

YEAR SEVEN

EVALUATION

ARKANSAS ACT 1220 OF 2003 TO COMBAT CHILDHOOD OBESITY



INTRODUCTION

Obesity continues to be one of the most pressing health threats facing families and communities in Arkansas and in the nation overall. Overweight and obese children are at a higher risk for serious health problems, including heart disease, stroke, asthma and certain types of cancer. And with one in three children overweight or obese, the direct health care costs attributed to childhood obesity in the United States are estimated at \$14 billion per year. The passage of Arkansas Act 1220 of 2003 mandated extensive statewide policy changes aimed at preventing childhood obesity. The legislation encourages schools and school districts to review their policies, practices and facilities, and to implement changes that will promote healthy lifestyles for students, staff and families. This report summarizes key findings from 2010 for our Year 7 evaluation of the implementation and impact of Act 1220 in public schools throughout the state.

This report is the seventh in a series of annual evaluation reports. As in previous years, our research team at the Fay W. Boozman College of Public Health at the University of Arkansas for Medical Sciences conducted the evaluation with support from the Robert Wood Johnson Foundation. More information about the methods used to collect the data in this report can be found in the appendices. Complete reports for Years 1 through 6 are available at: www.uams.edu/coph/reports/#Obesity.

KEY FINDINGS

We have previously reported on changes to both nutrition and physical activity policies and environments in Arkansas public schools. Overall, we have observed that schools made the greatest progress in the first three to four years after passage of the legislation, and then either entered a maintenance phase, or even began to drift back toward pre-Act 1220 baseline levels. However, in Year 7 some important trends have become apparent, including:

- Districts reported the most significant policy action to prohibit junk foods in 2006 and 2007, which likely were influenced by efforts of the Child Health Advisory Committee and the Wellness Committees. Districts have generally maintained those policies over time.

Over the past seven years, student purchases from both beverage and food vending machines on campus have generally declined, but they report no changes in soda consumption or in the frequency of their visits to fast-food restaurants.

- Since 2004, there has been a steady decline in the percentage of districts that had a contract with a soft drink bottler.
- Principals have been working to find solutions to time constraints during the school day, in order to provide students time for physical activity and to meet physical education requirements.
- Over the past seven years, student purchases from both beverage and food vending machines on campus have generally declined, but they report no changes in soda consumption or in the frequency of their visits to fast-food restaurants.

Additional developments are highlighted in the sections below.

NUTRITION POLICIES AND PRACTICES IN SCHOOLS

District policies regarding student access to junk foods

We have previously reported significant increases in the percentage of school districts with policies prohibiting junk foods in various venues within the school environment, such as cafeterias, student parties, school stores and vending machines (see Table 1). In Year 7, the percentage of school districts reporting policies that prohibit access to junk foods in vending machines continued to rise (66% in 2010, compared to 61% in 2009), while the percentages of school districts reporting policies governing the offering of such foods in other venues remained similar to those observed in previous years. Two patterns are apparent:

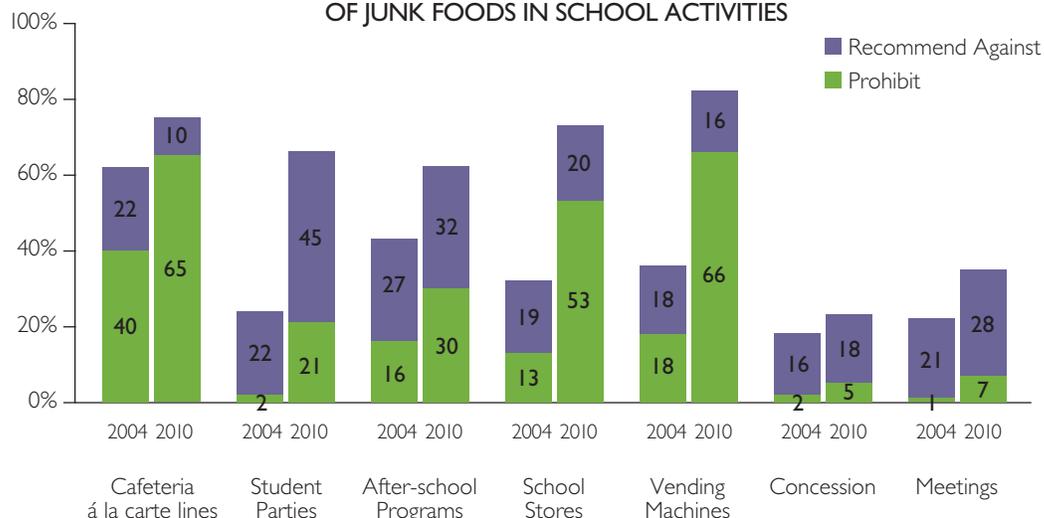
- It appears that the greatest policy change occurred in 2006 and 2007, and that those changes have generally been maintained (see Table 1). The upward trend coincides with the passage of new rules based on the Child Health Advisory Committee’s first recommendations, as well as the initial work of the local Nutrition and Physical Activity Advisory Committees (now known as Wellness Committees).
- Even though state regulations do not address foods served in concession stands or at meetings attended by families, some school districts have implemented policies recommending that junk foods not be provided in those settings (see Figure 1).

TABLE 1. SUMMARY OF SCHOOL DISTRICT NUTRITION POLICIES

District Policies	2004	2005	2006	2007	2008	2009	2010
Policy prohibiting “junk foods” (foods that provide calories primarily through fats or sugars and contain few vitamins or minerals) from being offered in:							
À la carte lines in cafeterias*	40%	33%	58%	63%	69%	67%	65%
Student parties***	2%	5%	21%	28%	21%	19%	21%
After-school programs	16%	15%	30%	35%	32%	28%	30%
School stores***	13%	18%	50%	57%	58%	57%	53%
Vending machines****	18%	27%	53%	61%	62%	61%	66%
Concession stands	2%	7%	12%	11%	6%	7%	5%
Meetings attended by families	1%	2%	3%	1%	4%	5%	7%

Comparison of 2004 to 2010 significant at: *p≤ .05; ** p≤01;*** p≤.001;**** p≤ .0001
The policies that appear in bold print were either required or recommended by the Arkansas Department of Education.

