
School stores, snack bars****	13%	18%	50%	57%	58%	57%	53%		44%
Vending machines****	18%	27%	53%	61%	62%	61%	66%		64%
Concession stands	2%	7%	12%	11%	6%	7%	5%		5%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Figure A-2. School district reports of exclusive contracts with soft drink bottlers and distributors



Comparison of baseline (earliest year) to 2012, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

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### Physical Education/Physical Activity

Table A-9. School practices related to physical education instruction

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Physical education taught by:									
Certified PE teachers****	84%	84%	85%	93%	95%	98%	98%	99%	99%
PE teachers (not certified)****	14%	14%	2%	9%	6%	5%	6%	5%	5%
Health education teachers*	9%	8%	6%	5%	5%	7%	5%	5%	5%
Regular classroom teachers****	13%	13%	12%	8%	6%	3%	3%	3%	3%
Other****	5%	3%	5%	3%	2%	3%	2%	1%	3%
Newly hired PE teachers required to be certified in PE	87%	87%	92%	94%	96%	97%	95%	96%	95%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-10. School policies regarding use of physical activity for discipline

	2004	2005	2006	2007	2008	2009	2010	2011	2012
School staff are allowed to use physical activity as punishment for bad behavior:									
In PE class	9%	15%	9%	10%	9%	10%	8%	7%	7%
In other classes*	3%	5%	5%	5%	6%	5%	4%	6%	5%
School staff are allowed to exclude students from:									
All or part of PE as punishment for bad behavior in class****	7%	5%	3%	6%	2%	3%	2%	1%	2%
All or part of recess or free play as punishment for bad behavior****	13%	43%	31%	23%	22%	22%	21%	19%	21%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-11. School district policies regarding physical activity and physical education

	2004	2005	2006	2007	2008	2009	2010	2011	2012
District has policy:									
Regarding regularly scheduled recess for elementary students:									
Requires	58%	51%	59%	66%	68%	64%	70%		75%
Recommends	30%	31%	26%	23%	20%	23%	20%		21%
Requiring schools to include lifetime physical activities in the PE program									
Elementary schools	39%	36%	47%	56%	48%	51%	55%		51%
Middle schools	52%	44%	57%	63%	55%	59%	58%		54%
High schools	56%	45%	59%	66%	57%	57%	57%		55%
Requiring student fitness levels to be measured on a regular basis	26%	26%	37%	37%	35%	45%	44%		44%
Prohibiting use of physical activity as punishment									

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In PE class	25%	28%	39%	39%	46%	40%	41%		49%
In other classes	32%	31%	44%	41%	49%	42%	44%		53%
Requiring newly hired PE staff to be certified to teach PE									
Elementary schools	69%	64%	74%	86%	88%	86%	89%		88%
Middle schools	87%	85%	86%	91%	92%	90%	92%		91%
High schools	88%	87%	87%	91%	93%	90%	92%		91%

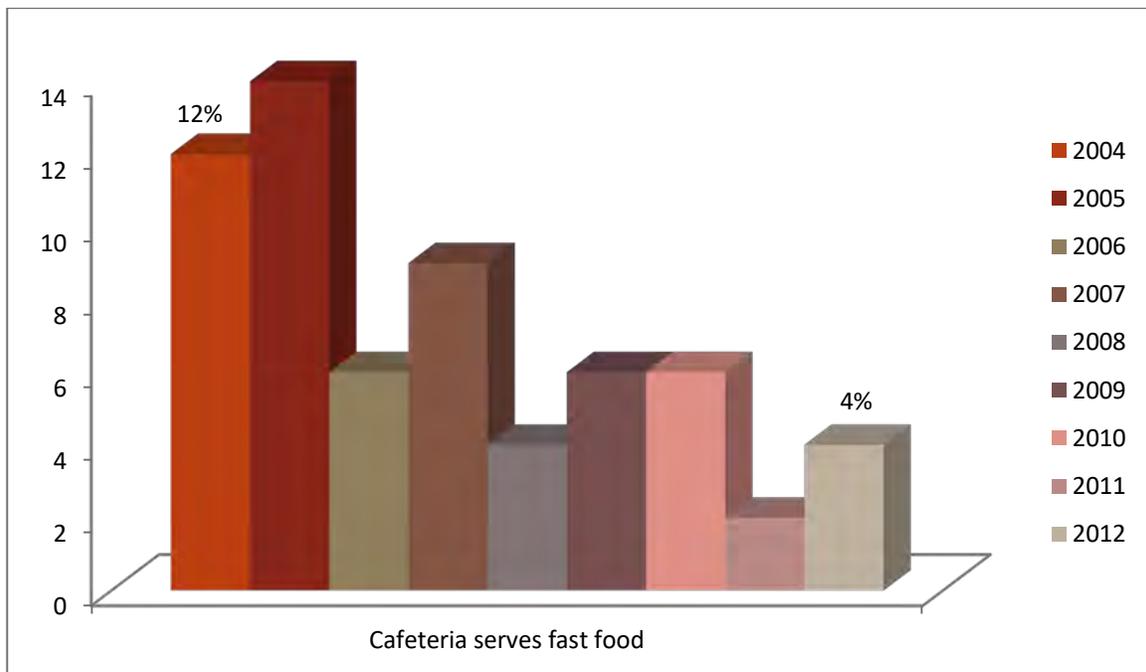
Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table A-12. Adolescent reports of vending machine availability and contents

