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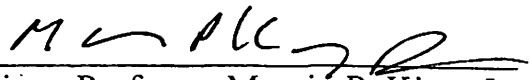
Mississippi: Striving for Average  
Policies and Suggestions to Combat the State's Obesity Epidemic


by  
Emily Morton

A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of the  
requirements of the Sally McDonnell Barksdale Honors College

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## Chapter One: Mississippi, *The Fattest State in the Country*

### *Introduction*

Mississippi has weighed in as the fattest state in the nation for the past six years and as implied by such a ranking, it has ranked among the lowest performers in other widely accepted indicators of overall health and well-being of its inhabitants. The state also reigns number one in adults who report absolutely *zero* physical activity within the past month and is second in heart disease mortality, diabetes, and hypertension rates, all diseases that directly correlate with obesity. Nearly twenty-five percent of Mississippi adults, the seventh highest rate in the country, smoke cigarettes and Mississippi is eleventh highest in cancer mortality and cerebrovascular disease deaths. The state has the highest teen birth rate and second highest infant mortality rate. To combat this overwhelming state of affairs would obviously require mass medical intervention but Mississippi ranks second from the bottom, in percentage of physicians per capita (Mississippi State Medical Association, 2010). A total of 400,000 annual preventable deaths in the US are due to poor diet and physical inactivity which is precisely why it is in Mississippi's best interest to act.

Due to the severity of the obesity disparity between Mississippi and other states in the nation there has been much research done on the issue at hand. After thoroughly establishing the state is currently operating in an unhealthy environment by pitting Mississippi against the rest of the country on widely accepted indicators of health, this

paper will discuss legislative actions that state, national and private organizations are pursuing in light of these problems, followed by a summary of individual states' overarching programs they have implanted with success either by means of legislation, mandates, or grant monies to combat obesity levels and raise nutrition awareness. The final portion will study the programs, procedures and incentives Mississippi is utilizing currently to improve the quality of life for its state's citizens and concluded with suggestions and feasible alternatives for Mississippi's future.

### *Kaiser Report*

The Kaiser Family Foundation is a non-profit, private operating foundation focusing on the major health care issues facing the U.S. and serves as a non-partisan source of facts, information, and analysis for policymakers, the media, the health care community, and the public. Kaiser focuses on over thirty factors that contribute to a state's overall "health" not including the percentage of citizens covered by health insurance, Medicare, Medicaid or the statistics for HIV/ Aids victims. Of the numerous factors taken into consideration three, obesity rates, nutrition information, and physical activity are what pertain most to this study.

Forty-four and one half percent of Mississippi's children versus 31.6% of children nationally are overweight or obese. While both statistics are uncomfortably high and reason for concern the fact that nearly half of all Mississippi kids are overweight is a real cause for alarm. Overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height. Overweight is defined as a Body Mass Index at or above the 85<sup>th</sup> percentile and lower than the 95<sup>th</sup> percentile while obesity is defined as a BMI at or above the 95<sup>th</sup> percentile for children of

the same age and sex (Center for Disease Control and Prevention, 2011). BMI is a measure of weight in relation to height that is used to determine weight status and is the most widely accepted method used to screen for overweight and obesity in children and adolescents because it is relatively easy to obtain the height and weight measurements needed to calculate BMI, measurements are non-invasive and BMI correlates with body fatness.

Mississippi is home to *the* fattest kids; they beat their closest three competitors, Arkansas, Georgia and Kentucky, by seven percentage points (Kaiser Family Foundation, 2007). Eight out of the ten states with the highest percentage of obese adults and eight out of ten states with the highest percentage of obese children are in the Southern United States. So Mississippi's jump in numbers clearly illustrates how Mississippi is not just the "leader of the pack" of the already alarmingly obese Southern states, but is in a group all on its own.

Thirty-three states have an approach to address childhood obesity, the majority of which do so by coupling physical education with school lunch programs. After the Kaiser report was published, Mississippi joined their ranks in 2007 after passage of the Healthy Student Act 2369 which will be discussed and evaluated in greater detail in the final chapter. An earlier attempt to address the inactivity of the state's school children was established in 1992 by Governor Kirk Fordice, the purpose of the Governor's Commission on Physical Fitness and Sports was to promote the health and well-being of Mississippians of all ages by advancing the levels of physical activity and fitness and has had success in awarding schools who participate in gold, silver, bronze level (Mississippi Department of Health, 2007). While admirable and definitely a noteworthy measure, the

program did not fully develop the potential improvements that a nutritionally balanced diet could bring to communities via their mission which is necessary for an encompassing health program and thus the Governor's Commission was not hugely successful and the poor health climate in the state continued on for nearly fifteen years (Kaiser Family Foundation, 2009).

As reported in 2003, only four states had legislation requiring standards above what USDA required for school meal programs. By 2007, nineteen states have nutritional standards for school lunches, breakfasts and snacks that are stricter than current USDA requirements. Mississippi is still in 2011 not one of those nineteen. The state has not charged a task force or committee to address the problem, even though Mississippi is the state with the most to gain from such involvement.

Mississippi does not require BMI screenings in schools, but has had several pilot programs with passive consent provide foundational data for trend analyses. Legislators could take a look at what Arkansas has done to combat the increasing waistlines in its schools (Bogden, 2009). In 2003 as a stipulation of Act 1220 passed in the state legislature, Arkansas became the first state to require BMI percentiles in student health records as part of a comprehensive law addressing childhood obesity. The program is increasingly considered a model for other states and in 2005, the Arkansas School BMI Assessment Project was chosen as one of ten nationwide winners of the Innovation in Prevention Awards presented by the U.S. Department of Health and Human Services (Kaiser Family Foundation, 2009). Act 1220 also created school nutrition and physical activity committees, banned vending machines in elementary schools, required public

disclosure of vending contracts in other schools, and established the Arkansas Child Health Advisory Committee.