FIGURE 1. PERCENTAGE OF SCHOOL DISTRICTS ESTABLISHING POLICIES TO PROHIBIT OR RECOMMEND AGAINST THE SERVING OF JUNK FOODS IN SCHOOL ACTIVITIES

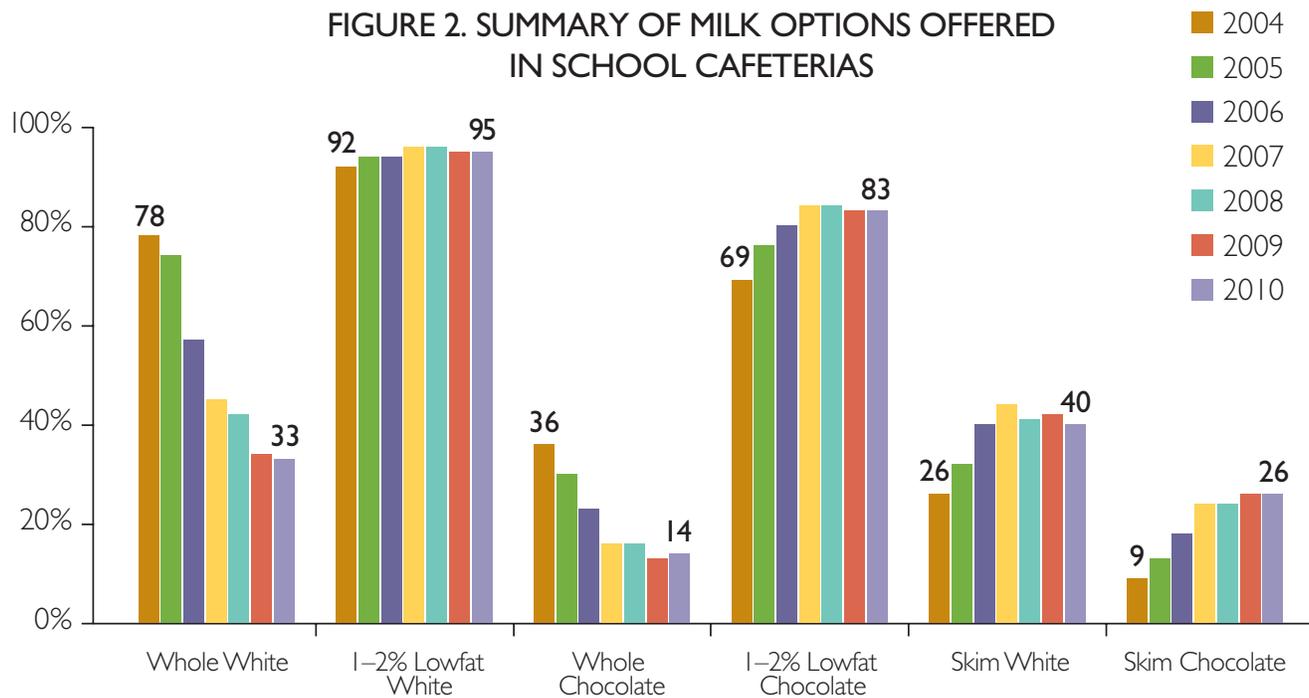


School policies and practices for cafeterias

Principal reports indicate that, over the last seven years, schools have been modifying food options available to students in cafeterias. In 2004, only one in four schools (24%) indicated that they modified recipes to be lower in fat and/or were working to provide more fruits, vegetables or fiber. That percentage increased gradually to a high

of 42 percent in 2008 and has been maintained at that level over the past 3 years. In 2010, 41 percent of schools indicated that they modified recipes or offered more fruits, vegetables or fiber in their cafeteria meals. Despite these overall changes, principal reports from 2010 indicate no significant change in the types of milk offered by schools since 2009 (see Figure 2).

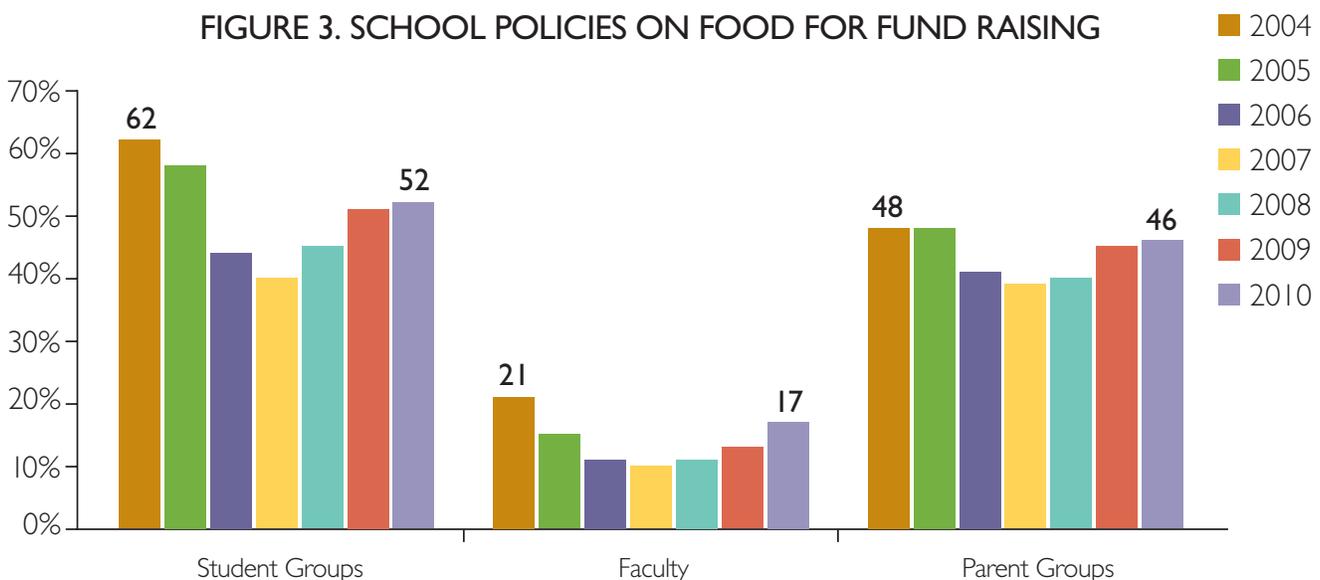
FIGURE 2. SUMMARY OF MILK OPTIONS OFFERED IN SCHOOL CAFETERIAS



We have noted a trend in school fund-raising policies over the past seven years (see Figure 3). From 2004 through 2007, the percentage of schools allowing food items to be sold to raise funds decreased for student, faculty and

parent groups. Since 2007, however, percentages of schools allowing food sale fund-raising activity has increased for all groups, though current levels remain below those of 2004 (baseline).

FIGURE 3. SCHOOL POLICIES ON FOOD FOR FUND RAISING



Key informant interviews with school- and district-level personnel regarding nutrition policies

During key informant interviews, superintendents and principals continued to express support for healthier foods in school cafeterias. A frequent comment was

that these changes increased student awareness of nutrition. However, concerns were also expressed about the challenge of staying abreast of and implementing numerous new regulations, fitting healthier foods into the food service budget, and reducing portion sizes for students who may be nutritionally deprived at home.

VENDING AND OTHER SOURCES OF COMPETITIVE FOODS

Student access to vending machines, snack bars and school stores on campus

Since the passage of Act 1220, schools have significantly reduced access to foods and beverages outside of cafeteria meals. While the percentage of schools with vending machines on campus has remained steady at 78 percent to 80 percent since 2005, 56 percent of the schools with vending machines on campus also report that the machines are available only in teacher/staff lounges, an increase from 35 percent in 2004. Among those schools with vending machines available to students, those machines are significantly less likely to be in cafeterias, gymnasiums, and snack bars or school stores now than they were in 2004.

