Fit not Fat

Helping Arkansas Children Eat Healthy and Move More

A Report by Arkansas Advocates for Children and Families • 2008

Acknowledgements

This report was prepared for Arkansas Advocates for Children and Families (AACF) by Sandra Miller, ComMetrics, Inc, with direction from Rhonda Sanders, Arkansas Hunger Relief Alliance, and Elisabeth Wright Burak of AACF. Pat Crowder, Ben Olson, Lydia Dunlap and Jennifer Gregory provided research support by developing maps and tables and assisting with interviews. Members of the project's advisory committee and additional organizational partners (listed in appendix) offered insightful guidance on project design and several also provided insightful advice on earlier drafts of this report. The project would not be possible without the valuable perspectives of the community leaders and program administrators across the state who work hard on behalf of Arkansas children every day. The project team thanks those interviewed (listed in appendix) and survey respondents for taking the time to share their experiences. This report and accompanying tools were made possible with financing from the Blue & You Foundation for a Healthier Arkansas and Arkansas Children's Hospital. AACF and the author thank them for their generous support.

Fit not Fat

Helping Arkansas Children Eat Healthy and Move More

Nearly two out of every five Arkansas school-age children are overweight or at risk of becoming overweight[1]. Obesity among children and adults has been increasing across the United States since the mid-1970s,[2] including in Arkansas, which has consistently ranked above the national average. While it appears that the growth of child obesity is beginning to slow in Arkansas,[3] it is still too high.

Many Arkansas schools and communities are working to promote healthy food choices and increase physical activity. *Fit Not Fat: Helping Arkansas Children Eat Healthy and Move More*, along with a new web site, www.changingchildobesity.org, provide a starting place for collecting and analyzing information on what schools and communities are doing and how effective their efforts are. This report concentrates on lessons learned and what policy-makers, funders and program administrators can do to support and expand local efforts while making them more effective.

Do what you can, with what
you have, where you are.
— **Theodore Roosevelt**

Lessons Learned: Summary

1: Focus on fitness and overall health. Repeatedly, programs have focused on obesity rather than overall health and fitness.

2: Strengthen existing infrastructure. The Child Health Advisory Committee, school wellness committees, and Coordinated School Health project, among other agency initiatives, provide the foundation for a successful system that supports schools and other community partners in efforts to address child and youth fitness.

3: Support local implementation. Many opportunities exist to guide local efforts. Arkansas leaders can:

- Improve coordination of government, university and nonprofit programs.
- Identify and promote best practices for local use.
- Recognize innovation and effective use of best practices.
- Provide timely, effective training and education for program staff.
- Establish a peer-review process for grant proposals to promote exchange of ideas.
- Start pilot projects to test new approaches and inform others.
- Reduce burdens on schools and other community partners.
- Provide incentives and disincentives for successful programs.
- Develop effective, ongoing and consistent communication within and between state and local leaders.
- Encourage new state and local partners to advocate for healthy behaviors.

4: Promote high quality and new approaches to learning. Among people who develop programs, the adage goes "it's not what you do; it's how you do it." Many communities are approaching nutrition and physical activity in new ways by:

- Integrating fitness and learning.
- Motivating students with regular feedback.
- Making nutrition education hands-on.
- Involving students in meal decisions.

5: Start early. Overweight children[4] ages 2 to 5 are more than four times as likely to become overweight adults as their normal weight peers.[5] Many preschool and child care programs in Arkansas are working to catch children early to promote good choices that can lead to lifelong fitness.

6: Assess community structure and resources. Every community is different, so community-specific approaches are needed to promote healthy eating and increase physical activity. When developing new programs, local resources and circumstances must guide the design of programs to make the best impact.

7: Expand after-school and summer activities. After school and summer options can play an important role in promoting healthy behaviors, especially by providing physical activity that entices children away from televisions and computers.

8: Involve the broader community. Schools engage parents and the community through many events and activities. Whether tapped for their special expertise, the services they offer or their enthusiasm, few community leaders resist when asked to get involved in their schools. In particular, local medical providers can offer expertise and resources, while health programs reinforce messages to families about eating healthy and moving more.

9: Celebrate success. Sustaining current efforts will require a cadre of enthusiastic, highly motivated individuals with a passion for infusing children with the knowledge, skills and desire to eat healthy and live an active life. Even the most zealous visionaries need evidence in order to sustain enthusiasm. Even the smallest results give hope to these critical champions. Similarly, students and their parents also need encouragement that gives hope.

Next Steps

Revisit the role and priorities of the Child Health Advisory Committee. The CHAC should use its existing authority to coordinate an effective state-wide system of local support. CHAC should have a more diverse membership, geographically. The Arkansas Legislature should expand the CHAC's work to include licensed child care and early childhood programs for children ages 3 to 5.

Strengthen relationships among wellness committees, wellness priorities and Coordinated School Health. The Arkansas departments of education and health, in collaboration with CHAC, should clarify policies about how wellness committees, wellness priorities and the Coordinated School Health effort work together. CHAC should periodically survey wellness committee members to determine whether they believe they are contributing in a meaningful way.

Expand Coordinated School Health to offer additional support to schools. CHAC should evaluate Coordinated School Health pilot schools and districts and issue recommendations on a strategy to 1) expand the model statewide, 2) improve implementation of the model so that it addresses the wellness needs of the whole child and 3) monitor process and outcome measures. CHAC recommendations should be based on contributions from school administrators, wellness committees, teachers, school nurses, school counselors, parents and students.

Invest in quality physical education. Nutrition has been much of the focus of efforts in Arkansas to combat child obesity. Now that there is widespread use of the more measurable elements of Act 1220, policy-makers, funders, school administrators, teaching universities, education cooperatives, local governments and community leaders should make use of high-quality physical education a priority. State and private funders should target implementation grants for quality physical education in schools and communities with the greatest need and willingness to make a long-term commitment.

Use opportunities outside the school day to promote wellness. After-school and summer programs are a natural place to gather schools, families, and other community partners around to support child wellness. State officials and community leaders should look for opportunities outside the regular school day to get kids more active and reinforce lessons about healthy behaviors. For example, communities could keep schools and gyms open after normal hours to provide space for programs and bring community partners together.

A symptom of an unhealthy lifestyle

Overweight children are almost twice as likely to become overweight adults than are children of normal weight. While some overweight children will grow up to be of average weight, a staggering 70 percent of obese adolescents grow up to become obese adults.[6] Few adults can maintain substantial weight loss. For the purposes of this report, "overweight" refers both to children who are overweight and to those at risk of becoming overweight.

Overweight adolescents are more than twice as likely to have a high total cholesterol level and are far more likely to exhibit cardiovascular risk factors compared to normal weight adolescents.[7] Successful prevention and treatment of obesity in early childhood can reduce the adult incidence of cardiovascular disease, hypertension, Type 2 diabetes, cancer, osteoporosis and other chronic diseases.

Chronic diseases related to adult obesity increase absenteeism, drive up health insurance costs, reduce productivity and can create a need for additional money for Medicaid and disability claims. The message is clear. Prevention of early childhood obesity is the key to stem the epidemic of obesity and perhaps even chronic illnesses for Arkansans of all ages.

Many intertwined factors affect children's decisions about food and activity. Young people are affected by what's going on in their lives at home, at school, in the community and in the media. Developmental stages, social well-being, decision-making skills and genetics are also influences. Moreover, government and corporate decisions far removed from the child also shape his or her decision-making. It is in this context that Arkansas Advocates for Children and Families approaches this project.

Lessons Learned: In Depth

Most Arkansas schools and communities are doing what they can with what they have where they are. While many are using evidence-based curricula, methods or practices,[8] few schools and communities have the human or financial resources for model programs. When evidence-based programs are implemented, schools and communities adapt the materials and methods based on local needs, time, people and financial resources available. Few are implemented exactly as recommended or under the same conditions as those used in research studies. As a result, outcomes may differ. Few studies capture important qualitative factors that may affect outcomes, such as individual and institutional leadership, individual motivation and goals, community demographics or the capacity of local governments and organizations.

When schools and communities are doing the best they can given available resources, it is useful to identify their experience as a starting place to examine factors that affect long-term success. These factors may include: the mix of school and community activities; intensity, duration and frequency of time devoted to activities; integration of messages between school and community or curricula; coordination of approaches and activities across age groups; administrative and community support; leadership and motivation; community infrastructure; partnerships; and a host of other elements. Despite a lack of more in-depth implementation information, schools and communities continue to promote healthy eating and increased physical activity given what they know today. The following lessons learned are based on analysis, observation and interviews with Arkansans across the state. Additional information can be found at www.changingchildobesity.org.

1: Focus On Fitness and Overall Health

Child obesity is a symptom of unhealthy habits. Repeatedly, programs have focused on obesity rather than overall fitness.

A pediatrician interviewed for this report said: "It's about being fit, not about being fat." The physician, who volunteers at Elkins Elementary School in Washington County, explained how he didn't get the response he hoped for when he first talked to teachers and parents about an obesity intervention and prevention program.

"Basically, they rolled their eyes," he said. "You could almost hear them saying to themselves, 'yeah right.' It was only when we focused on the fitness of the whole child that they showed an interest. They want to work toward something positive and measurable. A parent can't measure the weight their child didn't gain. They can measure fitness."

In visits with schools and communities across the state, teachers and others who work directly with children advised them not to focus on obesity. Each person said it differently: "Focus on the whole child!" "Don't further stigmatize children who already feel marginalized. Give them healthy food to eat and give them fun physical activities where they can forget about what their friends think about them." "Get them fit and eating healthy, and they will grow out of their weight problem."

2: Strengthen Existing Infrastructure

Arkansas General Assembly Act 1220 of 2003, amended,[9] has drastically changed the environment in which agencies, schools and communities address childhood obesity. The Child Health Advisory Committee[10] (CHAC) has broad authority to guide policy and use of children's health programs, including obesity. CHAC recommended school wellness requirements to the Arkansas Department of Education (ADE) and Arkansas Department of Health (ADH).[11] After its initial recommendations, CHAC elected to wait before making additional recommendations to give the initial standards time to be implemented and evaluated. Act 1220 also authorized CHAC to develop implementation systems, monitor use and report outcomes. The 2007 General Assembly charged CHAC with examining progress of the Coordinated School Health (CSH) program as well.