	2004	2005	2006	2007	2008	2009	2010	2011	2012
School has soda vending machine for students****	97	94	83	74	66	61	55	48	45
If present, vending machine includes:									
Regular (not diet) sodas, other sweetened beverages****		89	85	84	81	57	58	44	37
Diet sodas		74	84	75	80	81	74	66	77
Fruit-flavored drinks****		80	77	68	70	37	60	37	32
School has snack machine for students****	64	58	39	31	35	23	30	20	31

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Figure A-3. Adolescent reports of fast food availability within schools



Appendix C

## **Appendix B**

### **Attitudes and Beliefs of Parents, Students, and School Personnel Regarding the BMI Measurements and Reporting to Parents**

## Appendix C

**Table B-1. Parental and adolescent concerns about BMI measurements**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Parental comfort with getting BMI report from school:</b>									
Very comfortable	52%	46%	47%	40%	43%	41%	48%	45%	47%
Somewhat comfortable	17%	19%	18%	18%	18%	21%	18%	15%	15%
Slightly comfortable	5%	9%	8%	10%	10%	9%	8%	10%	8%
Not at all comfortable	24%	23%	23%	28%	26%	26%	22%	26%	27%
<b>Parental concern about confidentiality of BMI measurements and reports:</b>									
Very concerned	20%	16%	15%	15%	12%	10%	11%	9%	8%
Somewhat concerned	10%	12%	12%	16%	12%	14%	11%	7%	8%
A little concerned	6%	8%	9%	6%	7%	8%	9%	5%	6%
Not at all concerned	63%	63%	64%	62%	67%	68%	69%	78%	78%
Adolescent embarrassed by the BMI measurement		12%	8%	11%	10%	11%	9%	14%	5%
<b>Adolescent concern about confidentiality of BMI measurements and reports:</b>									
Very concerned	6%	3%	3%	2%	4%	2%	1%	6%	3%
Somewhat concerned	3%	6%	5%	12%	7%	6%	9%	7%	5%
A little concerned	8%	10%	11%	7%	10%	11%	10%	10%	4%
Not at all concerned	80%	81%	81%	79%	79%	81%	81%	77%	88%
<b>Adolescent comfort with parents getting a BMI report from the school:</b>									
Very comfortable	43%	45%	54%	43%	46%	44%	44%	36%	52%
Somewhat comfortable	20%	16%	16%	14%	19%	19%	19%	12%	12%
Slightly comfortable	5%	13%	13%	10%	16%	13%	20%	12%	3%
Not at all comfortable	29%	22%	15%	25%	16%	21%	11%	36%	28%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