An independent health policy organization, the Arkansas Center for Health Improvement (ACHI) was given responsibility for conducting the program. ACHI created a BMI Task Force in partnership with the Arkansas State Board of Education, local school districts, hospitals and the University of Arkansas among others to determine standard measurement and implementation strategies. The initiative was piloted at eleven schools where the ACHI supplied every school with the necessary equipment. Certified Community Health Nurses in each school district train school health nurses and any other school personnel responsible for assessment in the appropriate methods to collect assessment data. Success came fast and the program was quickly scaled up to involve ninety-four percent of Arkansas schools and more than 426,000 students in the 2003-04 school year. The proportion of participating schools has since climbed to nearly ninety-nine percent (Arkansas Center for Health Improvement, 2010).

### *Competitive Foods*

Mississippi places in the bottom ten of the states with less than ten percent of their middle and high schools offering fruits and vegetables as competitive foods (Arkansas Center for Health Improvement, 2010), which are defined as foods “sold outside reimbursable school meal programs, such as in vending machines, school stores, snack bars, or canteens;” fruit juice and fried vegetables are not considered to be fruit or vegetables (Arkansas Center for Health Improvement, 2010). They are coined as “competitive foods” because they are sold in competition to the nutritionally regulated

school meal programs. Minnesota ranks highest in the country with 39% of their middle and high schools offering fruits and vegetables as healthy alternatives for students.

Minnesota also has the lowest percentage of obese or overweight school children with about 23.1% versus Mississippi's 44.4% (Kaiser Family Foundation, 2007) . All schools that receive federal funding for their school lunch programs must comply with federal regulations concerning competitive foods and foods of minimal nutritional value (FMNV) in order to be in compliance with federal statues (Larson & Story, May 2007).

Federally reimbursable school breakfast and lunch programs must adhere to standards requiring lunches to provide one-third and breakfasts to provide one-fourth of the Recommended Dietary Allowances (RDA) for protein, vitamin A, vitamin C, iron, calcium and calories. These meals must also meet the Dietary Guidelines for Americans and must provide no more than thirty percent of calories from fat and less than ten percent of calories from saturated fat (Larson & Story, May 2007). Yet, competitive foods are not required to meet any such standards. Essentially only ten percent of Mississippi's schools offer fruits or vegetables as options for students approximately ages 11 to 18. This is the age in which children and young adults are coming into their own and are forming the kinds of lifestyle habits that they will maintain throughout the rest of their lives and the state of Mississippi, by depriving them of the opportunity to choose fruits and vegetables versus chips and cookies, is creating excessive burdens for them to make health conscious choices. All these aforementioned factors, while not individually threatening, culminate to create and perpetuate the culture of obesity that sets Mississippi's children on a lifelong path of weight and consequently health struggles.



### *Food Policy Councils*

Increasing in popularity are Food Policy Councils, which comprised of stakeholders from various segments of a local food system and bring together players in this food system that normally would not come into contact. The Kaiser Foundation notices this trend and has subsequently listed whether or not these councils have a presence in the state to be a key factor in determining the health environment. FPC's are collaborations between citizens and government officials whose primary goal is to examine the operation of a local food system and provide ideas and recommendations for improvement through public policy change. They allow for a comprehensive examination of the players and their role in the food system and are an effective forum to determine if members of society are being efficiently served. A common issue food policy councils agree to undertake and tackle is to increase communication with school officials that result in school systems deciding to purchase fresh foods from local farmers and growers, which consequently leads to healthier food alternatives to be available to students while supporting the local economy (Drake University Agricultural Law Center, 2008).

Some of the leanest states, namely Colorado which has the lowest obesity rate in the country, utilize these food policy councils (Kaiser Family Foundation, 2009). Mississippi currently has a food policy in the very beginning stages which is a great improvement however this organization has yet to go public and therefore has had little no effect on the state's health environment.

Colorado's are formed and managed at the local level in order to facilitate their mission to promote locally based food and agricultural systems that advances the

economic and social well-being of the area. The FPC based in Boulder, CO has six stated goals; to increase food production in Boulder County, improve access to locally produced food, improve economic viability of agriculture, recognize and enhance the role of Boulder County's food and agriculture system in conserving and regenerating natural resources and the environment, improve health for all Boulder County residents and finally to build community bridges (Boulder Colorado, 2010).

The Sustainability Alliance of Southwest Colorado in La Plata County has a primary focus on local Farm-to-School Policies. Their activities include getting local food into schools single products as a pilot program, as special event local meals, or as an ongoing part of the menu also to ensuring nutritious food whatever the source in school meals, special events, and vending machines and lastly and maybe most importantly getting food and agriculture education nutrition education in the classroom via cooking demos, farm trips, and school gardens (Sustainability Alliance of Southwest Colorado, 2010).

### *Farm to School*

Mississippi is not one of the twenty one states utilizing farm-to-school policies (Farm to School, 2011), Colorado, one the leanest of all states, utilizes farm to school. Their methods are effective and Mississippi might consider mimicking their programs. The National Farm to School Network “sprouted from the desire to support community-based food systems, strengthen family farms, and improve student health by reducing childhood obesity (Farm to School, 2011).”

Programs are based on the premise that students will choose healthier foods, including more fruits and vegetables, if products are fresh, locally grown, and picked at

the peak of their flavor and if those choices are reinforced with educational activities. Their ease of access coupled with the educational benefits to influence lifestyle improvements of any individual, regardless of age, who comes into contact with the program are the main reasons The Kaiser Foundation (and subsequently this paper) follows them so closely. The presence and activeness of Farm to School Programs inherently illustrates public concern for public health.