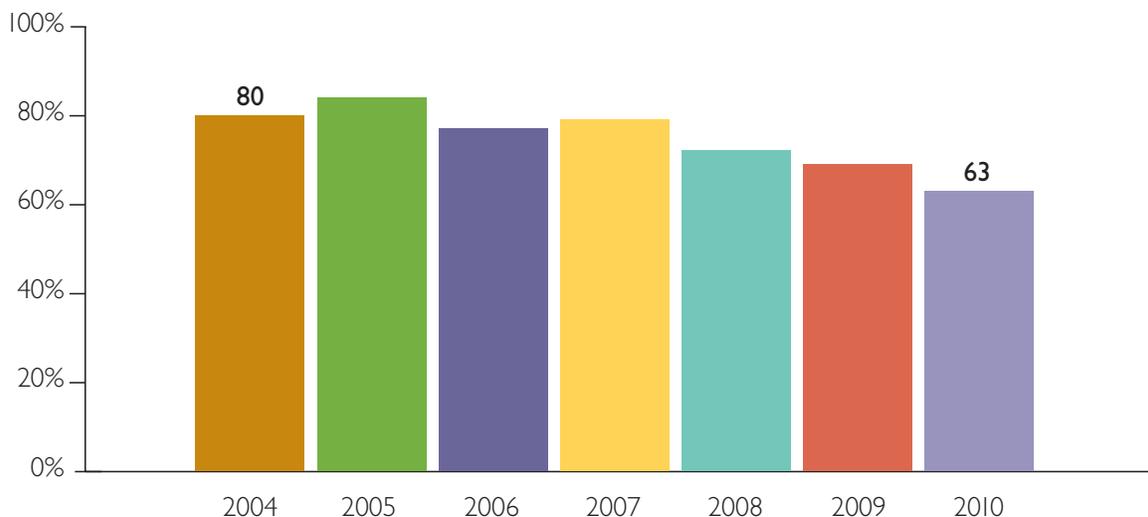
Further, an increasing percentage of schools are reporting compliance with state regulations prohibiting student access to vending machines during the lunch period. In 2010, 77 percent of schools with vending machines available to students prohibited student access during the

lunch period, up from 71 percent in 2009. This increase likely reflects the expiration of old vending contracts that specified student access during specific time periods, since schools were not required to comply with regulations until contracts in effect in 2004 expired. By the year 2015, nearly all vending contracts will have been renewed with mandated provisions that prohibit student access to machines before and during lunch.

Moreover, the percentage of school superintendents who reported that the district had a contract with a soft drink bottler has declined steadily from 80 percent in 2004 to 63 percent in 2010 (see Figure 4).

The percentage of principals reporting that revenues from vending machines are important to their overall school budgets has also declined steadily from 58 percent in 2004 to 47 percent in 2010. This suggests that schools may be beginning to find alternatives to relying on vending revenues.

FIGURE 4. DISTRICTS WITH SOFT DRINK CONTRACTS ACROSS ALL YEARS



Key informant interviews with school- and district-level personnel regarding vending policies

The survey data were supported by comments made by key informants during Year 7 interviews. All superintendents and most principals interviewed expressed support for the vending changes. Many of them spoke of lost revenue but agreed with the sentiments of one

principal who stated, “They didn’t need the sugar and we didn’t need the money that bad; we did need the money, but it wasn’t the way we needed to raise it.” Regarding vending machine contents, most principals and superintendents reported completely removing vending machines or restricting the beverage machines to juice, water, milk and diet sodas. Principals continued to express concern about unhealthy items being brought from home.

PHYSICAL ACTIVITY POLICIES IN SCHOOLS AND SCHOOL DISTRICTS

As shown in Tables 2 and 3, schools and school districts have largely maintained physical activity policies and practices established in earlier years. An exception is that the percentage of principals reporting in 2010 that school personnel may not punish students for bad behavior by

requiring physical activity (83%), excluding them from physical education (93%), and/or excluding them from recess (54%), all of which increased slightly (but not significantly) over 2009 levels.

TABLE 2. SUMMARY OF SCHOOL DISTRICT PHYSICAL ACTIVITY POLICIES

District Policies	2004	2005	2006	2007	2008	2009	2010
Policy requiring lifetime physical activities be included in physical education program:							
Elementary schools	39%	36%	47%	56%	48%	51%	55%
Middle schools	52%	44%	57%	63%	55%	59%	58%
High schools	56%	45%	59%	66%	57%	57%	57%
Policy requiring student fitness levels be measured on a regular basis	26%	26%	37%	37%	35%	45%	44%
Policy requiring that newly hired physical education teachers to be certified to teach physical education							
Elementary schools	69%	64%	74%	86%	88%	86%	89%
Middle schools	87%	85%	86%	91%	92%	90%	92%
High schools	88%	87%	87%	91%	93%	90%	92%

Comparison of 2004 to 2010 significant at: None of the statistical comparisons were significant.

The policies that appear in bold print were either required or recommended by the Arkansas Department of Education.