**Table B-2. Principal and superintendent reports of parental contacts related to BMI measurement**

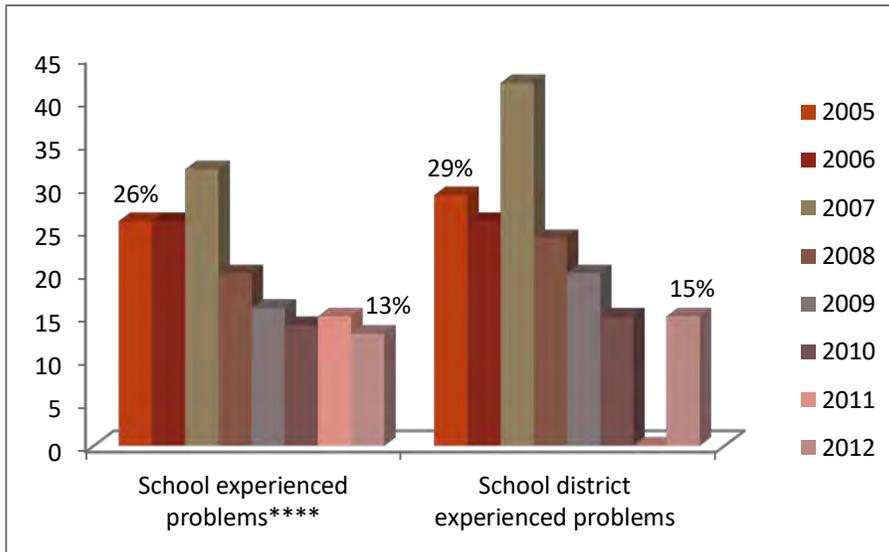
	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Principals:</b>									
<b>Number of parental contacts</b>									
None		52%	65%	64%	78%	83%	83%	88%	
Fewer than 10		31%	24%	27%	17%	13%	13%	10%	
<b>Tone of contacts</b>									
Positive		5%	6%	6%	8%	10%	11%	1%	
Specific concerns		20%	20%	18%	21%	20%	28%	30%	
Negative		71%	72%	68%	63%	61%	52%	57%	
Neutral		5%	1%	7%	8%	9%	9%	12%	
<b>Superintendents</b>									
<b>Number of parental contacts</b>									
None		34%	55%	53%	67%	72%	82%		78%
Fewer than 10		40%	28%	29%	21%	22%	12%		18%
<b>Tone of contacts</b>									
Positive		2%	2%	3%	6%	4%	4%		5%
Specific concerns		21%	28%	18%	19%	33%	26%		33%
Negative		71%	67%	71%	60%	48%	48%		49%
Neutral		7%	3%	8%	15%	15%	22%		13%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

# Appendix C

Figure B-1. Principal and superintendent reports of problems with BMI measurements



Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; \*\*\*\* $p < .0001$

Appendix C

## **Appendix C**

### **Changes in Behavior Among Parents and Students**

## Appendix C

Table C-1. Parent reports of meal contents and food preparation

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Tried in past month to limit amount of chips, soda, or sweets eaten by family	76%	79%	79%	83%	81%	81%	80%	74%	76%
Mean times in the past month, served:									
Fruit***	28.4	28.0	31.0	31.0	30.7	31.3	29.1		26.5
Vegetables***	33.2	33.7	35.2	37.0	36.2	34.5	31.9		31.7
High-fat foods**	16.8	18.5	17.6	17.3	16.7	16.2	15.7		15.5
100% juices****	24.9	25.4	25.4	27.6	25.3	26.2	23.6		19.0
Sodas****	25.4	27.2	24.6	27.4	23.2	23.2	19.7		17.4
Mean times in the past month, parent:									
Added fat to vegetables****	15.9	14.5	16.4	16.2	13.9	15.0	12.0		13.2
Use cooking spray	7.0	8.0	8.6	8.7	7.8	8.3	7.1		7.9
Broil, grill, steam vegetables*	16.6	16.8	17.5	18.7	16.9	17.8	15.2		16.5
Modified recipes to make healthier (times in past week)	2.3		2.5	2.7	2.3	2.1	2.4		2.4
Times in past month family ate in fast food restaurant (mean)	5.9		6.4	6.0	6.5	6.6	5.7	5.8	5.7

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table C-2. Parental physical activity