There is not a prescribed “method” for farm-to-school policies, which is part of their appeal. This allows states like Mississippi to aim for general goals while being able to tailor the programs to fit unique communities and regions. What works for a school system in Colorado may not operate as smoothly for a school in the South but some of the methods amassing from over the 2,000 programs might inspire policymakers and activists and be useful in preparing Mississippi’s operating procedures.

Children consume thirty-five to forty percent of their daily calories, on average, while at school and the typical food item in the U.S. travels 1,500 to 2,400 miles from farm to plate (Farm to School, 2011). These programs result not only in increased student enthusiasm, participation and awareness of their ties to the community but, have actual calculable benefits. The choice of healthier options in the cafeteria through Farm to School meals results in consumption of more fruits and vegetables with an average increase of 0.99 to 1.3 servings per day, including food choices made at home (U.S. Department of Agriculture, 2011). Implementing farm to school policies in the areas that are in the most need of nutrition intervention could accomplish many things for Mississippi. This would simultaneously support local rural economies and vastly increase

the accessibility of fresh produce to children, making them more cognizant of practical health choices at a young age.

The most recent data from the U.S. Department of Agriculture shows that as of the year 2000, Mississippi has approximately 42,000 registered farms in the state (U.S. Department of Agriculture, 2011). The state's total land area covers 30,012,193 acres with 11,456,241 dedicated to farmland thus meaning that close to one-third of Mississippi's entire land area is dedicated to farming and livestock which far surpasses the national average of only a mere two and one half percent (Farmland Information Center, 2010). Why is the state not capitalizing on benefits this industry could contribute to reversing the current trend in obesity? Why is the food being consumed in food cafeterias traveling over 1,500 miles before consumption when vast resources are at hand so nearby? These concerns will be studied and addressed in the final chapter.

While farmer's markets have long existed in American communities, the consumer trend of supporting locally grown and produced products is on the rise; for instance, nationally more than two thousand farmer's markets have opened since the mid 1990's. While analyzing the health environment of a state the Kaiser Foundation looks closely into the prevalence, accessibility, and usefulness of farmer's markets. In a rare occurrence, Mississippi is actually close to the national average, having 1.4 farmer's markets per 100,000 people versus 1.7 nationally (Kaiser Family Foundation, 2009). Yet very few of those markets accepts EBT cards and just 2.4% accept WIC FMNP coupons which pale in comparison to the 94% of Massachusetts farms that do or the 80% of South Carolina's farms are able to boast. Mississippi markets face barriers regarding

implementing and operating the electric devices required to read the EBT cards but these factors will be discussed in depth momentarily.

The Mississippi Department of Agriculture and Commerce along with other state partners coordinates two programs that bridge together farmers with consumers and low-income residents, the WIC Farmers Market Nutrition Program (WIC FMNP) and the Senior Farmers Market Nutrition Program (SFMNP). The WIC FMNP is a program designed to provide nutrition benefits to WIC clients and promote the purchase of Mississippi grown fruits and vegetables from farmers at local farmers' markets throughout Mississippi. Specially printed checks are provided on a one-time basis to participants enrolled in WIC in communities with farmers' markets. Five three dollar checks are issued as a one-time benefit at the agency sites and are redeemed by participants for the purchase of fresh fruits and vegetables from farmers participating in the program which runs the month of June through October. Farmers' markets are selected for the program based on specific criteria including proximity to WIC nutrition sites, WIC target nutrition areas, and areas of farm produce availability and are currently takes place in Bolivar, Hinds, Holmes, Lauderdale, Noxubee, Sunflower, and Warren counties (Mississippi Department of Agriculture and Commerce, 2010).

The Senior FMNP has the same aim as WIC FMNP, to promote the purchase of locally grow produce. Beginning with a pilot project in 2002 and 2003 the Mississippi Department of Agriculture and Commerce paired with the Mississippi Department of Human Services printed special checks to participants above the age of 60 who receive services from the Area Agency on Aging in communities that have farmers' markets. In 2004 the program began to be funded by a USDA grant and affects up to 4,000 seniors in

Adams, Carroll, Desoto, Forrest, Harrison, Hinds, Holmes, Lawrence, Leflore, Lowndes, Marion, Oktibbeha and Walthall Counties and other areas throughout south Mississippi (Mississippi Department of Agriculture and Commerce, 2010).

The fact that farmers' markets struggle to accept EBT cards truly hinders those most at need. Currently, the USDA no longer issues food stamps as their main way of distributing aid; instead money is loaded onto an EBT card, now coined "SNAP", for recipients to use at their discretion. This obviously simplifies streamlines and updates the process. Individuals and families who receive SNAP funds must meet the government's requirements of having a gross household income (before taxes) at or below 130 percent of the current federally named poverty level. As of 2009, a single person may earn \$1,174 per month while a family of four may earn \$2,389 (Mississippi Department of Agriculture and Commerce, 2010). So those receiving benefits obviously need to stretch their food dollar allowances as far as they possibly can.

Seattle University economics professor, Stacey Jones, discovered that the farmers' markets charged lower prices pound for pound than supermarkets for 15 items, including apples and carrots. Tulsa, Oklahoma based owners of a farmers' market decided to conduct their own survey comparing their prices with three supermarkets in July 2005. Romaine lettuce was the first item they compared. Wal-Mart charged only \$1.38 for a head, but it only weighed one pound. The farmers' market charged \$2.50 for a three pound head (Mississippi Department of Agriculture and Commerce, 2010). These repeated findings illustrate the cost effectiveness for the individual of purchasing fresh produce items from farmers markets as opposed to grocery super-centers.