In response to the CHAC recommendations, ADE, in consultation with ADH, developed a five-part wellness policy.[12] The policy requires "wellness committees"[13] to provide community input and oversight, as well as a process for establishing and reporting on wellness priorities.[14] In addition, a grant-funded Coordinated School Health[15] pilot project offers an expanded base for pilot communities. The CHAC, wellness committees and Coordinated School Health pilot sites provide a foundation for a system of planning, use and reporting using schools as the place where programs and services are delivered.

Community Input and Involvement through Wellness Committees. Nutrition and Physical Activity Advisory Committees (wellness committees) in schools assist in raising awareness and engaging the community, developing local policies consistent with state and federal policies, integrating nutrition and physical activity into the curriculum, ensuring a healthful level of vigorous

physical activity, enforcing physical education requirements, ensuring professional development and securing vending contracts that provide healthy food. Wellness committees have the potential to provide critical community input into wellness priorities developed by administrators and to serve as the mechanism to involve family and community in Coordinated School Health efforts.

Local Goal Setting, Monitoring and Reporting. The state requires districts to measure their progress in a number of ways. The Arkansas Department of Education elected to integrate wellness priorities into the annual school planning and reporting process, called the Arkansas Consolidated School Improvement Program (ACSIP).[16] That eased some of the burden on schools in meeting Act 1220 requirements. Wellness goals and objectives must be evidence-based. As a primary tool to collect evidence for setting goals and objectives, ADE requires schools to conduct the School Health Index (an eight-component self-evaluation), review Body Mass Index (BMI) results and consider other reliable data sources such as the Youth Behavioral Risk Assessment.[17] The ADE Children's Nutrition Unit reviews the school nutrition portion of the ACSIP plans to ensure compliance with state and federal regulations, partially due to explicit federal requirements around nutrition planning. Currently, ACSIP goals and objectives related to wellness priorities other than nutrition do not appear to be systematically monitored or reviewed. Further, for schools participating in and supported by Coordinated School Health, it is unclear how and where the ACSIP wellness priorities are aligned.

Coordinated School Health Pilots. Healthy children learn better. The approach of Coordinated School Health (CSH) provides many Arkansas schools with resources to expand partnerships that address student health. CHS, jointly administered by the departments of education and health, is endorsed and financed by the federal Centers for Disease Control (CDC) and state

tobacco dollars. The CSH approach seeks to integrate the needs of children and their families in eight areas: (1) school health and safety policies and environment, (2) health education, (3) physical education and other physical activity programs, (4) nutrition services, (5) health services, (6) counseling, psychological, and social services, (7) health promotion for staff, and (8) family and community involvement. Twenty-nine Arkansas school districts are piloting the CSH approach either at the district level or within a school. Each site develops its own approach and has the flexibility to set its own priorities. Arkansas can promote best practices from lessons learned in the more comprehensive CSH to help pilots and other communities maximize school-community partnerships that improve children's overall health.

3: Support Local Implementation

The current commitment of several institutions and groups marks a critical window of opportunity to coordinate state and local efforts. Existing structures provide a strong foundation from which to expand partnerships and programs, integrate activities, and strengthen partnerships at the state and local levels. But success cannot be achieved without focus on sustainability. Arkansas's developing system of combating childhood obesity is mostly grant funded, leaving it vulnerable to changing state, federal and private foundation priorities. Except for those defined in Act 1220, the roles and responsibilities of institutions promoting healthy food choices and increased physical activity are restricted by their capacity to compete for grants and hire staff.

Opportunities to Support Local Implementation.

Act 1220 focuses on the role of schools in reducing childhood obesity. In its initial recommendations, CHAC recommended a regulatory approach in areas that affect food choices and physical activity. Under the new requirements, schools have limited access to vending machines, improved the quality of school lunches, required nutrition education and hired certified teachers to lead physical education classes. These changes were well-documented[18] in evaluations conducted by the Fay W. Boozman School of Public Health (COPH)[19] at the University of Arkansas for Medical Sciences. The report notes that there were no significant changes in the average length of a physical education class and students were no more likely to report participating in a physical education class three or more days a week. Fitness requires physical activity, not only in school but also after school and during the summer.

Arkansas agency leaders, in conjunction with CHAC and related groups, should consider the following ideas to support local implementation efforts:

Improve coordination of government, university and nonprofit programs. Make CHAC the statewide coordinating body to support local implementation and accountability for efforts around improving nutrition and activity in schools and communities. This will help distribute correct and helpful information in a timely manner.

Identify and promote best practice options for local use. Develop and provide "how-to" guidelines for implementing the best practices of the CSH effort in additional communities. School staff should have incentives for participating in quality physical education training.

Recognize innovation and effective use of best practices. Create new ways to promote peer-to-peer and school-to-school sharing. Recognize innovative approaches. Consider different types of opportunities and challenges faced by schools and communities of different sizes and capacities that do good work.

Provide timely, effective training and education focused on best practices. Expand training for quality physical education. Provide tools such as equipment and activity sheets to help apply lessons learned in training. Engage local governments, health providers, places of worship and community-based organizations to share the best ways to expand opportunities for physical activity. Employ train-the-trainer models to expand local training opportunities and minimize the number of untested programs started around the state.

Implement peer review processes. Include schools and communities in grant proposal review processes. Conduct annual peer review to exchange ideas. Make grant proposals, progress reports and final reports available on the Internet.

Implement pilot projects and use their experiences to inform others. Invite pilot sites to host visitors and speak at regional and statewide meetings. Make project documents available on the Internet. Require pilot sites to share results for evaluation. Support development of case studies or other research that can enable others to learn from experiences.

Strengthen and improve systems that reduce burden on schools and other community partners. Revisit teacher training at Arkansas universities to support quality physical education and other best practices. Further integrate curriculum frameworks across health, nutrition, and physical education. Provide training and tools to help districts evaluate student fitness. Create systems to more effectively link local health providers, community-based organizations, local government and schools.

Provide incentives (and disincentives) for implementation. Allow school districts to spend more on competitive supports after meeting goals such as increasing the percent of students in grades nine through 12 who take elective PE classes or evaluating the fitness of all students in grades four through eight.

Develop effective, ongoing and consistent communication within and between state and local leaders. Use web conferencing to substitute for face-to-face meetings/training when possible. Make websites more useful and user-friendly. Integrate common content and scheduling of summer conferences for school nurses, staff involved in the Coordinated School Health effort, health teachers, family and consumer science teachers, and others to model and promote integration.

Engage new state and local partners to advocate for healthy behaviors. Strengthen involvement of already-engaged associations. Reach out to new associations, such as Arkansas Municipal League, Arkansas Association of Parks and Recreation Directors, Arkansas Out-of-School Network, statewide associations of faith groups. Develop an effective public education campaign.

4: Promote High Quality and New Approaches to Learning

The adage goes "it's not what you do; it's how you do it." Imagine two scenarios: An overworked teacher skeptical that a few nutrition education lessons will change what his students eat throws a nutrition education video into the VCR. Alternatively, imagine a simple science experiment where a student sees first-hand the difference between eating high-sugar foods and complex carbohydrates using test tubes, balloons yeast, corn syrup and corn starch.

The second scenario is a real experiment and is part of the ICAN curriculum developed by an Elkins PE teacher and a Northwest Arkansas pediatrician. Elkins Elementary School uses this experiment in fourth- and fifth-grade science classes.

Integrate fitness and learning. Fitness and learning go hand-in-hand. Analysis of Arkansas BMI results and measures of academic performance indicates a strong relationship. Other researchers have found the same association.[21]

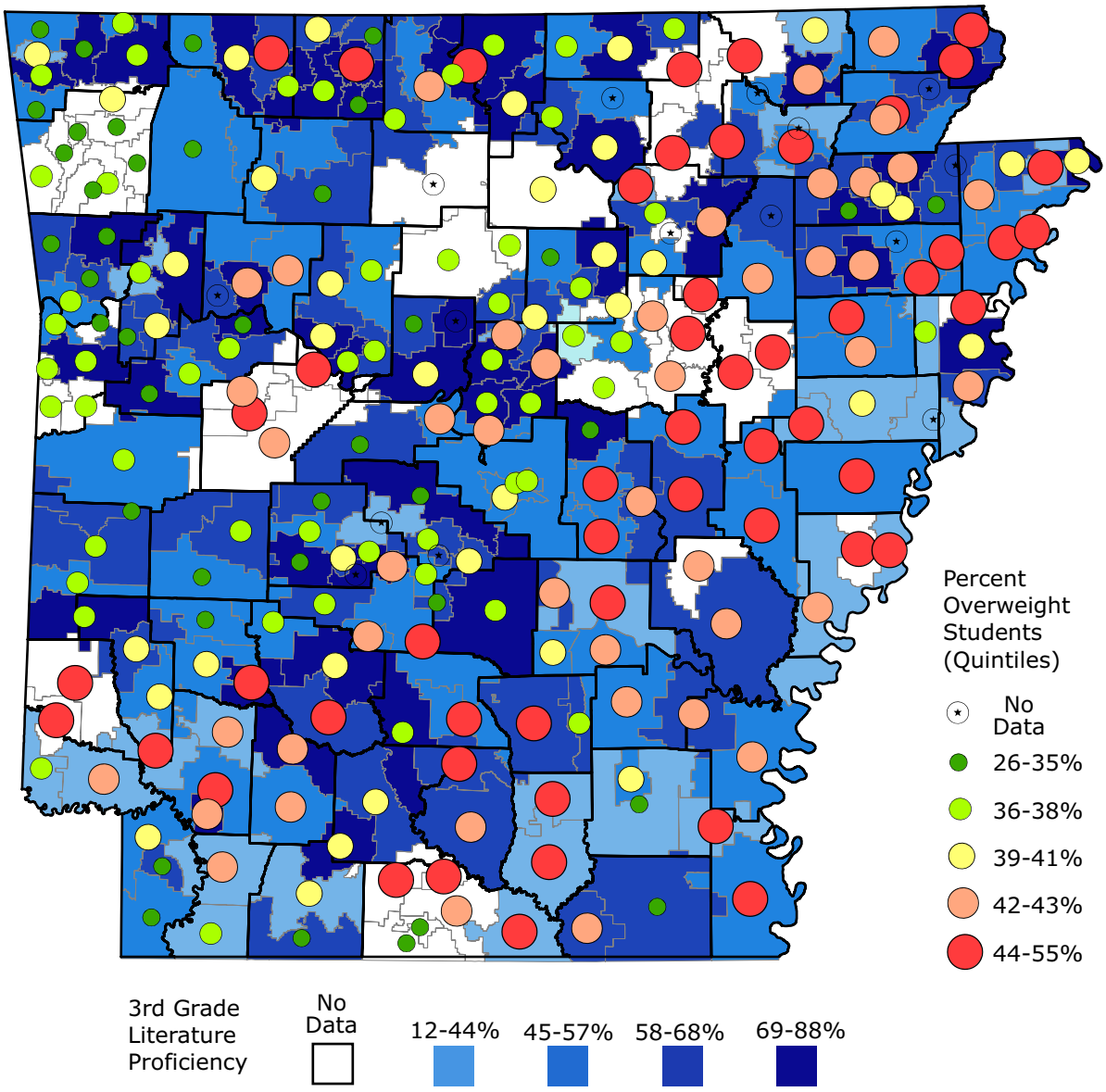
District Rankings by Student Obesity	2006-2007 Average Overweight Children (%)	3rd Grade Proficient & Advanced Literacy (%)	3rd Grade Proficient & Advanced Math (%)
Highest 20%	45.7	52.3	69.5
Second Highest 20%	41.7	56.9	75.4
Middle 20%	39.6	59.6	76.3
Fourth 20%	36.8	61.0	77.2
Lowest 20%	31.6	63.2	80.5
	Correlation	-96.2%	-95.8%
	Standard deviation	4.2	4

Sources: Arkansas Center for Health Improvement, Arkansas Department of Education

This relationship does not provide evidence of causation, only that high BMI and low academic performance are highly correlated. Overweight children may be more likely to struggle academically. Students that do well academically may be more likely to make healthy choices.