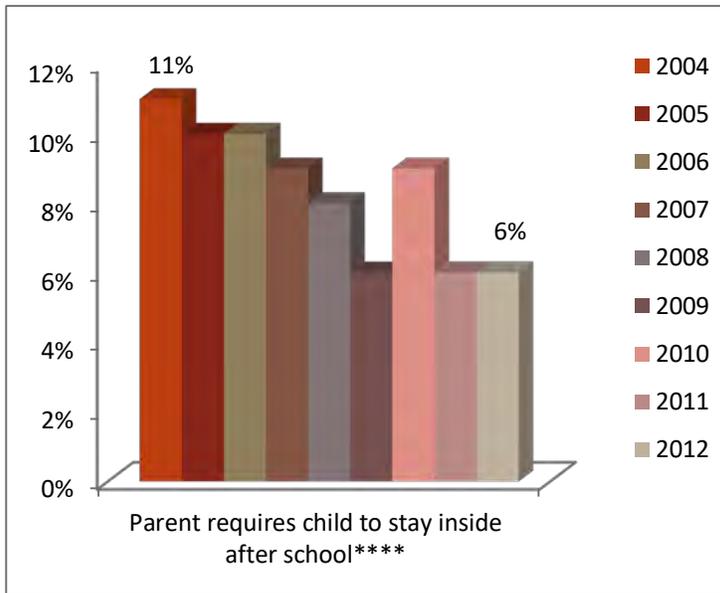
	2004	2012
Mean times in past week parent:		
Walked for exercise*	2.7	2.9
Did chores outside	2.1	2.2
Went swimming, running, jogging	1.8	1.6
Exercised or was active with family	1.7	1.7