### *Conclusion*

The study funded by the Kaiser Foundation clearly illustrates that the state of Mississippi is obviously operating in a sordid environment which was going unchecked until after this study was released in 2007. Kaiser reports that Mississippi is the fattest state in the country and has by far the most alarmingly high rates of childhood obesity with 41.5% versus the national average of 31.6%. Mississippi schools do not require Body Mass index screenings for school age children as part of health curriculum and has not put into place any stricter cafeteria meal standards than what the USDA requires, which until 2011 had not been updated since the 1980s. Kaiser reports the state has no Food Policy Councils which are charged as acting as liaisons between the citizens, the government and food production systems but thankfully for Mississippi this changed in the later half of 2010. However the FPC is still in the development stages but great success is hoped for. Of highest concern, is the state's apathy towards Farmers Markets and Farm to School Policies. The study illustrates that this avenue is completely underdeveloped. Due to the aforementioned list of grievances against the state's health environment the following chapter will take a look at national trends primarily via legislative action in addressing the promotion and enforcement of health conscious environments.

## Chapter 2: National Legislative Trends in Nutrition Programs

### *National School Lunch and Breakfast Program Overhaul*

From 2009 through 2010 an average of over thirty-one million children in more than 99,685 schools and residential child care institutions participated in the National School Lunch and Breakfast Programs on a typical day (Food Research and Action Center, 2010). Mississippi served 68,249,889 lunches and 34,361,982 breakfasts through the National School Lunch and Breakfast Program (NSLP and NSBP, respectively) during the 2010 fiscal year (U.S. Department of Agriculture, 2011). Established through federal legislation in 1946, the aim of the program is to offer parents the opportunity to provide nutritious meals to their schoolchildren in the most convenient and cost-effective way possible. USDA research indicates that children who participate in school lunch programs have superior nutritional intakes compared to those who do not participate and are more attentive in the classroom with higher levels of cognitive development.

The meals offered through the NSLP must provide school children with one-third or more of their Recommended Dietary Allowance (RDA) for key nutrients. These lunches are required to provide no more than thirty percent of calories from fat and less than ten percent from saturated fat<sup>2</sup>. The Child Nutrition and WIC Reauthorization Act of 2004 required every school district that participates in the National School Lunch Program to enact a local school wellness policy, which must address goals for nutrition education and physical activity, nutrition guidelines for all foods available in school as



well as goals for other school based programs to promote student health (Food Research and Action Center, 2010). Legislation places the responsibility of developing a wellness policy at the local level so the individual needs of each district can be addressed and implemented by 2006.

Not surprisingly though, the criteria for funding and eligibility has been revisited many times in Congress since its inception but the nutritional guidelines, in essence the aim of the program, has not been updated for close to fifteen years. The Obama administration signed into law the “Healthy, Hunger-Free Kids Act of 2010” which, among many other objectives, will update nutrition standards for meals served through the National School Lunch and School Breakfast programs. The new proposed meal requirements will raise standards for the first time in fifteen years and will make critical changes to school meals and help improve the health and nutrition of nearly 32 million kids that participate in school meal programs every school day (U.S. Department of Agriculture, 2011). The proposed changes to school meal standards, which would add more fruits, vegetables, whole grains, fat-free and low-fat milk to school meals, are based on recommendations released in October 2009 by the National Academies' Institute of Medicine. Schools would also be required to limit the levels of saturated fat, sodium, calories, and trans fats in meals but will also be allowed a six cent per lunch increase in reimbursements.

School districts shall adopt the Dietary Guideline recommendation that trans fatty acids will be kept “as low as possible” and “should limit fried foods whenever possible and practical (U.S. Department of Agriculture, 2011).” The legislation sounds just like

what Mississippi needs to help fight their childhood obesity epidemic at the place where typically at least one-third of kids' calories are consumed, at the school.

### *Mississippi School Wellness Principal Survey*

In 2006, a study from the University of Southern Mississippi, College of Health, prepared a survey to be fulfilled by principals in relation to the school wellness program that was required by the Child Nutrition Act of 2004 and was reported to The Center for Mississippi Health Policy. The survey was sent to all 882 public schools in the state, 41.8% participated. Among the respondents, 75.9% reported having developed and approved a local wellness policy and sixty-five percent had established a school health council. However, only 44.4% of the schools indicated they had implemented all five *minimum* requirements of the standard, 43.9% had conducted a needs assessment, and 27.4% exceeded the minimum implementation standards (Kolbo, Molasin, Rushing, Zhang, & Federico, 2006).

Among respondents who indicated that they had implemented all five components, their schools had a higher percentage of students receiving health, nutrition, and physical education. Half (50.2%) of the respondents indicated that more than 50% of their students received a health education curriculum that was consistent with state or national standard. Also, 40.6% of these reported that those who taught health education held no certification to teach health education. Seventy-three percent of the respondents reporting that physical education was taught five times a week. The overall summary of this information though is that although implementation of the Local Wellness Policy was required by July 2006, less than half of the respondents (44.4%) reported implementation at the time of data collection. The highest rates of involvement in

nutrition, health, and physical education are in the elementary schools, followed by middle schools, and then in high schools and the highest percentages of participation were in physical education, followed by health, and then nutrition education.

It could benefit Mississippi to emulate South Carolina, which also battles growing waistlines, in its attempts to promote health conscious school environments (South Carolina Department of Education, 2004). The state Department of Education appointed the Student Nutrition and Physical Activity task force with the mission to tackle and suggest improvements to the schools. It has constructed an extensive handbook that outlines precisely what schools are required to implement and further suggestions. Such information includes criteria necessary from the beginning for an effective learning environment to foster the teaching of information regarding healthy lifestyles then progresses into requirements of school meals, and criteria for competitive food sales. The resource then provides an overall assessment of student physical activity in order to sufficiently construct a physical education program based on the various student needs (South Carolina Department of Education, 2004). The apparent advantages of South Carolina's endeavor is the enactment of measurable goals and implementation methods laid out succinctly makes navigation and execution of the goals far more realistic and obtainable as opposed to autonomy for school principals to implement as he/she sees fit.