It is more likely that the link between weight and academic performance is not so direct. A study by the California Department of Education found a strong relationship between fitness – cardiovascular, strength, endurance and flexibility – and benchmark scores.[22] Fit students are less likely to be overweight. The study also cited studies showing poverty, overall health and psychosocial dysfunction also are related to academic performance.

Some Arkansas educators are not waiting for proof of the link. They cite the book *SPARK: The Revolutionary New Science of Exercise and the Brain,*[23] and are expanding and improving the quality



of their fitness programs on the assumption that improved fitness leads to improved academic performance. These educators report greater emphasis on physical activity and fitness also improves self esteem, coping skills and behavior both in the classroom and during free time.

Schools that explicitly link fitness and academics are likely to use evidence-based programs such as PE4Life, CATCH or SPARK. Kim Mason of the Rogers School District said PE4Life is not a curriculum; it's a philosophy. Coach Jackson, who uses SPARK at Anderson Elementary School, said "You have to believe in what you're doing to make the approach work. You have to be enthusiastic."

Use quality physical education to get kids active for life. Quality physical education programs positively impact students' physical, social, and mental health. Implemented effectively, they demonstrate the relationship between physical activity and fitness (and overall health) and equip students to choose a physically active lifestyle.

The National Association for Sport & Physical Education (NASPE) defines the elements of a quality physical education program in detail.[24] The amount of time devoted to physical education is one element of the NASPE definition. However, expanding the required amount of time devoted to physical education without addressing overall quality is not likely to improve fitness nor inspire a lifelong love of physical activity.

Quality physical education includes many elements highlighted in this report. For example:

- Activities are structured to develop a lifelong love of movement.
- Every child is active during the entire class period.
- Students are given an ever-increasing range of activity options as they get older.
- Students set and monitor individual goals.
- Traditional sports are adjusted to be noncompetitive and involve everyone, such as 3-on-3 games and points awarded not only for goals but also for working in target heart rate.
- Lifestyle activities are emphasized equally with more traditional sports such as biking, gardening, extreme Frisbee and dance.
- Frequent feedback to students links choices to results such as goal setting, fitness evaluation, heart-rate monitors, pedometers and self-monitoring.
- Students rotate among activities in a class period.
- Students learn individual and group responsibility by maintaining their individual files, setting up equipment for rotations and monitoring safety and discipline.
- Activities are designed so students switch between moderate and strenuous activity several times in a class period.

At Anderson Elementary School in Crossett, the PE teacher decided something had to change a few years ago. She sought financing from the community foundation and introduced SPARK in grades kindergarten through five. The program was expanded to pre-kindergarten a year later. The Crossett School District superintendent reports that the program will be expanded through eighth grade in the 2008-09 school year.

In addition to developing quality physical education that links fitness and academics, educators are incorporating movement into the classroom as well. “Take 10,” a set of short stories that students creatively act out, is widely used across the state. Teachers at Matthias Elementary School competed for time using the Action Learning Lab during benchmark testing. The short physical activity break increased students’ attention to detail during long days of testing. At Gentry Intermediate School, students and staff meet in the morning in the student center for 5 to 10 minutes of Brain Gym. The principal says, “It is something to see! Our teachers also do Brain Gym with their students in the classroom whenever the kids seem to be losing focus.”

Quality extends beyond the classroom. In quality physical education, PE teachers often act as activity director organizing before- and after-school activities. Eagle Mountain Magnet School in Batesville is an example of this coordination role. Using anyone who has skills and loves children, the PE teacher organizes an array of physical activity clubs and classes before and after school.

Motivate Students with Regular Results Updates. A Rogers School District middle school PE teacher explains that students are much more motivated when they see a direct link between their physical activity and measurable improvements in fitness.

One or more schools in 87 school districts have either purchased FitnessGram or registered to use the President's Physical Fitness Challenge since 2000. These fitness evaluations measure strength, endurance, cardiovascular health and flexibility, giving parents and students in schools that evaluate fitness at the beginning and end of the year tangible feedback on whether their efforts are making a difference in the short-run. A Rogers School District analysis indicates students may show significant improvements in fitness but no change in BMI, which is a good result for normal weight children but can confuse students accustomed to measurements that change. Most PE4Life schools also use individual goal-setting and classroom sets of heart-rate monitors to provide students with immediate feedback on whether their physical activity is making them more fit.

Clubs and Activities
Eagle Mountain Magnet Elementary School
Batesville, Arkansas

Gymnastics – Three classes are taught by a coach from Stars and Stripes, a local private gym.

Feelin' Good Mileage Club – Students walk or jog the perimeter of the playground during recess to earn tokens.

Yoga for Kids – Students learn developmentally appropriate yoga.

Jump Rope Team – The team performs at basketball games, community events and an annual showcase. Students learn basic, intermediate and advanced jump-rope skills for individuals and partners.

Biking Adventure – Students ride pioneer bicycles around a course to exhibit safe biking practices.

Little Dribblers –The first and second graders practice ball-handling and dribbling skills for use in half-time performances. The third, fourth, and fifth grade students practice basketball skills in preparation for scrimmages.

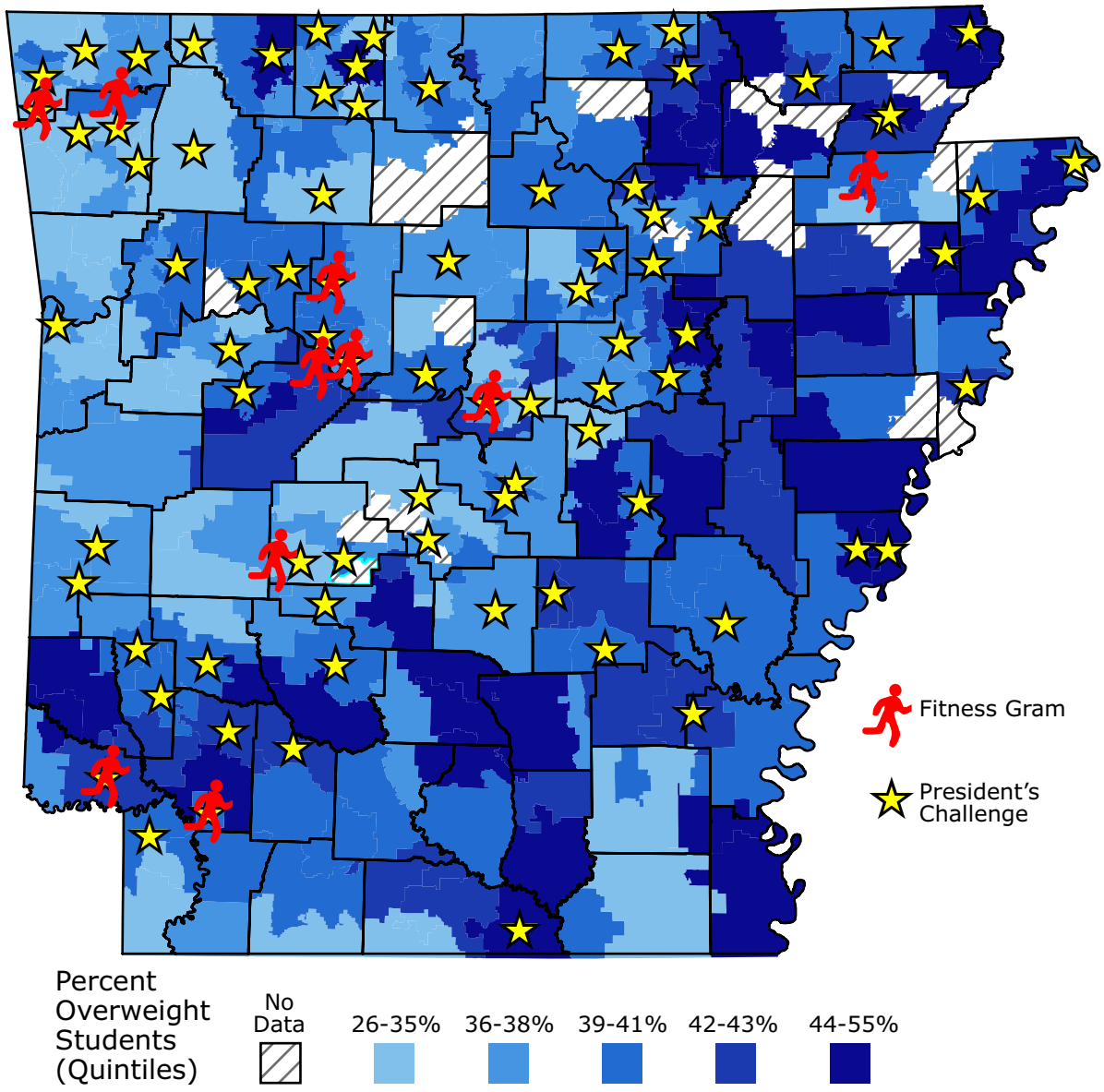
Extreme Team – Students pursue ultimate fitness, similar to Reserve Officer Training Corps (ROTC).