TABLE 3. SCHOOL DISTRICT POLICIES FORBIDDING USE OF PHYSICAL ACTIVITY OR EXCLUSION FROM PHYSICAL EDUCATION AS PUNISHMENT

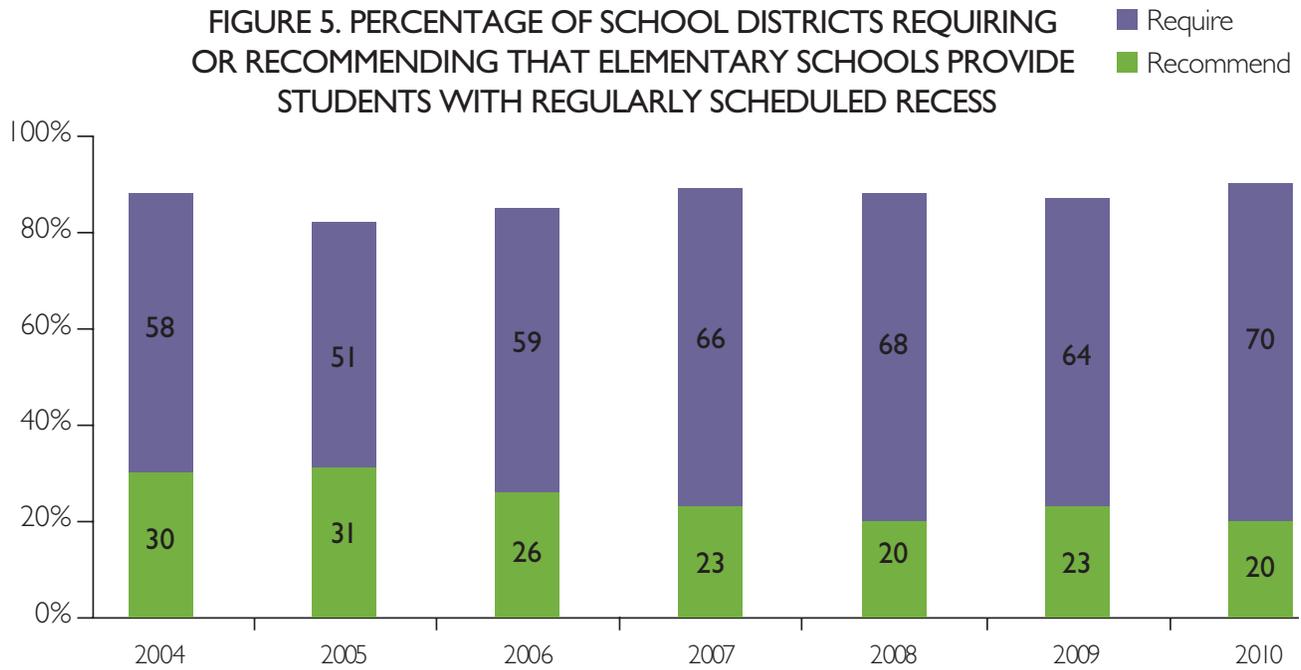
Policies	2004	2005	2006	2007	2008	2009	2010
Policy forbidding use of physical activity as punishment for bad behavior in:							
PE class*	77%	74%	79%	80%	80%	79%	83%
Other classes	92%	92%	90%	88%	88%	89%	90%
Policy forbidding the punishment of bad behavior by excluding students from:							
PE****	84%	88%	88%	90%	92%	91%	93%
Recess****	42%	37%	46%	52%	53%	54%	54%

Comparison of 2004 to 2010 significant at: *p≤ .05; ** p≤01;*** p≤0.01;**** p≤ .0001

The percentage of superintendents reporting that their districts require elementary schools to provide students with regularly scheduled recess has increased from 58 percent in 2004 to 70 percent in 2010 (see

Figure 5). Other districts have policies that recommend regular recess for young students; only 10 percent of superintendents reported having no policy in 2010 to address recess, down slightly from 12 percent in 2004.

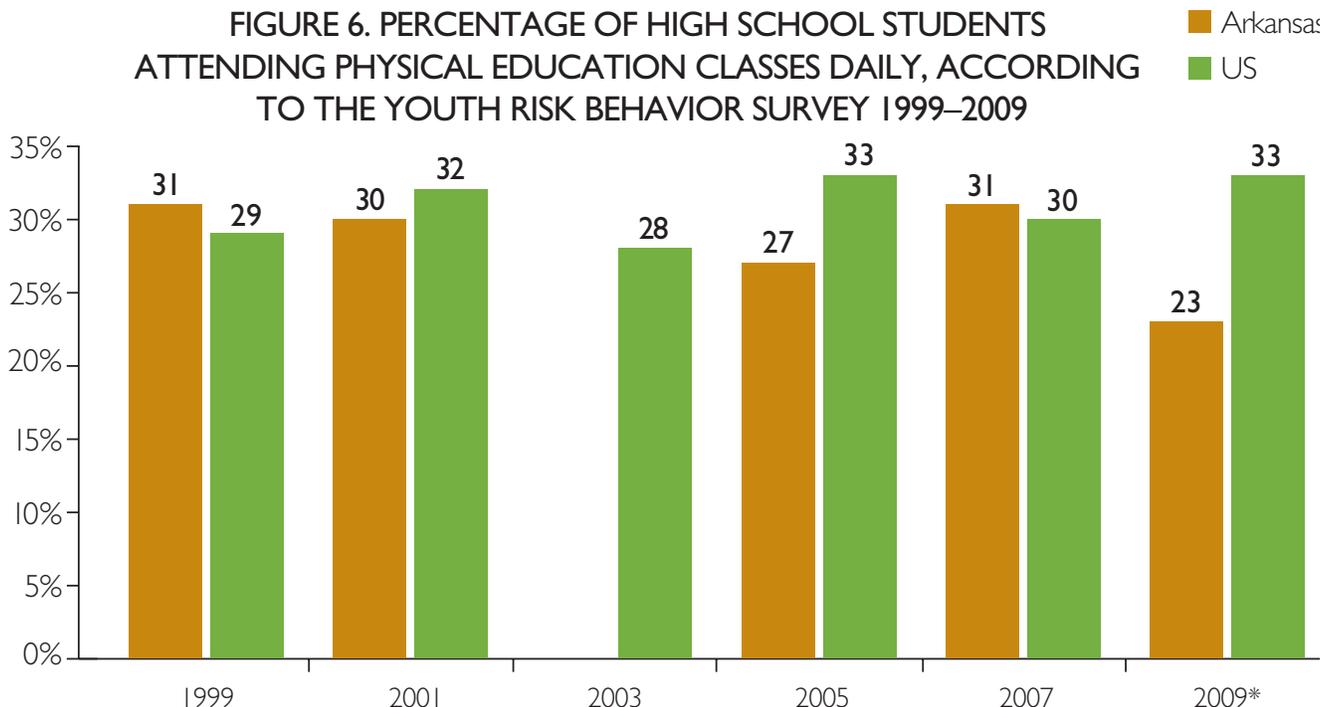
FIGURE 5. PERCENTAGE OF SCHOOL DISTRICTS REQUIRING OR RECOMMENDING THAT ELEMENTARY SCHOOLS PROVIDE STUDENTS WITH REGULARLY SCHEDULED RECESS



As part of the evaluation of the impact of Act 1220, findings from the biennial Youth Risk Behavior Survey (YRBS) 6 also are monitored. The YRBS, which is administered to a representative sample of high school students in each state, includes specific questions about dieting behaviors. According to the YRBS data presented in Figure 6, in 2009 the percentage of Arkansas students participating in daily physical education was significantly lower than in

the nation overall. In previous years, differences between the U.S. and Arkansas have not been statistically different. However, from 2007 to 2009, the percentage of US students reporting daily physical education rose somewhat, while the percentage of Arkansas students reporting daily physical education went down. Because of this, in 2009, for the first time, the difference between Arkansas and the U.S. overall was statistically significant ($p < .05$).

FIGURE 6. PERCENTAGE OF HIGH SCHOOL STUDENTS ATTENDING PHYSICAL EDUCATION CLASSES DAILY, ACCORDING TO THE YOUTH RISK BEHAVIOR SURVEY 1999–2009



Data not available for Arkansas in 2003. *Difference significant at $p < .05$

Parental preference for frequency of physical education classes

In 2009 and 2010, parents were asked how many days per week they believed students should attend physical education classes. As shown in Table 4, about three out of every four parents stated that children should get three or more days of physical education each week at every school level (elementary, middle, and high school). The percentages of parents preferring that students take PE three or more days per week has risen since 2009. Further, the majority of parents (54% to 59%) continue to prefer that students take physical education five days a week.