#### *Healthier U.S. School Challenge*

The Healthier U.S. School Challenge is a White House initiative challenging schools to provide healthier environments to their students by promoting nutritious foods, increasing physical activity and supporting overall more health conscious environments. The program's lead spokesperson is First Lady Michelle Obama who has taken on the

mission as a personal endeavor and has been actively participating in spreading the news of this White House program to encourage schools to participate. The challenge sets empirical goals for schools to meet in order to qualify for the monetary incentives awarded to the Bronze, Silver, and Gold level schools.

Mississippi has experienced some success in improving its schools through the challenge and has gained recognition for seven Silver level schools meaning they have taken a leadership role in helping students learn to make healthy eating and active lifestyle choices.

### *Farm to School Legislation*

There has undeniably been a national movement toward organic, sustainable, locally grown and raised food over the past decade and this trend is only increasing in prevalence and the popularity and public support for farm to school policies in the legislature is no different. Legislators from both parties, hailing from all regions of the country, have shown their support for such by sponsoring or signing onto these bills.

As noted earlier, school systems nationwide have taken hold of this cultural development and embraced the notion. Farm to School is broadly defined as a program that connects schools (K-12) and local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers. The program teaches students about the path from farm to fork, and instills healthy eating habits that can last a lifetime. At the same time, use of local produce in school meals and educational activities provides a new direct market for farmers in the area and mitigates environmental impacts of transporting food long distances.

Existing research shows that farm to school programs influence students on many levels, increasing their knowledge and awareness about food sources, nutrition, and eating behaviors and lifestyles. The choice of healthier options in the cafeteria through farm to school meals results in consumption of more fruits and vegetables (+0.99 to +1.3 servings/day) and at home (Farm to School, 2011). The health department recommends four servings of vegetables and three servings of fruit daily. In Philadelphia, the percentage of kindergartners who knew where their food came from increased from 33 percent to 88 percent after participation in a farm to school program (Farm to School, 2011). In one school in Ventura, CA, on days in which there was a choice between a farmers' market salad bar and a hot lunch, students and adults chose the salad bar by a 14 to 1 ratio (Farm to School, 2011).

Origins of the National Farm to School Network date back to a collaborative project, the National Farm to School Program, led by the Center for Food & Justice in 2000. A four-year project funded by the USDA Initiative for Future Agriculture and Food Systems (IFAFS 2000-2004), the National Farm to School Program spearheaded the development of the farm to school movement across the country, successfully assisting organizations in starting up and sustaining farm to school efforts, fundraising, and providing informational resources, education and training for stakeholders. Farm to School programs have spread to approximately 400 in 2004, 1,000 in 2007 and over 2,000 in 2010 spanning all 50 states. In order to sustain and build on the momentum created through the National Farm to School Program, over 30 organizations across the nation gathered in 2005 to explore the opportunities for a collaborative national farm to school structure that strengthened and expanded activities in states with existing

programs and assisted others that did not yet have programs. Out of this planning process, the National Farm to School Network was born in 2007. The National Farm to School Network is supported in part by a \$2.4 million grant from the W.K. Kellogg Foundation (Farm to School, 2011).

The benefits of Farm to School programs have been applauded by the national government as well. Secretary of Agriculture Tom Vilsack in a quote from the Washington Press in February 2009 said “My job is to listen to the President, the ultimate vision maker... The vision is, he wants more nutritious food in schools. In a perfect world, everything that was sold, everything that was purchased and consumed, would be local so that the economy would receive the benefit of that. One thing we can do is to make that happen.” Vilsack’s direct comment about the benefits to the economy was no accident. The farmer’s current share of every food dollar has dropped to 19 cents from 41 cents in 1950 (Farm to School, 2011). As a result, many farmers have a hard time just breaking even. Three hundred thirty farm operators leave the farm every week, and the average age of farmers nationally is 57 years. The U.S., with only 2.2 million farmers, now has more prisoners than farmers (Farm to School, 2011).

The Farm to School Network actively works with Congress in order to ensure lasting results for their work. Currently they are focused on making sure their expertise is utilized while Congress forms and votes on the Child Nutrition Reauthorization Act which is precisely aimed at improving school meals. There are six bills that involve farm to school policy that will hopefully be included into the overall act. Of most interest are the following four. Bill H.R. 4710, Farm to School Improvements Act of 2010, sponsored by Rep. Rush Holt (D-NJ) would provide \$50 million in mandatory funding for a

competitive grant program supporting Farm to School programs at USDA. H.R. 4333, Children's Fruit and Vegetable Act of 2009 sponsored by Rep. Sam Farr (D-CA) is a comprehensive bill aimed at supporting salad bars in school, increasing funding for equipment, and also includes language similar to Rep. Holt's language in support of Farm to School (Farm to School, 2010). H.R. 5456 National Farm-to-School Act of 2010 by Rep. Betty McCollum (D-MN) would authorize discretionary funding for a competitive grant program supporting Farm to School programs at USDA, and encourages the use of existing USDA programs to support Farm to School efforts. And finally is H.R. 5209 Healthy Communities through Helping to Offer Incentives and Choices to Everyone in Society Act of 2010 sponsored by Rep. Ron Kind (D- WI) and is a comprehensive bill aimed at combating obesity and includes language authorizing Farm to School programs (Farm to School, 2010).

The Farm to School Improvements Act (H.R. 4710) would establish a competitive grant and technical assistance program to increase the use of local foods from small and medium sized farms in schools. The legislation would provide \$10 million in mandatory funding each year for five years or the duration of the program and require that grant recipients provide a local match to ensure serious commitment to the project. This competitive grant program is designed to improve the nutritional health and well being of children while supporting experiential nutrition education activities and procure local foods from small and medium-sized farms while increasing farm income by facilitating farmers' access to institutional markets including schools (Farm to School, 2010). The bill was not passed into law by the 111<sup>th</sup> Congress and was cleared from the

books. It was reintroduced to the House Committee on Education and Labor in March 2010.