International Dance – Students learn traditional Hawaiian and Mexican dances.

Healthy Cooking Class – Students learn to prepare affordable healthy meals and nutritional value of the foods.

M.A.S.H. – Students get an in-depth study of the human body.

Average Percent Overweight Students by Quintile in 2006-2007 Compared to Schools With FitnessGram™ or President Physical Fitness Challenge



Make nutrition education hands-on. There are numerous approaches to nutrition education. Some focus on increasing knowledge while others also aim to change behavior. The practical difficulty in measuring behavior change makes it challenging to evaluate the impact of nutrition education. While further evidence is needed, analysis strongly suggests the more hands-on the experience the more lasting the messages.

After Wilburn Elementary School students finish a nutrition lesson, the county agent prepares recipes from the curriculum for students to taste. Recipes are sent home to parents. When tested the next year, students had retained about 75 percent of what they had learned the previous year. Teachers commented, "I've noticed that my students choose healthier foods when they have a choice." In

Chewy Café's Chef Mack shares a Wellness Fair conversation

Chewy Café and Chef Mack talked food and nutrition for two hours at Health Fairs in Fort Smith and Springdale. Here is a telling conversation retold by Chef Mack.

"What's in this?" a father asked, dipping his third piece of broccoli in one of Chewy Café's dips. "It's delicious." "Nonfat yogurt, peanut butter and honey," Chef Mack explained. Immediately, dad put the piece of broccoli in the waste basket and said "I don't eat yogurt." "You just did," his daughter reminded him. "And you said you loved it." "I don't eat yogurt," he repeated. His daughter said, "Dad, that's just weird."

"Okay," he said with resignation, as he dipped a carrot into the yogurt dip. "You make it so I won't know it's yogurt." Winking, he asked, "What I don't know won't hurt me, right?"

Scott County, kindergarten through fifth-grade students at Waldron Elementary School were asked to raise their hands if they had ever tasted broccoli or cauliflower. About one-third had never tasted broccoli and more than half had never tasted cauliflower. Then students were introduced to raw broccoli and cauliflower served with a low-fat veggie dip. There were no leftovers.

Mt. Vernon-Enola Elementary School worked with the Faulkner County 4-H to allow 60 students to plant a garden and grow their own produce. In the process, they learned to enjoy fresh vegetables and the nutritional value of the produce they grew. Elkins Elementary School plants a garden as part of its "Recess with a Purpose" program. Fulton County Extension has held a week- long "Camp Fit & Fun" for the last three years. Last year, 121 students from Mammoth Spring Elementary School and Salem Elementary School participated. The camp reinforces the nutrition education they learn in the classroom and incorporates physical activity. After completing five nutrition lessons, students at the Ashdown Alternative School prepared a complete meal to learn cooking methods and try healthy foods.

A Pulaski County Extension agent teaches North Little Rock High School students nutrition and how to communicate with preschool children. These North Little Rock Stars go to preschools and teach children nutrition. Peer teaching reinforces the message to older students and makes them aware that they are role models for young children. As part of Nutrition Week, Clay County Extension agents trained Clay County High School students as docents for seven interactive displays that are part of Passport to Adventure, a nutrition and physical activity education program. Students in grades four through six rotated through the interactive displays while high school students answered their questions. At the final station, students prepared their own snack. Over the course of Nutrition Week, teachers (also trained by the Cooperative Extension Service) taught 1,406 students five 40-minute lessons.

Involve students in school meal decisions. Offering healthier foods on school breakfast and lunch menus has been met with mixed reactions. One nutrition director said: "We've offered more fresh fruit and vegetable choices and we have seen an increase in food waste. This is very expensive for us so we are now limiting servings to what is mandated." On the other end of the spectrum, getting students to eat healthier foods has brought out the creativity in many child nutrition directors. These directors are discovering that students involved in decision-making seem more willing to try healthy foods.

Based on student suggestions, senior high school students at Murfreesboro School District are served a healthy breakfast after first period, providing teenagers a way to eat breakfast when they might otherwise skip it entirely. Middle and high school students in Bismark School District serve themselves. As students have learned to like fruits and vegetables (after two years of complaints), food service often has to prepare more fruits and vegetables. Besides more healthy eating, Bismark's food service turned a profit, dispelling the myth that healthy food has to be more expensive. Searcy and Bauxite school districts use student taste-testing panels to evaluate new foods and recipes before putting them on the menu.

At Green Forest Elementary School, the child nutrition director watches for the children who try a new raw vegetable when they are served. She quietly gives them a sticker. "When I walk back through," the director said, "three-quarters of the students have tried the new vegetable." After training, Searcy School District's fourth-grade Nutrition Council works with their classmates to prepare a special menu. Each class promotes its menu. The class to serve the highest number of meals is rewarded with an extra hour of recess, sports items and other non-food goodies with a nutrition message. Heber Springs School District's child nutrition director asks fifth graders to write her letters with suggestions to improve cafeteria meals. She responds to every letter individually. When the cafeteria adopts a suggestion, the class that made the suggestion gets recognition on the weekly menu sent home. She also goes into each classroom to get suggestions and to help students develop a menu for a day.

The www.changingchildobesity.org website uses many additional Arkansas examples to illustrate characteristics of quality programs for physical education, nutrition education, preschools, school nutrition and community-based organizations.

5: Start Early

Overweight two- to five-year-olds[25] are more than four times as likely to become overweight adults as their normal weight peers.[26] Recognizing this, the Arkansas Department of Human Services (DHS), in collaboration with the Arkansas Department of Health, is piloting the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC)[27] program, a comprehensive, hands-on approach developed at the University of North Carolina to help licensed child care and early childhood education facilities improve the quality of food served and increase physical activity. The program starts with organizational self-assessment and goal setting then supports the use of goals with training and technical assistance. DHS piloted the program with five licensed facilities in 2007 and four in 2008, with potential to expand the program to 25 sites in 2009. This practice-

Quality Pre-K Physical Education
Helen R. Walton Children's Enrichment Center, Bentonville

The Helen R. Walton Children's Enrichment Center in Bentonville excels at incorporating physical activity and healthy food choices into its program. A certified youth fitness instructor leads weekly classes in physical activity and nutrition education for small groups of 10 children.

Imagine a large empty room with a colorful mural painted on the wall. The instructor walks in with a duffle bag full of equipment – braided ropes, a preschool-size parachute, bean bags, soft plastic balls, music CDs and other items. Everything in his goodie bag costs about $200 for a classroom set. He is trained by Stretch-n-Grow to work with preschoolers.

In the picture, 3-year olds are doing "push ups" over short braided ropes. Before putting the ropes away, the instructor sits on a soft bean bag chair in the shape of a frog. Each child takes one end of the braided rope as the instructor holds the other end. Ten children pull the teacher across the room, laughing all the way. The children also are learning important behavioral and social skills. Every child participates the entire 30 minutes.

While activities vary from week to week, children know the basic routine. Between activities, they find their space along the wall. Transition time is limited. During activities, children are attentive and they cooperate. They know the safety rules. When an activity is completed, they help put away equipment.

This happens 61 times a week with more than 600 children at 12 locations in Springdale and Bentonville, including school-based Arkansas Better Chance (ABC) programs in elementary schools throughout the Springdale School District. Two-thirds of the 3- to 5-year-olds come from low-income families at higher risk of becoming overweight.

based approach recognizes the unique needs of individual sites and time constraints of directors and workers to participate in off-site training.

6: Assess Each Community's Structure and Resources

Every community is unique so community-specific approaches are needed to promote healthy eating and increase physical activity. Three factors illustrate the need for community-specific approaches: child poverty, existing infrastructure to support increased physical activity and community cohesiveness.[28] The success of any approach depends on careful consideration and assessment of how they would apply in each community.

Child poverty. Among Arkansas school districts, the average percentage of overweight students ranges from 32 percent for the districts with the lowest rates up to 46 percent for the districts with the highest rates.[29] Child poverty rates are closely related. This finding is consistent with national studies.[30]

Relationship between poverty and obesity

District Rankings by Student Obesity	2006-2007 Average Overweight Children (%)	Children in Poverty (%)
Highest 20%	45.7	27.4
Second Highest 20%	41.7	24.2
Middle 20%	39.6	22.9
Fourth 20%	36.8	22.2
Lowest 20%	31.6	19.5
	Correlation	98.4%
	Standard Deviation	2.9

Data Sources: ACHI, U.S. Census Bureau, 2005 Small Area Income and Poverty Estimates