The percentage of parents preferring that students take PE three or more days per week has risen since 2009.

TABLE 4. PARENTAL PREFERENCE FOR PHYSICAL EDUCATION FREQUENCY

Days per week students should have physical education	Elementary School		Middle School		High School	
	2009	2010	2009	2010	2009	2010
0 – 2 days per week	24%	19%	20%	15%	26%	21%
3 or more days per week	75%	79%	79%	83%	70%	75%

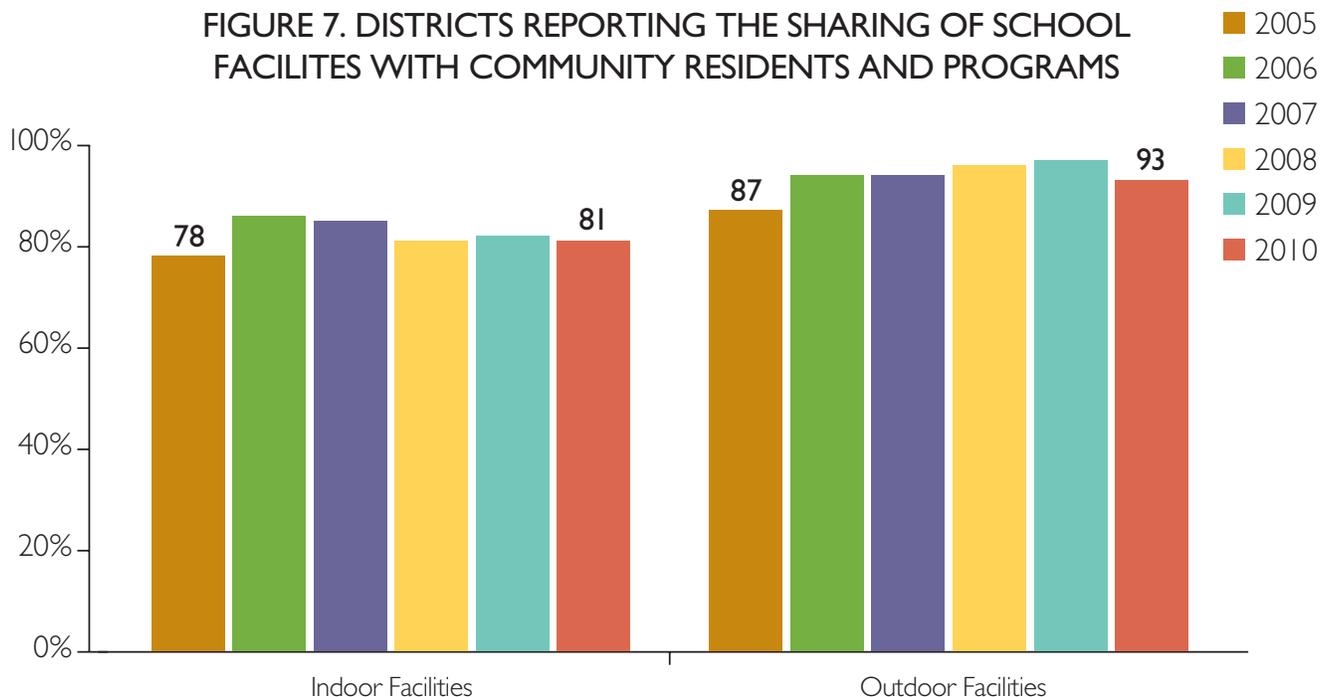
Comparison of 2009 to 2010 significant at: None of the statistical comparisons were significant.

Sharing physical activity facilities with the community

School districts have also been working to share physical activity facilities with community residents after school hours. Allowing community residents to use school facilities, such as tracks, ball fields and gyms, is one way to increase the availability of free, conveniently-located physical activity opportunities. Sharing of indoor facilities

rose from 78 percent in 2005 to a high of 86 percent in 2006, falling slightly over subsequent years to 81 percent in 2010. Districts are more likely to share outdoor facilities than indoor facilities because they are easier to maintain, more accessible and security is less of a concern (see Figure 7). Sharing of outdoor facilities increased from a low of 87 percent in 2005 to a high of 97 percent in 2009. In 2010, the percentage of shared-use outdoor facilities dropped slightly to 93 percent.

FIGURE 7. DISTRICTS REPORTING THE SHARING OF SCHOOL FACILITIES WITH COMMUNITY RESIDENTS AND PROGRAMS



Key informant interviews

Principals discussed a variety of physical activities being implemented within schools, including: archery, hunter education, walking clubs for students and parents, athlete-to-junior-student mentoring programs, intramural basketball and cheerleading, school-to-school run/walk mileage competitions, and Jump Rope for Heart. Both principals and superintendents supported the hiring of certified physical education teachers, expressing the belief that qualified teachers produce high-quality programs.

However, superintendents cited difficulties in finding personnel and adjusting budgets to accommodate the increased cost of salaries for certified instructors. Nearly all principals interviewed reported having had some difficulty providing daily physical activity time and meeting physical education requirements, given other educational demands, but they also indicated that they were working to find solutions. Limitations in physical facilities and staffing were cited as primary challenges. Superintendents differed in their opinions about lengthening the school day.