H.R. 4333 also failed to be passed into law even though many applauded it for its straightforward and practical approach to improving childhood nutrition. The Children's Fruit and Vegetable Act of 2009 would amend the Richard B. Russell National School Lunch Act to direct the Secretary of Agriculture to promote the use of salad or fruit and vegetable bars in schools participating in the school lunch program, provide training and technical assistance to states and schools on how to do so, and provide grants to states for a one-time payment to schools for the cost of setting up and operating salad or fruit and vegetable bars (Farm to School, 2010). The bill would direct the Secretary to identify and remove barriers to the equitable purchase of fruits and vegetables within the Secretary's procurement and distribution systems and authorize the Secretary to use administrative funds under the Act's fresh fruit and vegetable program to provide program participants with technical assistance and national and regional training conferences that emphasize best practices.

The School Breakfast Program and the National School Lunch Program are permanently authorized. However the other child nutrition programs that affect school nutrition operators must be reauthorized every five years which is why the aforementioned bills were penned, in the hopes of changing the 2004 Child Nutrition Act while it came up for reauthorization in 2009. The 2004 version included just one provision on farm to school: a seed grant program with \$10 million in discretionary funding that has failed to receive an appropriation (Farm to School, 2010).



The Healthy, Hunger-Free Kids Act (S. 3307) passed the U.S. House of Representatives on December 2, 2010, yet some of the details of the new “Public Law” (P.L. 111-296), such as the nutrition standards for competitive foods, will have to be developed and thus are not set into law. These stipulations are found in section 204 of the document which directs the Secretary of Agriculture to establish science-based nutrition standards for all foods sold outside of the National School Lunch Program and on the school campus at any time during the school day. In developing these standards, the Secretary of Agriculture is required to consider authoritative, scientific recommendations and existing school nutrition standards, including voluntary guidelines. Section 205 amends the previous bill to mandate “Local School Wellness Policy” to be enforced in school systems. The goals of these programs are various but mainly to:

“promote nutrition and education, physical activity and education, and other school-based activities that promote student wellness, ... nutrition guidelines for all foods available on each school campus under the jurisdiction of the local educational agency during the school day and ... a requirement that the local educational agency designate a standing local wellness policy committee comprised of parents, students, representatives of the school food authority, teachers of physical education, school health professionals, the school board, school administrators, and the general public to participate in the development, implementation, and periodic review and update of the local school wellness policy... (Govtrack US, 2010)”

Section 208 of the bill has now been relegated to Farm to School Policies, a switch from the “local gardens” term used in previous documents. The revised bill states the Secretary will provide assistance to schools through competitive grants and technical assistance. These grants may be used in numerous ways, including planning, design, and establishment of farm to school policies by linking school and institutional food service providers along with the planning and implementation of school gardens. The remainder

of the section discusses the terms for being awarded a grant and to what extent the grant may cover the costs and other fiscal considerations (Govtrack US, 2010). The Secretary will give highest priority of consideration of grant funds to school activities that make local food products from small and medium-sized farms available on the school menu for the lunch program, serve a high proportion of children who are certified as eligible for free or reduced price lunches; incorporate experiential nutrition education activities in curriculum planning that encourage the participation of school children.

The prevalence of bills being proposed to legislatures all across the nation illustrates the widespread support for promoting nutritious options to be available in school cafeterias and for those individuals who struggle to squeeze the cost of fresh produce into their budgets. The survey of Mississippi principals indicates that states, even fiscally conservative ones like Mississippi, are concerned with ensuring that their public institutions are complying with the nationally progressive measures the administration has been continually active in pursuing since the reauthorization of the Child Nutrition Act of 2004.

#### *EBT Cards and Farmer's Markets*

Released on June 24, 2010, the USDA released a report to Congress stating their support of increasing EBT, which is essentially the debit card that SNAP monies are loaded to for easier use versus food stamp coupons, at farmer's markets (USDA, Food and Nutrition Service, 2009). USDA recently awarded about \$4.5 million in Farmers' Market Promotion Program (FMPP) grants and, by law, at least 10 percent of these grant funds went to new EBT projects. While the FMPP grants are making great progress in implementing SNAP EBT, the report illustrates that four million more dollars will be

required in to be added to the Fiscal Year 2011 budget to ensure further success of the program. (USDA, Food and Nutrition Service, 2009) Because all Supplemental Nutrition Assistance Program (SNAP) benefits are issued electronically via EBT, increasing the availability of EBT equipment would improve a market's ability to serve SNAP participants. The Food and Nutrition Service (FNS) has a fundamental interest in ensuring that SNAP households have access to the fresh, nutritious foods available at farmers' markets. Current FNS rules do not require SNAP State agencies to pay for EBT equipment and transaction fees, either when the infrastructure to support those terminals is not present (no electricity or land line), or if the amount of EBT business conducted is so little to not justify the equipment. FNS concludes that the most efficient way to equip farmers' markets with SNAP EBT is to provide one wireless EBT terminal per market (USDA, Food and Nutrition Service, 2009).

The USDA AMS defines a farmers' market in the grant proposals for the Farmers' Market Promotion Program (FMPP) as, *a direct marketing operation including two or more farmers/farm vendors who produce and sell their own products through a common distribution channel directly to consumers, and where the sales of these farm products represent the core business of the entity.* AMS and the New York City Greenmarket program, which includes over 40 farmers' markets, collaborated to study the factors driving farmers' market success in low income and mixed income areas. The preliminary results show that markets with EBT in low income areas experience a greater level of success than those that either do not have EBT or manage one with little SNAP participation (USDA, Food and Nutrition Service, 2009). If run effectively, the findings

suggest the implementation of EBT helps attract a new customer base and is a significant factor in the longer term viability and success of such farmers' markets.