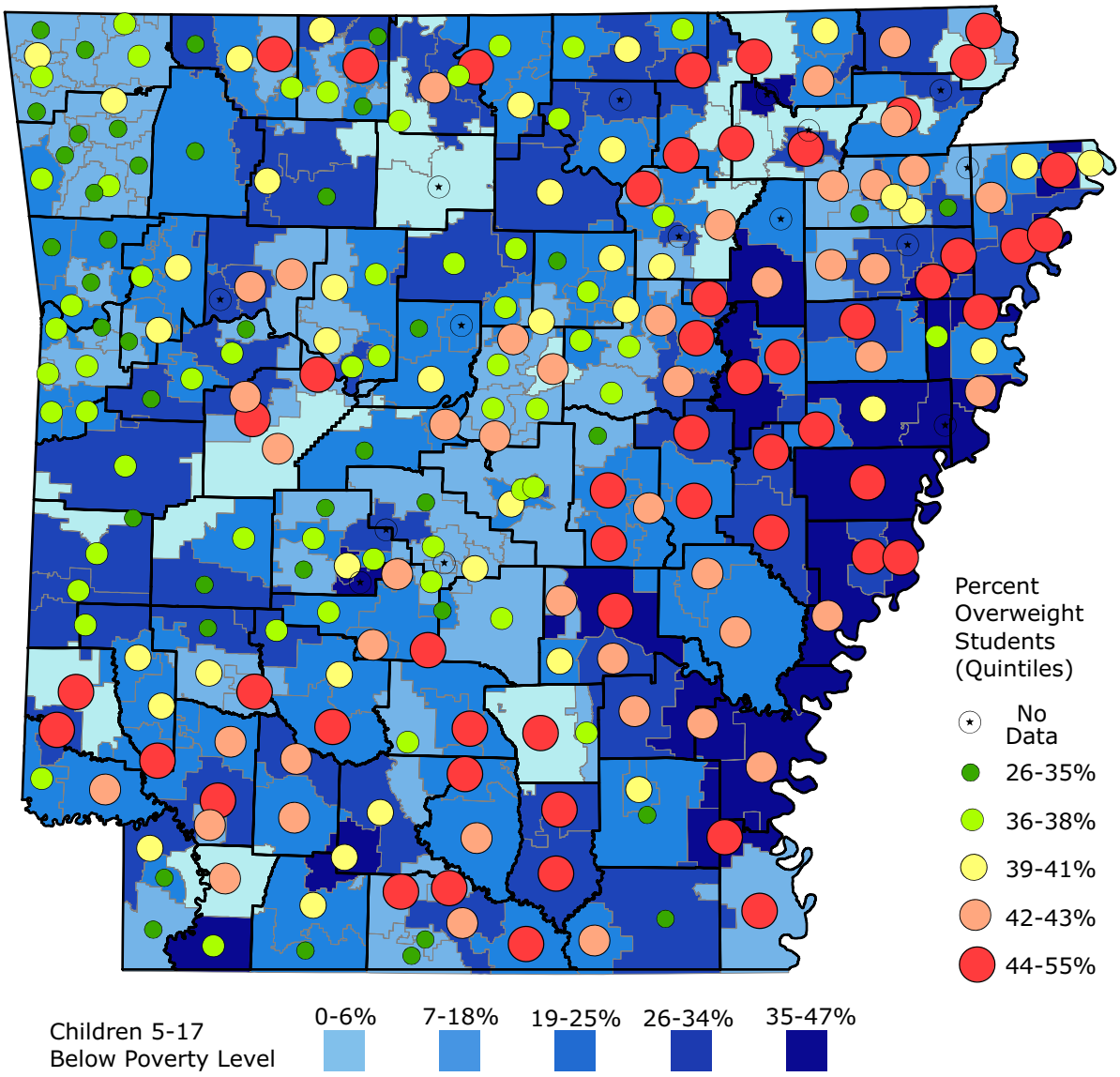
Impoverished children face far more impediments to eating healthy and increasing physical activity than children from families with higher incomes.[31] More than 150,000 Arkansas children live in families with incomes below the federal poverty level, which is $21,200 a year for a family of four in 2008. Another 182,000 Arkansas children live in families with incomes below 200 percent of the federal poverty level. While poverty exists throughout the state, the map below shows poverty is concentrated in some school districts more than others.[32]

Sixty-four percent of Arkansas's poor children live in a single-parent household. More than 10 percent live in a home where no parent is present, often with grandparents or other relatives. More than half of children whose parents do not have a high school degree live in poor families. More than one-quarter of children who live in poor families move each year, making it more difficult to develop social networks and skills.[33] Nearly three-quarters of Arkansas children living in poverty live in rental property. Close to half of these spend more than a third of their income on rent.[34]

Impoverished children are more likely to experience food insecurity[35] and live in food deserts,[36] places where supermarkets are not readily accessible, making it difficult to purchase healthy foods. A pediatric psychologist at *Arkansas Children's Hospital* piloted a prevention project in an urban food desert in Little Rock. She reported many parents gave their children a five dollar bill and told them to buy supper at a neighborhood convenience store, too tired or demoralized to take a city bus to the grocery store. As a field trip, the class went to a convenience store where middle school students picked the most healthy dinner possible with five dollars.

Similar dynamics exist in rural Arkansas. A bus picks up parents in Bradley School District in Lafayette County at 5 a.m. to work at a poultry processing plant in Nashville, Howard County. The bus gets them home around 7 p.m. The nearest supermarket is in Texarkana, in Miller County, an hour away. With high gas prices and often unreliable transportation, it is a challenge to drive to the supermarket on a regular basis.

Average Children Age 5-17 in Poverty By School District Compared To Average Percent Overweight Students In Quintiles of School Districts



Many eat what is available locally. To introduce Bradley Elementary School students to fresh healthy foods, the Cooperative Extension Service conducted tasting events, where students try unfamiliar fruits and vegetables, such as kiwi, pineapple, avocado, asparagus, cauliflower and broccoli. In addition, the Cooperative Extension Service brings in healthy snacks monthly, introducing students to yogurt, fruits, raw vegetables with low-fat dips and nuts.

Where schools and communities use after-school and summer activities to promote healthy eating and increased physical activity, reaching impoverished children can be a special challenge. Poor children often cannot participate in after school and summer activities unless transportation is provided. Older children often care for younger siblings after school or during the summer while parents work. They may be instructed to stay in the house until their parents get home from work.

While children in low-income households are less likely to own a computer or have an Internet connection, they have the same access to televisions and video games as other income groups so unsupervised time is likely spent in front of a screen.[37]

Children with more risk and fewer protective factors[38] are more likely to need physical activity to be fun, non-competitive, equalize class and social boundaries and not require mastery of specialized skills to participate. Physical activities new to everyone are more likely to engage – cooking, gardening, archery, Ultimate Frisbee, bicycling. Activities that make everyone feel silly – blowing bubbles and chasing them, shaking balls off a parachute or flying kites – are also good.

Community infrastructure to support increased physical activity. Communities with higher poverty rates also are less likely to have community-based resources to support after school and summer physical activity, particularly in rural areas. These communities are less likely to have swimming pools, city-operated recreation centers, non-profit youth programs, churches with gymnasiums or even private businesses that offer martial arts, gymnastics or dance. Local governments in communities with higher poverty rates have fewer local tax funds that can be used for developing recreational opportunities and providing programs for youth. In addition, these communities are less likely to have access to universities and community colleges that can provide expertise and low-cost skilled labor. In these communities, schools become the primary provider of opportunities for physical activity almost by default.

Low-income communities differ in the degree to which they are socially organized, cohesive and supportive of raising children, especially as it relates to health and behavior. Thus an impoverished community with high "social capital" (e.g., committed community leadership, existing institutions, a history of collective action, etc.) can compensate for the effects of poverty on children's health and behavior, helping parents raise fit children.[39]

Given the differences in poverty rates among school districts, infrastructure to support increased physical activity and community cohesiveness, a one-size-fits-all statewide approach will not work well. Recognizing that school districts and communities have different challenges and opportunities, resources may need to be targeted at school districts and communities with the greatest need and the fewest human and financial resources locally. Community assessment may improve the likelihood of effective approaches.

At the turn of the century when rural communities across the nation were facing an economic and social crisis, President Theodore Roosevelt encouraged citizens to "do what you can with what you have where you are." Describing their efforts to engage students, an elementary school principal in the Fouke School District quoted Teddy Roosevelt several times over the course of an hour. "We use every dead moment for physical activity – time between classes, after lunch, recess, before school and after school," the principal said. "We ask students what they want. We recruit parents and others to lead activities from dance to tumbling to juggling to kite flying. Children don't have to master anything. They just have to move and have fun."

7: Expand After School and Summer Options

Over the course of a year, a child spends about one quarter of his or her waking hours in school. In about three-fourths of Arkansas families, all of the adults in the household work outside the home. A 2005 Kaiser Foundation[40] study of the screen time of 8- to 18-year-old children found that they spend four hours a day watching TV, more than an hour on the computer and about 50 minutes playing video games. Annual screen time makes up more than one-third of children's waking hours annually, more time than is spent in school.

Expanding attractive after-school and summer options for physical activity is important to entice children away from the screen. Governor Mike Beebe appointed the Governor's Task Force on Best Practices for After-school and Summer Programs in 2007 to make policy recommendations about the best ways to expand access to and quality of programs. In addition, the Arkansas Out-of-School Network supports and connects the range of Arkansas programs in schools, non-profit organizations, local governments and places of worship to organize and operate after-school and summer programs. The task force and network have a unique opportunity to promote healthy choices in after-school and summer programs, including healthy food and increased physical activity.

Two examples illustrate how after school and summer programs can promote healthy food choices and increased physical activities. Boys & Girls Clubs offer a program called Triple Play. Designed for ages 6 to 15, the program includes three components. The "mind" component helps children develop a knowledge base, such as making smart food choices, understanding appropriate portion sizes, and creating fun and balanced meals. The key element of this component is the "Healthy Habits" nutrition curriculum, which was developed in collaboration with the U.S. Department of Health and Human Services. The "body" component helps youth become more physically active through daily fitness exercises and fun. Some of the elements of this component include: Triple Play Daily Challenges, Triple Play Sports Clubs and Triple Play Games. This "soul" component reinforces positive behavior with activities designed to improve confidence and develop interpersonal skills.

Beebe School District has run after-school and summer programs since 1989. With 43 staff members, the program serves nearly 250 preschool through ninth-grade children daily. In 2006, the program shifted its focus from academics to fitness. The program targeted 30 overweight children in the first year after the shift. After evaluation, the program was shifted from intervention to prevention. Now everyone is involved. The program integrates physical activity and healthy living. When the fitness focus started, one student out of 258 scored high enough on the President's Physical Fitness Challenge to earn an award. At the end of the year, 57 children earned awards.

What Students and Parents Say About Beebe's Programs

When six ninth-grade girls were asked what they would be doing if they weren't in the after-school program, they all said they would be watching TV or using a computer. Their parents were at work and would not let them go outside by themselves. Asked whether they would rather be in the after-school program or at home, everyone said they wanted to be with their friends in the after-school program, even though they walk two miles a day rain or shine. The girls care deeply about image.

A mother picking up her children, ages 2 and 8, after work shared her family's personal experience with the program. When the Beebe program shifted its focus to healthy living the mother was severely obese. Her 8-year-old asked, "Why can't you look normal like other mothers?" It didn't take long for this already overburdened mother to start making major changes, not only in her own habits but for her entire family. They started eating home-cooked meals together, doing fun family physical activities, eating more fruits and vegetables, and talking about food and physical activity at the dinner table. Over the course of a year, the busy working mother lost more than 100 pounds, going from a size 26 to a size 12. She has kept the weight off for more than a year. Her daughter is now proud to introduce her to friends.

8: Involve the Broader Community

Schools engage parents and the community through many events and activities. Whether tapped for their special expertise, the services they offer or their enthusiasm, few community leaders decline when asked to get involved in schools. The ways schools involve the community are as varied as the communities themselves. Readers will find many resources for involving Arkansas-specific community partners at www.changingchildobesity.org/.

Engage the medical community. Medical professionals can offer expertise and resources and interventions can reinforce messages to families about eating healthy and moving more. The President of the Arkansas Academy of Family Physicians wants more physicians working with schools in their communities to promote wellness. The challenge is to determine the most effective way to match the needs and opportunities. Many hospitals, clinics and individual physicians participate in school and community health fairs alongside professionals from the Department of Health, educators and community volunteers. After a Health Fair at Dollarway School District, an elementary principal and teacher started walking up to a mile each day before school. Soon more than 100 students were joining them. On rainy days, they opened the gym for walking before school. It wasn't long before faculty and students district-wide were wearing pedometers and counting steps.