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

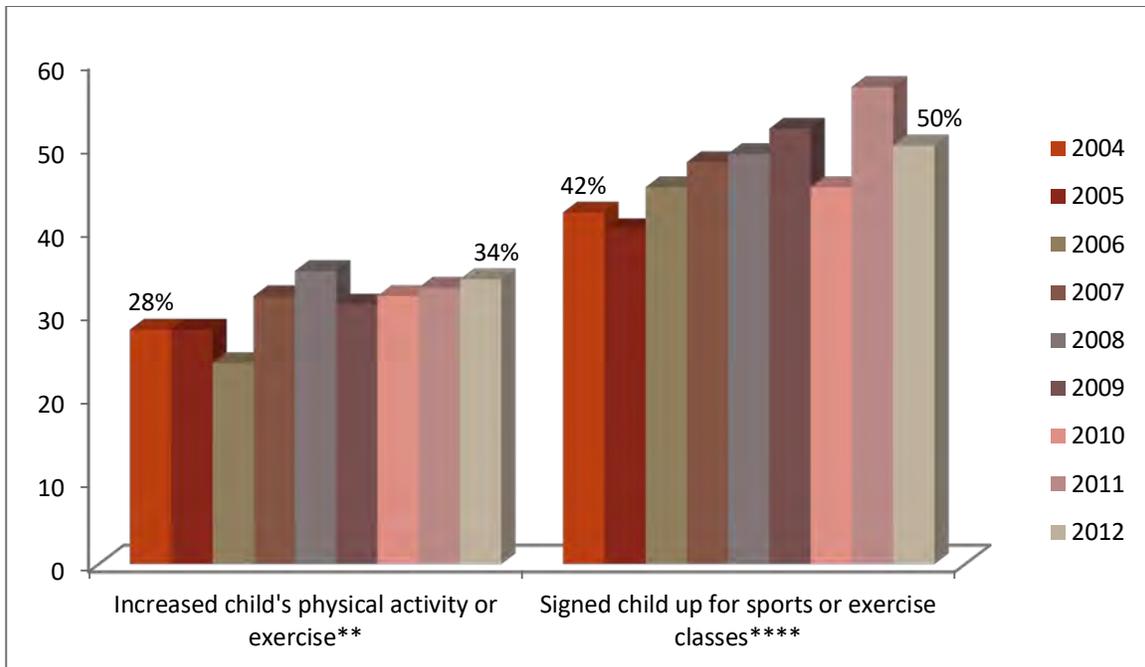
## Appendix C

Figure C-1. Parent requires child to stay inside after school



Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; \*\*\*\* $p < .0001$

Figure C-2. Parental reports of changes to student activity



## Appendix C

Table C-3. Adolescent efforts to modify eating habits

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Adolescent tries to limit amount of chips, soda or sweet consumed	60%	57%	58%	67%	60%	61%	65%	60%	61%
Times in past month ate in fast food restaurant (mean)****	6.5		5.6	6.0	6.4	4.9	5.8	5.3	5.0
Adolescent reports trying to change diet to be healthier	67%	57%	59%	67%	63%	58%	70%	61%	63%
Mean times (past month) purchased drinks from vending machine at school****	11.6		4.7	6.0	6.0	4.3	2.0	1.9	2.2
Mean times (past month) purchased regular sodas or other sweetened beverages**			6.4	7.0	9.9	7.5	4.5	1.2	3.4
Mean times (past month) purchased snacks from vending machine at school	7.7		2.5	4.0	4.7	3.8	3.5	2.2	1.8

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Table C-4. Adolescent physical activity

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of days in past week adolescent:									
Walked									
Never		23%	16%	23%	26%	15%	20%	23%	26%
3 or more days		56%	58%	55%	55%	61%	63%	58%	54%
Did chores outside****									
Never		38%	43%	51%	40%	47%	38%	46%	50%
3 or more days		26%	25%	23%	21%	23%	35%	18%	19%
Played games with friends									
Never		48%	48%	42%	45%	57%	40%	51%	51%
3 or more days		32%	31%	39%	36%	29%	27%	25%	28%
Did other activity for fun****									
Never		46%	45%	38%	50%	42%	44%	48%	56%
3 or more days		26%	29%	31%	33%	24%	29%	20%	23%
Exercised with family****									
Never		52%	45%	46%	49%	41%	44%	49%	52%
3 or more days		23%	26%	27%	21%	38%	23%	25%	19%
Played sports****									
Never		28%	32%	27%	32%	34%	26%	36%	39%
3 or more days		52%	46%	42%	44%	47%	44%	44%	41%
Participated in gym class at school***									
None	25	56%	65%	68%	54%	70%	57%	55%	55%
Daily (5 days)	59	35%	22%	23%	32%	24%	29%	31%	36%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

Appendix C

## **Appendix D**

### **Monitoring Potentially Negative Outcomes**

## Appendix C

**Table D-1. Student reports of possible responses to Act 1220**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Concerned about weight**	24%	29%	25%	25%	24%	21%	21%	19%	21%
Teasing because of weight	12%	9%	6%	12%	7%	5%	6%	4%	6%
Teasing for other reasons****	21%	20%	19%	25%	16%	16%	14%	14%	7%
Gone on a diet	29%	23%	26%	27%	19%	19%	26%	26%	22%
Took diet pills	6%	5%	2%	5%	2%	2%	3%	1%	3%
Increased physical activity	59%	63%	62%	72%	58%	65%	62%	56%	58%
Skipped meals***		44%	42%	41%	38%	38%	34%	28%	23%
Skipped snacks****		54%	58%	54%	52%	59%	50%	49%	32%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

**Table D-2. Arkansas student reports of weight control behavior, Youth Risk Behavior Survey**

	2001	2005	2007	2009	2011
Exercised for weight control	60%	59%	60%	59%	
Dieted (ate less food, fewer calories, lower-fat foods)	43%	40%	38%	40%	
Fasted at least one day	15%	16%	12%	17%	14%
Took diet pills***	12%	12%	8%	10%	7%
Vomited or took laxatives	5%	9%	7%	9%	5%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

**Table D-3. Parental reports of possible responses to Act 1220**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Put child on diet	9%	6%	6%	5%	6%	5%	5%	5%	5%
Gave child diet pills	<1%	<1%	1%	<1%	1%	<1%	<1%	1%	1%
Increased child's exercise or physical activity	28%	28%	24%	32%	35%	31%	32%	33%	34%
Signed child up for sports or exercise class	42%	40%	45%	48%	49%	52%	45%	57%	50%

Comparison of baseline (earliest year) to 2012, adjusted multivariable regression analyses, statistically significant at: \*p<.05;