According to AMS, as of September 2009, there were approximately 5,274 farmers' markets operating across the Nation. At the end of FY 2009, approximately 936 farmers' markets were authorized to accept SNAP benefits. Of those, approximately 688, or 73 percent, had performed an electronic transaction in the past 12 months (USDA, Food and Nutrition Service, 2009). Funding is available through Federal grants. The 2008 Farm Bill increased the amount of grant funds and specified that at least 10 percent of the grant funds must be directed to the establishment of new EBT projects. The law designates that \$5 million be allocated by AMS in FY 2010 for the FMPP grants to support farmers' markets. Funds for FY 2011 and FY 2012 are \$10 million per year and the funds set aside for EBT may be used for a variety of activities; in addition to purchasing equipment and related fees, a new EBT project can use grant funds for training, personnel, designing script or tokens, outreach and market promotion, and research (USDA, Food and Nutrition Service, 2009).

### *Conclusion*

The prevalence of legislation being introduced shows a consistent agenda by legislators and grassroots organizations, as well as continued activism in the White House. President Obama's "Healthy, Hunger-Free Kids Act of 2010" was a tremendous step by the national government to update, rejuvenate, and initiate momentum regarding children's health as entitled to schools. This coupled with the First Lady's *Healthier US Schools Challenge* depicts the couple's ambitions of improving health environments in America's schools. Congress also updated the USDA meal nutrition guidelines for the

first time in fifteen years by utilizing the most recent and effective science and research available.

The University of Southern Mississippi's survey regarding the actual, real-life, implementation of the national government's 2004 mandate requiring schools to construct and operate within school wellness programs showed that even two years after the legislation, Mississippi continues to lag behind with only about 75% of responding public schools have complied. The survey was completed by less than half, forty-four percent, of schools affected by the bill leading researchers and scholars alike to question whether perhaps the large portion of unresponsive schools have not complied and therefore did not feel positive effects would follow completing the survey.

White House and both houses of the national Congress have made clear and consistent initiatives towards addressing national health. While a number of potential bills were not passed into law, their legacy and aims have not gone unnoticed and all in all the push for farm to school legislation and support for increasing ease of access to farmers markets continues to remain at the forefront of affairs. After taking a look at the national climate regarding such policies, the following chapter studies how individual states, Minnesota, South Carolina and Arkansas are improving the health of their environments at the state versus national levels.

### Chapter 3: How States are Initiating Change by Their Own Means

#### *Minnesota*

The Minnesota Department of Education's Food and Nutrition Service (FNS) administers school and community nutrition programs for over 700,000 Minnesota children and adults through over 1,000 local schools, child and adult care facilities and summer food program sites (Minnesota Department of Health, 2010). Participants receive nutritious meals and education to help them learn and practice healthy habits for a lifetime of wellness. FNS helps local schools and districts work to decrease salt and fat, increase fiber and use low fat dairy products, whole grains, and fresh fruits and vegetables in students' meals. Minnesota has the lowest percentage of overweight and obese school age children in the country (23.1%) (Kaiser Family Foundation, 2007). Minnesota is now participating in The Great Trays Partnership which offers schools tools and training to access healthier foods at lower prices and plan meals with more whole grains, fruits and vegetables, no trans fat and less sodium and saturated fats. It is funded through a 2.3 million dollar two-year grant from U.S. Centers for Disease Prevention and Control awarded to the Minnesota Department of Health (Minnesota Department of Health, 2010).

The Great Trays Partnership provides active training for food service staff and encourages participation in a statewide cooperative to purchase healthy food at great prices. It encourages both public and public charter schools to join the Minnesota School

Food Buying Group which started in the 2006-07 school year with 15 districts looking for ways to reduce the costs for school food. At the core of their belief was that the quality of food should not be sacrificed for sake of cost, in fact the members felt that due to the child nutrition problem that had spawned the CDC grant allowing them to form, the quality of food needed to *increase*. MSFBG requires zero trans fat, lower sodium and saturated fat in popular school foods and increase bid requests for whole grain products, fruits and vegetables (Minnesota Department of Health, 2010). The group believed that they could attain savings through volume. The first year was reported as a learning process, but by the second year the districts projected close to \$1,000,000 in combined savings.

Part of the Great Trays initial program was to encourage participation in Farm to School Programs within Minnesota. Many administrators were concerned with the monetary and excess time costs they associated with the incorporation of a this institution but the increasing prevalence of the programs illustrates that either the speculative costs were not burdensome or the administrators considered them worthwhile. A combination of both is most likely true. The “Third Annual Farm to School Survey” released in March 2011 found that the number of Minnesota school districts engaged in Farm to School rose from only 10 districts in 2006 to 123 in 2010 (Institute for Agriculture and Trade Policy, 2011). Among school districts engaged in Farm to School, “70 percent purchased directly from a farmer- or producer-owned business, while 78 percent purchased Farm to School foods via a distribution company. Most districts engaged in Farm to School reported purchasing up to \$25,000 in foods grown or raised in Minnesota during 2010 (Institute for Agriculture and Trade Policy, 2011).” Because of the ample positive

feedback the schools and farmers have both received from the program paired with the increase of fruit and vegetable consumption by the student body, 68 participating districts indicate that they will expand their Farm to School effort, while 49 plan to continue their program at about the same level. Only one district said they will reduce, but not entirely eliminate, their Farm to School participation (Institute for Agriculture and Trade Policy, 2011).