Stuttgart, Jonesboro and Elkins are among the communities going further. Jonesboro and Elkins have piloted intervention programs to help overweight students manage their weight. Elkins' program

met every Tuesday night for 12 weeks while Jonesboro held an intensive two-week summer program, "Camp Ready Set Go." Both programs used a multi-disciplinary team to address nutrition, physical activity, goal-setting, decision-making strategies and psychosocial issues. Jonesboro was community-based while Elkins was school-based. Both interventions were time- and cost-intensive. In Elkins, the school and physician decided to shift their emphasis from intervention to prevention in the future.

Instead of focusing on overweight children, Stuttgart School District has formed a partnership with local medical doctors to improve the overall health of all students. Doctors and advanced-practice nurses come to the school to perform preventive well-child check-ups, including Early and Periodic Screening, Diagnosis and Treatment (EPSDT) assessments required by Medicaid. The physicians bill insurance companies and Medicaid through their office systems. The superintendent said the community is excited about this partnership and people want to get involved.

Of 283 survey respondents asked if they refer overweight children identified through BMI screening, 37 percent report making referrals to health professionals. Physicians across the state refer severely overweight children to the *Arkansas Children's Hospital Pediatric Fitness Clinic*. The Pediatric Fitness Clinic is the only specialty program in Arkansas to provide clinical evaluations of children who are obese, and may have other problems such as high cholesterol, hypertension, and Type 2 diabetes. The multi-disciplinary program focuses on the whole family. Children in need of intensive treatment are invited to participate in Champions Club of Arkansas. These specialized services are a critical link in the continuum of care.

9: Celebrate Success

Results differ from project to project and school to school. While BMI is a widely accepted measurement for programs to reduce childhood obesity, many schools see the goal of healthy eating and increased physical activity as causing improved attention in the classroom, less absenteeism, fewer dropouts and improved academic performance. For many, reducing childhood obesity is a byproduct of achieving more immediate educational goals. Consequently, it is important to evaluate childhood obesity along with other goals.

The table below shows that many people on the frontlines when surveyed claim to lack evidence that their efforts are making a difference. Those that cited measurable evidence indicated BMI, fitness assessments, participation, height and weight, and pre- and post tests for knowledge acquisition.

Sustaining current efforts will require expanding the cadre of enthusiastic, highly motivated individuals with a passion for infusing children with the knowledge, skills and desire to eat healthy and live an active life. Even Arkansas' most zealous visionaries needs evidence in order to sustain enthusiasm. Even the smallest results give hope to these important champions. Similarly, students and their parents also need incremental results that give hope.

School Role	Measurable Evidence	Anecdotal Evidence	No Evidence	Total Responses
Superintendents & Principals	13%	29%	58%	98
Elementary Teachers	1%	35%	64%	75
Physical Education & Athletic Directors	36%	28%	36%	25
Family Consumer Science	2%	66%	32%	59
Health Education	0%	43%	57%	9
Child Nutrition Director	9%	56%	35%	57
School Nurse	15%	11%	74%	27
Coordinated School Health	29%	29%	41%	17
Cooperative Extension Agents	57%	26%	17%	23
Preschool	21%	47%	32%	38
County Health Units & Coalitions	16%	18%	66%	74
Physicians/Advanced Practice Nurses	17%	24%	59%	29
Dietitians	20%	20%	60%	5
University Professors Training Teachers	25%	17%	58%	12

Principal Annette Freeman of Gene George Elementary in Springdale says it eloquently: "Our goal is to increase awareness about fitness and nutrition. The changes are not huge because we are limited by time, money and volunteers. However, simple changes like putting soccer goals on the front lawn has helped to increase the activity level of our students. Just today I saw about 30 neighborhood children playing a soccer game at 6 p.m. They were laughing and enjoying themselves. I'm sure the number will grow as the weather gets warmer. I noticed that a couple of dads were playing soccer with the kids. If we hadn't put the goals out there, what would the children have been doing instead? The goals were made by a PTA parent during our Red Ribbon celebration in October. They were made of PVC pipe. It was inexpensive. It's the small things that matter. Right now, seeing those children playing with their dads reminds me that small sustained changes will yield big results in the health and fitness of our students over time."

Next Steps

Revisit the role and priorities of the Child Health Advisory Committee. The CHAC should use its existing authority to coordinate an effective state-wide system of local support. CHAC should have a more diverse membership, geographically. The Arkansas Legislature should expand the CHAC's work to include licensed child care and early childhood programs for children ages 3 to 5.

Strengthen relationships among wellness committees, wellness priorities and Coordinated School Health. The Arkansas departments of education and health, in collaboration with CHAC, should clarify policies about how wellness committees, wellness priorities and the Coordinated School Health effort work together. CHAC should periodically survey wellness committee members to determine whether they believe they are contributing in a meaningful way.

Expand Coordinated School Health to offer additional support to schools. CHAC should evaluate Coordinated School Health pilot schools and districts and issue recommendations on a strategy to 1) expand the model statewide, 2) improve implementation of the model so that it addresses the wellness needs of the whole child and 3) monitor process and outcome measures. CHAC recommendations should be based on contributions from school administrators, wellness committees, teachers, school nurses, school counselors, parents and students.

Invest in quality physical education. Nutrition has been much of the focus of efforts in Arkansas to combat child obesity. Now that there is widespread use of the more measurable elements of Act 1220, policy-makers, funders, school administrators, teaching universities, education cooperatives, local governments and community leaders should make use of high-quality physical education a priority. State and private funders should target implementation grants for quality physical education in schools and communities with the greatest need and willingness to make a long-term commitment.

Use opportunities outside the school day to promote wellness. After-school and summer programs are a natural place to gather schools, families, and other community partners around to support child wellness. State officials and community leaders should look for opportunities outside the regular school day to get kids more active and reinforce lessons about healthy behaviors. For example, communities could keep schools and gyms open after normal hours to provide space for programs and bring community partners together.

About The Project

Arkansas Advocates for Children and Families' commitment to combating childhood obesity is founded on a long history of involvement in child health and welfare issues. The non-profit organization became actively involved in combating childhood obesity in 2003 as member of the Child Health Advisory Committee (CHAC). Fit Not Fat resources and recommendations build on the coalitions, policies and programs that past and current statewide, community-driven initiatives have promoted.[41]

Funded by the Blue & You Foundation For A Healthier Arkansas and Arkansas Children's Hospital, the *Fit Not Fat* project included two pieces:

- *Fit Not Fat: Helping Arkansas Children Eat Healthy and Move More* provides lessons learned and recommendations to help policy makers, funders and administrators get the most impact out of investments and more effectively support local efforts and promote coordination of scarce program resources. Much of this report focuses on the role of schools, given their strong role under Act 1220.

- *www.changingchildobesity.org.* This website provides practical recommendations for schools and communities on what they can do to improve the health and fitness of children. Many recommendations require no money; only simple changes in how existing programs are implemented. The web site supports lessons learned and recommendations with examples of what Arkansas schools, places of worship and communities are doing to improve children's food choices and increase physical activity. Visitors will find links to activities, study guides, financing sources and other resources.

The project relied on both quantitative and qualitative data to support the lessons learned and recommendations, including:

- *Demographic Data* were analyzed to identify relationships between fitness (measured by Body Mass Index), academic performance and child poverty among five equal size groups of school districts, ranging from those with the highest average number of at-risk and overweight students to the lowest.[42]

- *Online Survey.* Thirty-five Arkansas associations and groups listed at the end of this report encouraged their members and colleagues to complete an online survey asking what they are doing to address childhood obesity and how they know whether their efforts are having an impact.[43]

- *Curriculum, Training & Activity Data.* Funding organizations, curriculum vendors, state agencies and universities provided lists of school districts using their products and programs to encourage healthy food choices or increased physical activity. These lists were analyzed to identify what resources are being used and where they are being used as well as to identify any activities, curriculum or programs that can be statistically associated with measurable outcomes.[44]

- *Community Infrastructure.* Schools alone cannot improve children's fitness. Medical providers, universities and two-year colleges, local governments, community organizations, places of worship and other partners all have a role.

- *Interviews and Focus Groups.* We visited 44 locations conducting interviews and focus groups involving more than 100 people. Interviews were conducted with state agency representatives, school personnel and community groups. Focus groups were conducted with teachers and students in two school districts. Site visits also included observation of nutrition and physical education classes.

Appendix

Fit Not Fat Advisory Committee

Tamara Baker, Arkansas Department of Health

Aimee Berry, Arkansas Chapter of American Academy of Pediatrics

Carole Garner, UAMS College of Public Health

Martha Hiett, Arkansas Department of Human Services

Michelle Justus, University of Arkansas for Medical Sciences

Ronald Kahn, University of Arkansas for Medical Sciences

Tom Kimbrell, Arkansas Association of Educational Administrators

Sandra Miller, ComMetrics, Inc.