CHANGES IN KNOWLEDGE, BELIEFS AND BEHAVIOR AMONG PARENTS AND STUDENTS

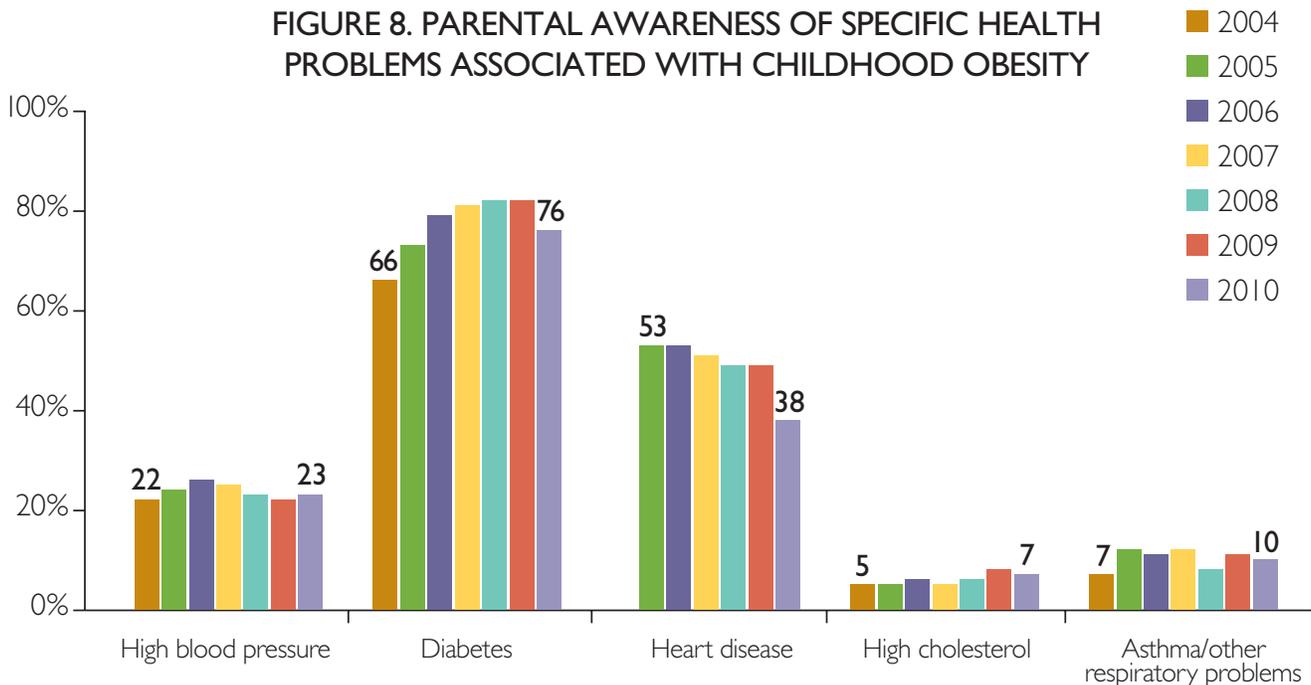
Since the passage of Act 1220, parental awareness of health problems associated with childhood obesity has increased. In 2010, 90 percent of parents said that obesity is a serious problem for the state. Further, 79 percent indicated they believe schools play an important role in combating childhood obesity.

Awareness of health risks

Parents continue to be aware of health risks, both short- and long-term, associated with childhood obesity. In each year since 2004, at least 95 percent of parents endorsed

the belief that overweight children were likely to develop one or more health problems. Similar proportions said they believed that overweight children were likely to become overweight adults. However, fewer parents than in previous years were able to name high blood pressure, diabetes, heart disease or respiratory conditions such as asthma as potential health risks related to obesity (see Figure 8).

FIGURE 8. PARENTAL AWARENESS OF SPECIFIC HEALTH PROBLEMS ASSOCIATED WITH CHILDHOOD OBESITY



Family changes in behavior

Overall, there continues to be little evidence that families are making substantial changes to improve their children's nutrition or increase their levels of physical activity. As shown in Table 5, there has been no significant change in the proportion of parents trying to limit family consumption of chips, sodas or sweets. There was, however, a reduction in the average number of times soda was served by families in the past month. Further, the proportion of parents reporting that their younger children (under age 14) drank no sodas on the previous day continues to increase.

The average number of times per week that parents modified recipes to make them healthier has not changed significantly over time. However, in 2010 parents reported adding fat (butter, margarine, oil, lard, bacon, fat-back or ham hocks) to vegetables less often than in any previous year.

In terms of physical activity, a number of changes reported in earlier years may be returning to baseline levels. For example, the proportion of parents reporting that they limit their child's screen time has fallen from a high of 75 percent in 2006 to 71 percent in 2010, a level that more closely approximates the baseline (2004) level of 72 percent. The percentage of parents limiting screen time in favor of physical activity (38%) has also declined, from 49 percent in 2009, but remains significantly higher than the baseline level of 33 percent reported in 2005. Similarly, the percentage of parents who reported requiring their children to remain inside after school rose to 9 percent in 2010, compared to 7 percent in the previous year and 11 percent in 2004.

TABLE 5. FAMILY NUTRITION AND PHYSICAL ACTIVITY BEHAVIORS

Behaviors	2004	2005	2006	2007	2008	2009	2010
Nutrition							
Trying to limit family consumption of chips, soda, or sweets	77%	80%	79%	83%	81%	81%	80%
Average number of times last month sodas served to family****	25.9	30.2	24.6	27.4	23.2	23.2	19.7
Younger child (≤ 13 years of age) drank no sodas yesterday****	44%	47%	48%	57%	53%	56%	57%
Adolescent (14+ years of age) drank no sodas yesterday	33%	39%	40%	37%	39%	42%	44%
Average number of times per week parent modified recipes to make them healthier	2.3	NA	2.5	2.7	2.3	2.1	2.4
Average number of times last month fat was added to vegetables when cooking****	18.7	14.5	16.4	16.2	13.9	15.0	12.1
Physical activity							
Limit child's screen time, including television, video games and internet	73%	71%	75%	74%	74%	71%	71%
To give more time for homework	NA	20%	20%	17%	20%	19%	23%
To give more time for physical activity*	NA	33%	37%	40%	47%	49%	38%
As punishment for bad behavior	NA	2%	2%	1%	<1%	<1%	<1%
Because of TV program content***	NA	8%	7%	6%	5%	3%	4%
To give more time for sleep	NA	6%	7%	4%	5%	4%	4%
Require child to stay inside after school rather than play outside	11%	10%	10%	9%	8%	7%	9%

Comparison of 2004 to 2010 significant at: *p≤ .05; **p≤ .01; *** p≤ .001; **** p≤ .0001

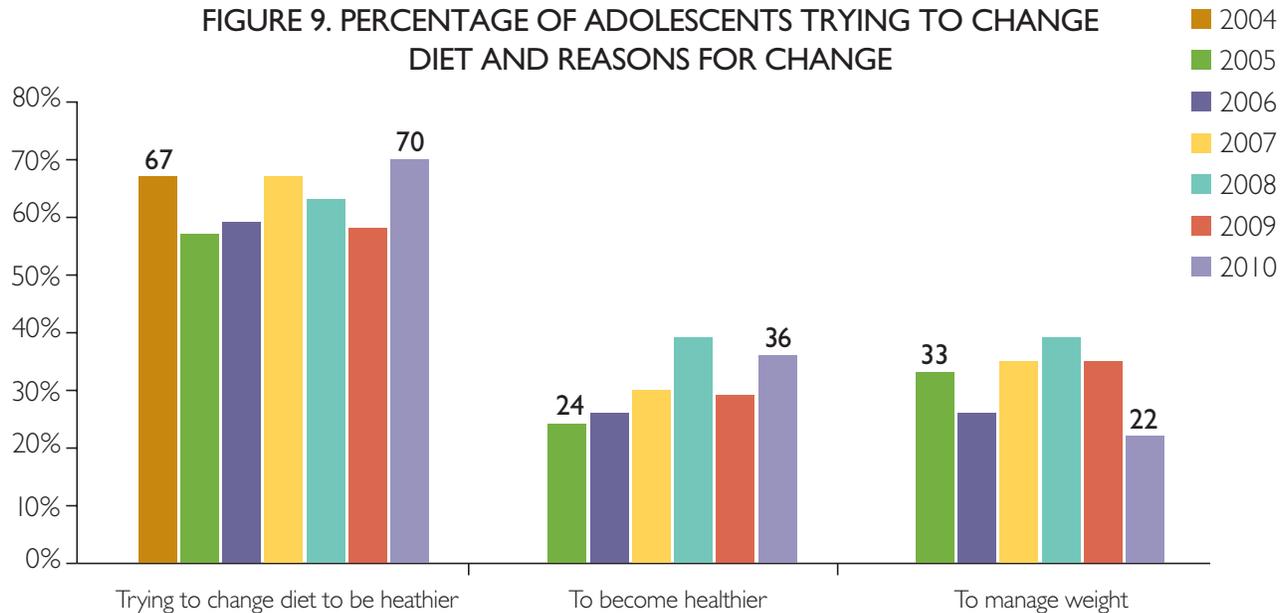
Principals continued to express concern about unhealthy items being brought from home.