\*\*p<.01; \*\*\*p<.001; \*\*\*\*p<.0001

## Appendix C

### References

1. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Establishing a baseline to evaluate Act 1220 of 2003: An Act of the Arkansas General Assembly to combat childhood obesity* Little Rock, Arkansas: Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences;2005.
2. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Year Two Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity*. Little Rock, Arkansas: Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences;2006.
3. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Year Three Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity*. Little Rock, Arkansas: Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences;2007.
4. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Year Four Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity*. Little Rock, Arkansas: Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences;2008.
5. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Year Five Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity* Little Rock, Arkansas: Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences;2009.
6. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Year Six: Evaluation: Act 1220 of 2003 of Arkansas to Combat Childhood Obesity*. Little Rock, AR: University of Arkansas for Medical Sciences;2010.
7. Phillips M, Raczynski J, Walker J, Act 1220 Evaluation Team. *Year Seven: Evaluation: Act 1220 of 2003 of Arkansas to Combat Childhood Obesity*. Little Rock, AR: Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences 2011.
8. Buchanan D, Fitzgerald L, Ketley D, al E. No going back: A review of the literature of sustaining organizational change. . *International Journal of Management Reviews*. 2005;7(3):189-205.
9. West DS, Raczynski JM, Phillips MM, Bursac Z, Gauss CH, Eaton B. Parental recognition of overweight in school-age children. *Obesity*. 2008;16(3):630-636.
10. Phillips M, Goodell M, Raczynski J, Philyaw Perez A. Creating and using index scores in the analysis of school policy implementation and impact. *Journal of School Health*. 2012;in press



# **EXTENDED RECESS PILOT Impact Report**

**August 2019**

# Extended Recess Pilot

Based on a growing body of scientific literature indicating positive associations between physical activity, learning behavior, and cognitive skills, the Arkansas General Assembly in 2017 passed Act 1062 to authorize the completion of a one-year pilot program to extend the amount of recess time in elementary schools. The pilot program conducted during the 2018-2019 school year included 26 schools (serving students in grades K through 6) throughout the state, each of which voluntarily applied to participate. Selected schools were required to offer a minimum of 60 minutes of unstructured physical activity per day for students in grades K through 4 and 45 minutes per day of unstructured physical activity for students in grades 5 and 6. Physical education instruction time did not count toward the total unstructured physical activity time; schools were still required to offer 40 minutes of physical education instruction per week. Unstructured physical activity was defined as active time in which students are not required to participate in a specific activity, though games and equipment were typically made available to students. Adults, typically teachers, supervised the activity. The additional recess time had to be offered during the school day, and waivers were approved for participating schools to adapt instructional time to accommodate the increased physical activity time.

Pilot schools were asked to complete brief surveys in the fall and again in the spring of the school year, providing information about the strategies used to implement the program and the successes and challenges observed during the implementation. Data regarding academic performance in participating schools for the 2018-2019 school year was obtained from school report cards and compared to the data from the previous two years to determine the possible impact on academic performance.



## FINDINGS

A preliminary report (December 2018) summarized the findings from the fall survey of teachers and building administrators. Overall, survey respondents indicated that they felt the extra recess time had:

- Been positive or very positive for their classes (79%)
- Benefited student engagement and focus (78%)
- Had a positive impact on classroom disruptions (71%)
- Positively impacted student conflict resolution skills (63%)
- Had no impact (53%) or a positive impact (34%) on bullying behavior.

Teachers acknowledged that instructional time had been reduced because of the extra recess time, but most indicated that the benefits of less disciplinary time and more focus during instruction helped to compensate for the lost time.

Narrative comments by teachers and building administrators were, not unexpectedly, mixed. Some teacher and administrators were very positive about the program, noting that students enjoyed the extra recess time and were more focused and engaged during instructional time. Others were less positive, citing concerns about disruptions associated with the more frequent transitions and the loss of instructional time.

### Impact on classrooms

Findings from the spring survey were very consistent with those of the fall survey. Both teachers and building administrators maintained a high level of satisfaction with the program and assessments of the impact of the extra recess time on classrooms overall, student engagement and focus, classroom disruptions, bullying behavior, and conflict resolution skills are comparable to those observed in the fall.

Additional analyses indicated that:

- There were no differences in responses received from those personnel who were engaged in playground supervision and those who did not supervise recess.
- There were no differences in responses received from those who taught older students and those who taught younger students. Teachers of older students were more likely to express concerns about the impact of reduced instruction time.