Rosiland Smith, Arkansas Children's Hospital

Laura McDowell, Arkansas Department of Education

Ann Patterson, Arkansas Head Start

Rosemary Rodibaugh, University of Arkansas, Cooperative Extension Service

Rhonda Sanders, Arkansas Advocates for Children & Families

Wanda Shockey, Arkansas Department of Education

Steven Strode, University of Arkansas for Medical Services

Stephanie Williams, Arkansas Department of Health

Assisted With Data Collection

American Cancer Society

Arkansas Academy of Family Practice Physicians

Arkansas Advocates for Children & Families

Arkansas Association of Educational Administrators

Arkansas Center for Health Improvement

Arkansas Chapter of American Academy of Pediatrics

Arkansas Children's Hospital

Arkansas Department of Education, Administration

Arkansas Department of Education, Child Nutrition Unit

Arkansas Department of Education, Coordinated School Health

Arkansas Department of Health, Coordinated School Health

Arkansas Department of Health, Center for Local Public Health

Arkansas Department of Human Services, Child Care & Early Childhood Education

Arkansas Department of Human Services, County Operations

Arkansas Dietetics Association

Arkansas Game and Fish Commission, Education and Outreach Division

Arkansas Game and Fish Commission, Stream Team Program

Arkansas Game and Fish Commission, Fisheries Division

Arkansas Heart Association

Arkansas Highway & Transportation Department, Safe Routes To Schools

Arkansas Hospital Association

Arkansas Hunger Relief Alliance

Arkansas Municipal League

Arkansas Obesity Prevention Coalition

Arkansas Public Health Association

Arkansas Society of Public Health Educators

Boys & Girls Clubs of America

Care Foundation, Northwest Arkansas Community Foundation

CATCH

Child Health Advisory Committee

Governor's Council on Fitness

Hometown Health Coalitions

Human Kinetics Publishers

Indiana University, President's Physical Fitness Challenge

Kids For Health

Nutrition Advocacy Council

SPARK

University of Arkansas for Medical Sciences

University of Arkansas, Division of Agriculture, Cooperative Extension Service

University of Arkansas, NORMES

U.S. Department of Agriculture, Food & Nutrition Service

Upward Unlimited

Interviews and Focus Group Sites

Arkansas Academy of Family Physicians

Arkansas Children's Hospital, Community-Focused School-Based Obesity Prevention

Arkansas Department of Education, Child Nutrition Unit

Arkansas Department of Education, Coordinated School Health

Arkansas Department of Health, Coordinated School Health

Arkansas Department of Human Services, Child Care & Early Child Education

Arkansas River Valley Education Cooperative

Beebe Public Schools, After-School Program

Bradley Elementary School

Crossett School District, Anderson Elementary School

Dr. Mark Lovell, Pediatrician

Elkins Public Schools

Fayetteville School District

Vandergriff Elementary

Fayetteville School District Fitness Center

Flippin Elementary School

Fouke Elementary School

Hamburg School District

Hamburg Elementary School

Hamburg Junior High School

Hamburg Child Nutrition Director

Helen R. Walton Children's Enrichment Center

Hot Springs School District

Kids For Health

Rogers Public Schools

Kirksey Middle School

Jones Elementary School

Rogers Activity Center

Crossroads Alternative School

Matthias Elementary School

Lingle Middle School

Siloam Springs School District *(PE4Life training)*

Southeast Arkansas Education Service Cooperative

Springdale School District

J.O. Kelley Middle School - Springdale

Harp Elementary - Springdale District Nursing Staff

Stretch-n-Grow

Stuttgart School District

UAMS College of Public Health

UAMS Arkansas Center for Health Improvement

University of Arkansas Cooperative Extension Service, Lafayette County

University of Arkansas Cooperative Extension Service, Marion County

University of Arkansas, Cooperative Extension Service, State Office

University of Arkansas Medical Sciences, Kids First

The Yuuma Group & Chewy Café

Endnotes

[1]Arkansas Center for Health Improvement. *Assessment of Childhood and Adolescent Obesity in Arkansas: Year Four.* Spring 2007. http://www.rwjf.org/pr/product.jsp?id=25027. The Center for Disease Control and Prevention defines overweight as at or above the 95th percentile of BMI for age and "at risk for overweight" as between 85th to 95th percentile of BMI for age. European and a growing number of U.S. researchers classify overweight as at or above 85th percentile and obesity as at or above 95th percentile of BMI. For the purposes of this report, the term "overweight" will be used to identify students who meet CDC criteria for overweight and at risk of overweight children.

[2]Institute of Medicine of the National Academies. *Preventing Childhood Obesity: Health in the Balance.* The National Academies Press, 2005: 63.

[3]UAMS Arkansas Center for Health Improvement (ACHI). *Assessment of Childhood and Adolescent Obesity in Arkansas: Year Four.* Spring 2007. http://www.achi.net/current_initiatives/BMI_Info/Docs/2007/Results07/ACHI_2007_BMI_Online State_Report.pdf

[4]BMI -for-age >95th percentile

[5] Freedman, DS, Khan KL, Serdula MK, Dietz WH, Srinivasan SR, and Berenson GS. The Relation of Childhood BMI to Adult Adiposity: The Bogalusa Heart Study. Pediatrics Vol. 115, No. 1. January 2005, pp. 22-27.

[6] Nicklas TA, Baranowski T, Cullen KW, Berenson G. Eating Patterns, Dietary Quality and Obesity. J Am Coll Nutr. Vol. 20 No. 6 December 2001, pp. 599-608. In this instance, obese refers to adolescents with BMI >95 th percentile.

[7] Ibid.

[8] Institute of Medicine of the National Academies. Preventing Childhood Obesity: Health in the Balance. The National Academies Press. 2005.

[9] 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. Arkansas Act 1220 of 2003, amended in 2007, is codified as Arkansas Code § 20-7-133 through § 20-7-135 and can be found at http://www.arkleg.state.ar.us

[10] Child Health Advisory Committee. http://www.healthyarkansas.com/advisory_committee/advisory.html

[11] Child Health Advisory Committee. *Child Health Advisory Committee Recommendations for Standards to Implement through Rules and Regulations.* http://www.healthyarkansas.com/advisory_committee/pdf/final_recommendations.pdf

[12] Wellness policies and clarifications are communicated to schools in memos from the Commissioner of the State Board of Education. These memos can be found at: http://cnn.k12.ar.us/Healthy%20Schools%20Initiative/Information%20About%20Act%201220%20of%202003.htm. Component #1 - Nutrition Education, Physical Activity And Other School-Based Activities http://cnn.k12.ar.us/Wellness/WellnessComponent1.doc

Component #2 – Access to Vending Machines http://cnn.k12.ar.us/Wellness/WellnessComponent2.doc

Component #3 – Reimbursable School Lunches http://cnn.k12.ar.us/Wellness/WellnessComponent3.doc
Component #4 – Operational Responsibility http://cnn.k12.ar.us/Wellness/WellnessComponent4.doc Component #5 – wellness committees http://cnn.k12.ar.us/Wellness/WellnessComponent5.doc

[13] For resources on how to establish a wellness committee, go to: http://www.healthyarkansas.com/advisory_committee/pdf/npaac_tool_kit_nov2004.pdf

[14] For information on wellness priorities, go to: http://cnn.k12.ar.us/Wellness/ACSIP-WellnessPriority.htm

[15] For more information on Coordinated School Health, go to: http://www.arkansascsh.org/

[16] Wellness priorities must include: Justification based on data, goal statements, benchmark statements (including how benchmark will be measured, percent change and timeline), interventions and actions. More information can be found at: http://cnn.k12.ar.us/Wellness/ACSIP-WellnessPriority.htm

[17] Act 1220 requires schools to complete the School Health Index (SHI) developed by the Centers for Disease Control (CDC). School personnel complete and analyze the SHI as a basis for establishing wellness goals and priorities for ACSIP. The SHI covers eight areas: School Health and Safety Policies and Environment, Health Education, Physical Education and Other Physical Activity Programs, Nutrition Services, Health Services, Counseling, Psychological, and Social Services, Health Promotion for Staff and Family and Community Involvement. The eight SHI modules can be found at: http://apps.nccd.cdc.gov/shi/default.aspx. Additional information on how the SHI is used in Arkansas can be found at: http://cnn.k12.ar.us/Wellness/SHI.htm.

[18]Raczynski JM, Phillips M, Bursac Z, Pulley L, West D, Birdsong M, Evans V, Gauss H, Louvring M and Walker J. *Establishing a Baseline to Evaluate Act 1220 of 2003: An Act of the Arkansas General Assembly to Combat Childhood Obesity.* UAMS College of Public Health. June 2005. www.rwjf.org/pr/product.jsp?id=14992

University of Arkansas for Medical Sciences Fay W. Boozman College of Public Health. *Year Two Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity.* February 2006. www.rwjf.org/pr/product.jsp?id=14829

University of Arkansas for Medical Sciences Fay W. Boozman College of Public Health. *Year Three Evaluation: Arkansas Act*

1220 of 2003 to Combat Childhood Obesity. 2007. http://www.rwjf.org/pr/product.jsp?id=19148 .

[19] The third year evaluation shows progress is being made in implementing the Act 1220 requirements and growing acceptance of change. Key findings from the *Year Three Evaluation* show:

• More than half of the reporting schools made changes to their nutrition and/or physical education policies or practices within the past year. School districts made considerable changes to vending machine contents and placed restrictions on student access to vending machines, snack bars and snack carts on campus. Fifty-three percent of districts (up from 18% in the first year evaluation) eliminated the sale of "junk foods" in school vending machines. Most schools appeared not to experience a substantial decline in vending revenues as a result of offering healthier options. Changes in school policy and practices related to physical activity were less likely than those related to food and beverages. There were no significant changes in the average length of a physical education class and students were less likely than previously to report participating in a physical education class three or more days a week.

[20]Research identifying programs and services that encourage voluntary compliance comes from a wide range of disciplines and sectors. Disciplines include public policy, economics, law, accounting and natural resources management. Tax compliance and compliance with environmental regulations are perhaps the sectors where the most research had been conducted. Some research has been done on voluntary compliance with cigarette sales to minors, bans on alcohol advertising and enforcing quarantines for infectious diseases.

[21]Aimo, K, Olson CM, and Frongillo EA, Jr. *Food Insufficiency and American School-Aged Children 's Cognitive, Academic, and Psychosocial Development.* Pediatrics Vol. 108 No. 1 2001, pp. 44-53 Shephard RJ. 1997. *Curricular Physical Activity and academic performance.* Pediatr Exerc Sci 9(2):113-126

[22]California Department of Education, A *Study of the Relationship Between Physical Fitness and Academic Achievement in California Using 2004 Test Results,* April 2005. http://www.cde.ca.gov/ta/tg/pf/documents/2004pftresults.doc California mandates all schools use FitnessGram™ to assess physical fitness. The Department of Education collects fitness data for all students in the fifth, seventh and ninth grades and administers the California Standards Tests, similar to the Arkansas benchmark exams, in grades two through 11.

[23]Ratey, J with Hagerman E. *SPARK: The Revolutionary New Science of Exercise and the Brain.* Little Brown & Company: New York, 2005: 55-61.

[24]The National Association for Sport & Physical Education defines the elements of a quality physical education program. According to NASPE guidelines, a high quality physical education program includes the following components: opportunity to learn, meaningful content and appropriate instruction. Each of these areas is outlined in detail in NASPE's quality physical education (QPE) documents which range from the National Standards for Physical Education to Appropriate Practice Documents, Opportunity to Learn Documents and the Assessment Series. http://www.aahperd.org/naspe

[25]BMI-for-age 95th percentile

[26]Freedman, DS, Khan KL, Serdula MK, Dietz WH, Srinivasan SR, and Berenson GS. *The Relation of Childhood BMI to Adult Adiposity: The Bogalusa Heart Study.* Pediatrics Vol. 115 No. 1 January 2005, pp. 22-27.