Student behavior

While the percentage of adolescents trying to change their diet has fluctuated over the seven years since Act 1220 was

implemented, those trying to make changes have increasingly reported their motivation as improving their health rather than to trying to control weight (see Figure 9).

FIGURE 9. PERCENTAGE OF ADOLESCENTS TRYING TO CHANGE DIET AND REASONS FOR CHANGE



Policies regarding vending machine access and contents, along with messages about healthy eating, appear to be affecting student vending purchases at school. Average purchases per month from both beverage and food machines continue to decline, as do the percentages of students who report daily purchases from vending machines at school (see Table 6).

However, adolescents are not reporting any reduction in the frequency of visiting fast-food restaurants, nor are they reporting any reduction in overall soda consumption. In both 2004 and 2010 adolescents reporting drinking an average of one soda per day; however, the percentage of students reporting that they drank no sodas at all yesterday rose from 33 percent in 2004 to 44 percent in 2010.

TABLE 6. STUDENT REPORTS OF VENDING MACHINE ACCESS AND PURCHASE PATTERNS

Access or purchase pattern	2004	2005	2006	2007	2008	2009	2010
Vending machine available at school:							
Food machine	64%	58%	39%	31%	35%	23%	31%
Beverage machine	97%	94%	84%	75%	67%	61%	55%
Student purchases from food machines							
Average number of purchases per month	8.3	NA	2.5	4.0	4.7	3.8	3.5
Student made no purchase in past month***	28%	33%	59%	58%	54%	45%	56%
Student made daily purchases in past month	10%	5%	4%	11%	9%	6%	8%
Student purchases from beverage machines							
Average number of purchases per month****	9.2	NA	4.7	6.0	6.0	4.3	2.0
Student made no purchase in past month****	22%	29%	37%	34%	41%	50%	65%
Student made daily purchases in past month	23%	11%	10%	11%	14%	9%	3%

Comparison of 2004 to 2010 significant at: *p≤ .05; ** p≤01;*** p≤.001;**** p≤ .0001

KEY INFORMANT PERCEPTIONS OF ACT 1220, SCHOOL NUTRITION AND PHYSICAL ACTIVITY

As in previous years, representatives of key stakeholder groups—including school principals, school district superintendents, school nurses and staff of the Arkansas Departments of Health and Education—were interviewed to determine their perceptions of Act 1220 and its implementation to date. This year we also asked specific questions about the role of schools, the state and families in the control and prevention of childhood obesity. Key findings are summarized below.

Overall perception of Act 1220 of 2003 and its implementation to date

- Informants generally supported the overall effort underlying Act 1220. As stated by one informant, “I certainly think the Act has been the foundation for a new direction in terms of child nutrition, helping keep the focus on children being more active...overall, I think it has just created a focus that will lead to a much healthier child, healthier faculty, and healthier families.” However, informants also spoke of the many requirements imposed on schools and of the lack of funding that accompanied the Act and its ensuing regulations.
- While acknowledging the important role that schools play in combating childhood obesity, informants talked about the need to address the larger societal problems that contribute to the problem: poverty, access to healthy foods in communities, access to safe and affordable physical activity options, healthy options on restaurant menus, etc.
- Informants cited Act 1220 as important for making parents, schools and communities aware of childhood obesity as a serious problem in Arkansas and the nation.

Roles of schools, the state and parents

- Informants believed schools played a role in providing education regarding health and wellness for students and their families, and providing a healthy environment for good nutrition and physical activity. “The role of the school is to provide the ideal environment and educate students so they are able to make healthy choices regarding physical activity and nutrition,” said one informant. Others spoke of the importance of school staff being good role models for students in how to take care of one’s health. However, they felt strongly that changes in schools are not sufficient to achieve the desired changes in reducing childhood obesity rates.

- Informants believed the state has a role in establishing guidelines and regulations, monitoring compliance and providing funding to make changes possible. Said one informant, “The role of the state is to implement policy and ensure compliance [with] those regulations.”
- Informants believed the primary role of parents and families to be promoting children’s health, instilling values, and establishing habits of healthy eating and regular physical activity. They spoke of the need for parent involvement in the efforts of the school and for parent education regarding appropriate physical activity and strategies for healthy eating at home. One superintendent stated, “...the health of a child is a 24-hour process, every day, and [parents] have an enormous role to play. Schools can’t be successful, or certainly as successful as we would like to be, on our own...we just need to work together.”

Impact of and future directions for Act 1220 and obesity prevention efforts

- Informants generally cited increased awareness as the primary impact of Act 1220. Principals spoke of successes in meeting all of the requirements; state employees spoke of the changes in vending contents as an outcome of the Act; and informants from all groups expressed concern that there appeared to be a lack of impact on rates of childhood obesity.
- Future directions desired by informants included: greater parental involvement; the creation of wellness centers in more schools; more physical education and physical activity; and healthier choices in cafeterias. Superintendents raised the possibility of longer school days to ease scheduling problems.

MONITORING POTENTIALLY NEGATIVE OUTCOMES

As in previous years, we have continued to monitor rates of unhealthy diet and exercise behavior as well as rates of teasing to determine the extent to which students might be experiencing negative effects because of the increased emphasis on weight status. Two sources of data help us monitor these outcomes: our own evaluation data, summarized in Table 7, and data from the Youth Risk Behavior Survey administered by the Arkansas Department of Education, summarized in Table 8. Parent responses to the Act 1220 interviews about potential negative outcomes of the legislation are summarized in Table 9. As in previous years, we found no significant evidence of a negative impact on students.

As in previous years, we found no significant evidence of a negative impact on students.

TABLE 7. STUDENT REPORTS OF POSSIBLE RESPONSES TO ACT 1220

	2004	2005	2006	2007	2008	2009	2010
Concerned about weight	24%	29%	26%	25%	24%	21%	22%
Teasing because of weight	12%	9%	6%	12%	7%	5%	6%
Teasing for other reasons	21%	20%	20%	25%	16%	16%	14%
Gone on a diet	29%	23%	26%	27%	19%	20%	26%
Took diet pills	6%	5%	2%	5%	2%	2%	3%
Increased physical activity	60%	63%	63%	72%	58%	65%	63%

Comparison of 2004 to 2010 significant at: None of the statistical comparisons were significant.