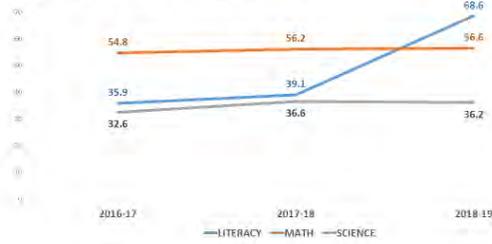
### Impact on academic achievement

A review of benchmark achievement in grades 3 through 6 was undertaken to assess the impact of the extra recess time on academic achievement. The percentage of students meeting or exceeding the benchmark in literacy, math, and science in each grade (grades 3 through 6) was averaged for participating schools. In general, it was noted that the percentages either maintained a consistent level or rose over the period (comparing 2018-19 to the previous school year, 2017-18). Specifically, it is noted that:

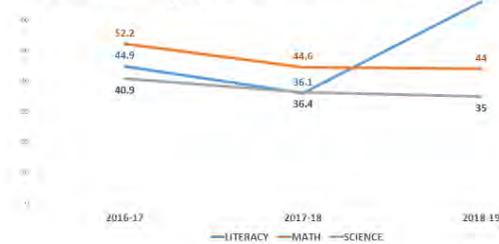
- For all grades, there was a substantial increase from the previous school year (2017-18) in the percentage of students ready or exceeding the benchmark for **literacy**.
- **Math** scores were steady for grades 3, 4, and 6 but there was a slight decrease for grade 5.
- Similarly, **science** scores were steady for grades 3, 4, and 6 but slightly lower for grade 5.

## Appendix D

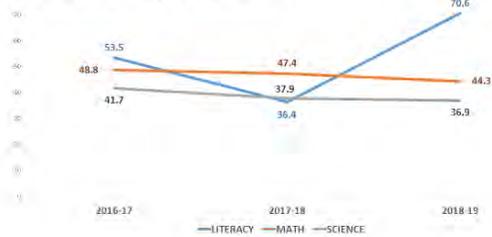
Grade 3 – Average percentage students ready or exceeding benchmark



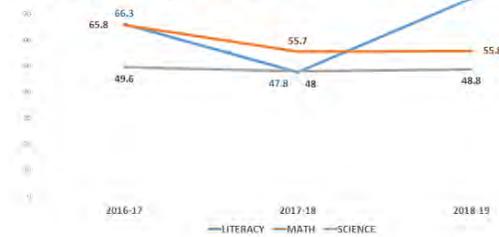
Grade 4 – Average percentage students ready or exceeding benchmark



Grade 5 – Average percentage students ready or exceeding benchmark



Grade 6 – Average percentage students ready or exceeding benchmark



Overall it appears that the extended recess time did not have a significant negative impact on student performance in this year. However, these data should be interpreted cautiously. Test scores are somewhat variable across years, since each year the grade score reflects the achievement of a different cohort of students and can be influenced by a large number of factors other than instructional time. Factors such as instructional methods, textbook adoptions, teacher experience, level of student mastery at the beginning of the year, supplemental instructional programs and student supports, and the like can have significant impact on student performance and create variability in test scores over time.

### Impact on behavior

As noted above, the majority of teachers and building administrators indicated that classroom disruptions and office referrals for playground behavior were either not impacted at all or were positively impacted by the extended recess time. State data regarding disciplinary referrals were reviewed but it was determined that the data are not precise enough to provide a valid assessment of changes that might have been observed.

### Summary

Overall, building administrators and teachers are positive about the extended recess pilot after initial efforts to implement the program. There were some concerns expressed, particularly about the time needed for transitions and the time taken from instruction. Data regarding academic performance over the past 3 years (2 years prior to the extended recess pilot and this most recent academic year) indicated that there was no significant reduction in student performance in grades 3 through 6 in the areas of literacy, math, or science. The majority of school personnel reported

## Appendix D

that there were no increases in negative student behavior that might be associated with increased recess time.

Taken together in summary, this information suggests that, on average, the extended recess pilot has not resulted in negative consequences in participating schools.