[27]For more information, go to: http://www.center-trt.org/downloads/obesity_prevention/interventions/napsacc/NAPSACC_Template.pdf

[28]Jones, CL *Effects of Poverty and Neighborhood Characteristics upon Child Outcomes.* Paper presented at the 2003 annual meeting of the American Sociological Association, Atlanta, GA. http://www.allacademic.com/meta/p107430_index.html

[29] District BMI data indicating the 2006-07 percentage of overweight school-age students by school district were entered. Districts missing data for any grade of gender were excluded. Districts were divided into quintiles for analysis (e.g., the 20% of districts with the lowest percentage of overweight students to the 20% of districts with the highest percentage of overweight students). The average BMI for each quintile is used for analysis.

Statistically Significant Differences Among Quintiles of School Districts' Average Percent of Oversight Children Based on 2006-2007 BMI Data

Districts	Average Percent Overweight	Highest 20%	Second Highest 20%	Middle 20%	Fourth 20%	Lowest 20%
Highest 20%	45.7	0				
Second Highest 20%	41.7	4	0			
Middle 20%	39.6	6.1*	2.1	0		
Fourth 20%	36.8	8.9*	4.9	2.8	0	
Lowest 20%	31.6	14.2*	10.2*	8.0*	5.3*	0

* Statistically Significant, SD = 5.3

[30]Institute of Medicine of the National Academies. *Preventing Childhood Obesity: Health in the Balance.* The National Academies Press, 2005.pp.104-105

[31]Ibid

[32]National Center for Children in Poverty, Mailman School of Public Health, Columbia University. *Arkansas Demographics of Poor Children.* 2008. http://www.nccp.org/profiles/tate_profile.php?state=AR&id=7

[33] Ibid

[34] Ibid

[35]Aimo, K, Olson CM, and Frongillo EA, Jr. *Food Insufficiency and American School-Aged Children 's Cognitive, Academic, and*

Psychosocial Development. Pediatrics Vol. 108 No. 1 2001, pp. 44-53

[36] Jensen, E B, KA Schafft, and C Hinrichs. *Examining Prevalence of Childhood Obesity and School Wellness Initiatives within Pennsylvania 's Food Deserts. 2006. Paper presented at the annual meeting of the Rural Sociological Society, Seelbach Hilton Hotel, Louisville, Kentucky.* http://www.allacademic.com/meta/p125009_index.html

[37] Henry J. Kaiser Foundation. *Generation M: Media in the Lives of 8 –18 Year Olds.* March 2005. http://www.kff.org/entmedia/upload/Generation-M-Media-in-the-Lives-of-8-18-Year-olds-Report.pdf

[38] Helping America 's Youth. *Introduction to Risk and Protection Factors.* http://guide.helpingamericasyouth.gov/programtool-factorsbibliography.htm

[39] Jones, CL. *Effects of Poverty and Neighborhood Characteristics upon Child Outcomes.* Paper presented at the 2003 annual meeting of the American Sociological Association, Atlanta, GA http://www.allacademic.com/meta/p107430_index.html

[40] Henry J. Kaiser Foundation. *Generation M: Media in the Lives of 8–18 Year Olds.* March 2005. http://www.kff.org/entmedia/upload/Generation-M-Media-in-the-Lives-of-8-18-Year-olds-Report.pdf

[41] AACF led the creation of the *Invest Early Coalition*, a group that has worked tirelessly over the last five years to assess and develop funding and programs to provide high-quality early childhood education for every at risk three and four year old child in Arkansas. With support of the coalition, Arkansas started the Arkansas Better Chance (ABC) program in 1991. A 2008 budget of $111 million enables the program for the first time to serve all 3 and 4 year olds in families earning up to 200 percent of the federal poverty threshold, which accounts for nearly 50 percent of 3-4 year old children in the state. As this report will demonstrate at risk children are more likely to be overweight. Early intervention to develop healthy habits appears both practical and effective. For almost five years, the Arkansas Out-of-School Network (AOSN, see http://www.aosn.org/) supports and connects a variety of afterschool and summer programs across the state. In 2007, Governor Mike Beebe appointed the *Governor's Task Force on Best Practices for Afterschool and Summer Programs* to make policy recommendations about the best ways to expand quality and access. AACF provides staff to the task force. Creative partnerships to provide after-school and summer programs are critical to helping children develop lifelong healthy habits. AACF plays similar roles in other initiatives, such as the *Arkansas Early Care Systems Development Project*, which seeks to improve access to health care through the child care system, and the *Arkansas System of Care for Children's Mental Health*, which aims to develop a coordinated system of care for children with emotional disturbances. Both access to health care and mental health are important components of any strategy to reduce childhood obesity.

[42]BMI data were obtained from Arkansas Center for Health Improvement. *Assessment of Childhood and Adolescent Obesity in Arkansas: Year Four.* Spring 2007. http://www.rwjf.org/pr/product.jsp?id=25027. The Arkansas Department of Education provided academic performance data. Child poverty data were obtained from the U.S. Census Bureau, 2005 Small Area Income and Poverty Estimates

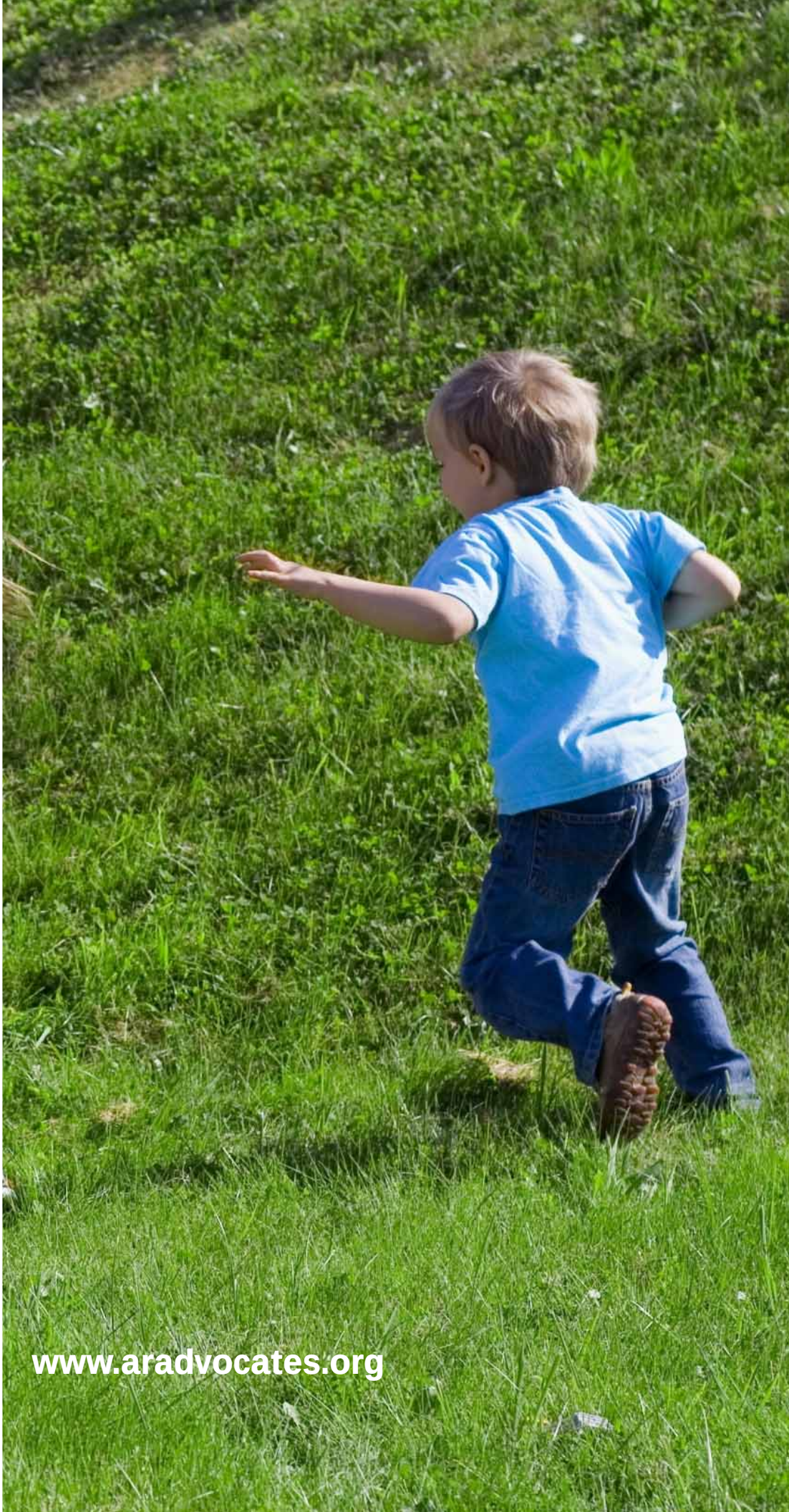
[43]More than 700 individuals with wide-ranging roles responded to the online survey. School personnel made up 52 percent of all respondents. State agency staff and higher education comprise another 30 percent of respondents. Seven percent of all respondents came from the medical community. Half of these were primary care providers. Child care and early childhood education programs respondents comprised five percent of all respondents while community-based organizations, such as Boys & Girls Clubs and YMCA, made up three percent of all respondents. While the online survey was sent to all mayors and parks and recreation directors, just one percent of respondents represented local government. Similarly, the survey link was sent to nearly 1000 faith groups; however like local government they made up just one percent of respondents.

[44]Examples of data collected include a list of schools who have registered to use the President's Physical Fitness Challenge from Indiana University, a list of schools who purchased FitnessGram™ from Human Kinetics Publishers, an Extension list of nutrition education workshops by site and curricula used, a list of schools enrolled in Arkansas Game and Fish Commission school-based outdoor education programs, participation lists from numerous teacher training workshops (e.g., Child Nutrition Unit, UAMS, etc), lists of grants funded from state agencies and private foundations, schools using PE4Life™ and SPARK™ curriculum, etc. When compiled and mapped, these lists provide a visual picture of where activity is taking place relative to where obesity of the greatest concern.

Arkansas Advocates for
Children & Families
Union Station, Suite 306
1400 W. Markham
Little Rock, AR 72201
(501) 371-9678

614 East Emma, Suite 127
Springdale, AR 72764
(479) 927-9800

ARKANSAS
ADVOCATES
FOR CHILDREN & FAMILIES



www.aradvocates.org