TABLE 8. ARKANSAS STUDENT REPORTS OF WEIGHT CONTROL BEHAVIOR, YOUTH RISK BEHAVIOR SURVEY

	2001	2005*	2007	2009
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%
Took diet pills	12%	12%	8%	10%
Vomited or took laxatives	5%	9%	7%	9%

*Data for Arkansas for 2003 are not available.

TABLE 9. PARENTAL REPORTS OF POSSIBLE RESPONSES TO ACT 1220

	2004	2005	2006	2007	2008	2009	2010
Put child on diet****	9%	6%	6%	5%	6%	5%	5%
Gave child diet pills	<1%	<1%	1%	<1%	1%	<1%	<1%
Increased child's exercise or physical activity	28%	28%	29%	32%	35%	31%	32%
Signed child up for sports or exercise classes	42%	40%	45%	48%	49%	53%	45%

Comparison of 2004 to 2010 significant at: *p< .05; ** p<01;*** p<0.001;**** p< .0001

ARKANSAS PHYSICIANS SURVEY

In 2010, community-based physicians (family practitioners, general practice physicians and pediatricians) were surveyed to gauge their current opinions and practices regarding childhood obesity. This survey was undertaken only in 2010, so that we could more fully understand how physicians now view their role in controlling childhood obesity, after seven years of implementing Act 1220. A total of 304 physicians returned the survey, 17 percent of those to whom the survey was distributed. The majority were family practice physicians (54%) or pediatricians (35%) who had been in practice for 15 or more years (58%). Key findings from this survey include:

- **Physicians are not participating in training on nutrition, weight management, or related topics.** Only 15 percent reported having received such training within the past year.
- **Physicians agree that BMI percentiles are a useful tool for evaluating a child’s weight.** The majority (76%) reported that in their practices a child’s height and weight are always (40%) or often (36%) plotted to

growth charts. However, only 34 percent reported that such plotting takes place at every visit.

- **Physicians generally believe they have the necessary training and skills to counsel children and parents about child weight.** In this survey, 82 percent agreed with that statement. However, only 43 percent said they had the time to provide such counseling.
- **Physicians believe that reimbursement would increase the amount of time devoted to weight counseling for children and parents.** Three of every four respondents agreed (47%) or strongly agreed (30%) with that statement.
- **Physicians do not have consistent access to dieticians and/or nutritional specialists for patient referral.** Approximately a third (34%) of these physicians said they did not have access to such services.
- **While parents may express concern about their child’s weight status, they do not frequently ask physicians for advice about diets or other weight control treatments** (see Table 10).

TABLE 10. PHYSICIAN REPORTS OF PARENTAL INQUIRIES REGARDING CHILD WEIGHT AND WEIGHT CONTROL

How often within the past year has a...	Never	Rarely	Occasionally	Frequently
Parent expressed concern about the child:				
Being overweight or obese?	3%	16%	60%	21%
Having an eating disorder?	22%	54%	22%	2%
Parent asked questions about:				
The child’s diet?	4%	27%	40%	29%
The child’s physical activity and exercise?	6%	38%	44%	12%
The use of herbal supplements for weight loss?	38%	42%	17%	3%
The use of over-the-counter weight loss medications?	36%	45%	19%	1%
Parent requested:				
Referral to weight loss program or dietician for the child?	25%	44%	29%	2%
Prescription for weight loss medication for child?	49%	38%	12%	1%

In addition to physician involvement in childhood obesity prevention efforts, Arkansas has numerous state and local coalitions and programs involved in actions aimed at increasing access to healthy foods and opportunities for physical activity.

Physicians are not participating in training on nutrition, weight management, or related topics.

NUTRITION AND PHYSICAL ACTIVITY EFFORTS TO COMBAT CHILDHOOD OBESITY IN ARKANSAS

Efforts to reduce obesity, particularly among children, continue on many levels across the state. Public agencies support the work of local schools, partnerships, communities and cities as they press ahead with actions in and around public schools to encourage healthy eating and activity in Arkansas. Some of these efforts are outlined briefly below.

- **Coordinated School Health (CSH).** In 2010, 40 school districts received funding through the CSH program of the Arkansas Department of Education (ADE). The CSH model is composed of eight elements, focused on the overall health and well-being of children in the schools. Arkansas CSH school activities included many new local programs, as well as increased use of existing physical and health education curricula. The CSH model is becoming popular and widely adopted in Arkansas schools. Although CSH does distribute grant funding to support physical activity and nutrition improvements in schools, that funding is limited, with no additional funds being added each year. In the most recent year, grant funds were made available to establish wellness centers; school garden programs; joint-use partnerships with schools and local businesses, agencies or other 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's federally funded Safe Routes to School (SRTS) program has awarded SRTS funding in 2007, 2008 and 2010. A fourth application cycle is planned for 2011. With more than ten community partners working to make walking or biking to school safe and fun for students, Safe Routes continue 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 a historical review of Act 1220 and its effects as well as ideas and strategies for better nutrition and increased activity in schools.
- The **Child Health Advisory Committee (CHAC)** continued its work in 2010, making additional recommendations to the Departments of Health and Education. Consistent with the earlier move to focus on nutrition and physical activity in the context of CSH initiatives, recommendations were made in each of the CSH 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:
 - *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 for facility improvement, requiring that designated physical activity facilities must be included in schools

to be 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 à la carte lines offering entrée items meet the requirements of a reimbursable meal, and that fundraisers for school organizations consist only of non-food or healthy food items;
 - *Strengthening nutrition policies in schools* by requiring 20 minutes of seated time for lunch and 30 minutes of serving time for breakfast, and restricting food and beverage industry signage;
 - *Improving cafeteria settings and offerings* by requiring that schools built after 2015 with a capacity of 350 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.
- The University of Arkansas for Medical Sciences Fay W. Boozman College of Public Health 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 ARPRC 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 Arkansas Department of Health. 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 saw an increased effort to improve the health environment of these pre-schools.

CONCLUSIONS AND NEXT STEPS

Our understanding of how school environments are being impacted by the implementation of Act 1220 and associated initiatives continues to evolve, as does our understanding of the impact of those initiatives on student and family behaviors that may also influence a child's weight. Much work remains to assess the complex interactions among individual, family, school, neighborhood and community factors, and their combined impact on childhood obesity. Our findings to date, however, suggest two important lessons. Those seeking to change the trajectory of the childhood obesity epidemic in their states and communities through school-based initiatives should:

- **consider long-term strategies as well as short-term approaches;**
- **address the complex context (i.e., the education system) within which changes are focused;**
- **understand the competing challenges at work within that system; and**
- **address barriers that may affect the success of the implementation.**

Our work to understand these complex interactions and their effect on efforts to help all students achieve and maintain a healthy weight will continue in the coming year.