### *South Carolina*

Beginning around 2000, South Carolina charged a task force with evaluating the state's schools atmosphere in light of growing national concern for school nutrition and health policies as mentioned in Chapter Two. In 2004 the South Carolina Board of Education published a handbook to improve student nutrition and physical activity for its schools based on the findings of the task force. Inspired by a quote from the Center for Disease Control and Prevention from 1996, "School-based programs can play an important role in promoting lifelong healthy eating. . . . School-based nutrition education can improve dietary practices that affect young persons' health, growth, and intellectual development" the handbook encourages school administrators to consider the environment their students inhabit (South Carolina Department of Education, 2004). Does the school teach good nutritional practices in the classroom and maintain these lessons through their actions in the cafeteria and other places on campus? The USDA authoritatively says that healthy school nutrition environment gives students consistent, reliable health information. The South Carolina handbook illustrates ways in which school can do this through focusing on six factors outlined by the USDA such as a



commitment to nutrition and physical activity, quality school meals, other healthy food choices, pleasant eating experiences, nutrition education and marketing (South Carolina Department of Education, 2004).

Following the report documented by the task force, the South Carolina legislature approved the Students Health and Fitness Act in June 2005 and pledged \$66 million to begin implementing its provisions over the next three years (South Carolina General Assembly, 2006). The legislation is all encompassing in its relationship with school age children, addressing physical activity, nutrition standards, and school nurses. The legislation is effective because it establishes calculable goals for schools boards to reach and shows them the most efficient way to reach those goals via the task force handbook. Some of the provisions in the bill regarding physical activity include the legislature pledging \$23 million over three years for an additional 250 physical education teachers statewide so elementary schools can boost physical activity time, elementary students must have 60 minutes of physical education and 90 minutes of physical activity weekly, student-teacher ratio for physical education must be 700-to-1 in 2006-07, 600-to-1 in 2007-08; and 500-to-1 in 2008-09 (South Carolina General Assembly, 2006). The legislation is making better nutritional environments a *requirement* in the schools with this bill as opposed to previous “encouraging” them. Districts must include a school health improvement plan in their strategic plans, school boards must develop policies to limit vending sales and other sales of “minimal nutritional items” in elementary school and elementary schools must ensure that students have at least 20 minutes to eat lunch once it is served (South Carolina General Assembly, 2006).

## *Arkansas*

In 2003, Arkansas Act 1220 became the first law in the nation with comprehensive, multi-pronged approaches that bring families, schools, and communities together to combat the epidemic of obesity. The goals of the legislation were to change the environment within which children go to school and learn health habits and engage the community to support parents and build a system that encourages health. The bill broke down into seven major components that go as follows 1) Remove elementary school student access to vending machines offering food and beverages. 2) Develop recommendations to ensure that nutrition and physical activity standards are implemented to provide students with the skills, opportunities and encouragement to adopt healthy lifestyles. 3) Require schools to include as part of the annual report to parents and the community the amounts and sources of funds received from competitive food and beverage contracts. 4) Require schools to include as part of each student's health report to parents an annual body mass index (BMI) percentile. 5) Require schools to annually provide parents an explanation of the possible health effects of body mass index, nutrition and physical activity. 6) Require every school district to convene a school nutrition and physical activity advisory committee. 7) Create the child health advisory committee to address childhood obesity and develop statewide nutrition and physical activity standards (Arkansas General Assembly, 2004).

The legislative process involved placing in the bill provisions on which there was clear agreement, such as removing vending from elementary schools. But where issues became more controversial, such as vending in middle and high schools, the advisory committee was directed to make recommendations to the state Board of Education (Fried

& Simon, 2007). This approach had the added benefit that the advisory committee could make independent recommendations without review or approval by either the legislature or the governor. The bill became law without controversy in April 2003. The Committee meets monthly and has made initial policy recommendations to the State Board of Education and the State Board of Health (Child Health Advisory Committee of Arkansas, 2004).

The University of Arkansas Medical Sciences released a report in May 2007 after following Act 1220 to report its evaluations. The key findings of the report show positive progress being made due to the legislation. 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 (University of Arkansas Medical Sciences, 2007). Fifty-three percent of districts (up from 18% in Year One) disallowed 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 (University of Arkansas Medical Sciences, 2007).

Changes in school policy and practices related to physical activity were less likely than those related to food and beverages though. 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. Although mandated annual body mass index (BMI) screenings for every public school student raised controversy initially, the majority of parents felt comfortable with the measurement and confidential reporting process in the third year (University of Arkansas

Medical Sciences, 2007). School administrators experienced fewer problems with the process and parents reported an increased awareness of health risks associated with childhood obesity.

According to an account by several employees with the Arkansas Center for Health Improvement (the agency charged with overseeing BMI measurements), there are important lessons to be learned from the Arkansas experience, most notably the following:

*A proposed policy (such as legislation) should be clear in its intent and in the mechanism with which to achieve the desired change, yet not attempt to prescribe in detail what the changes must be (for example, creating the CHAC to recommend rules and regulations provided a mechanism for future change without generating resistance to the proposed legislation) (University of Arkansas Medical Sciences, 2007).*

Through the trial and error method, people working closest to Arkansas's ratification and implementation processes have discovered what the most effective ways for reaching their team's goals are. The first is to succinctly determine which are obtainable and then formulating a method to get there. If eliminating vending machines from schools is a highly sensitive subject to legislators due to the financial contributions associated with the industry then explore other ways to reach the same goal, like Arkansas did by creating the CHAC so experts, not politicians, are the ones responsible for necessary changes.

*Negative Effects of Competitive Foods in Schools  
Duke Law Journal: "The Fried Food Conundrum"*

While the debate over whether the obesity epidemic is a personal problem or growing into a public health concern rages on, there is little debate regarding whether of

not schools possess a responsibility to address the matter and maintain a health conscious atmosphere. As stated previously, The National School Lunch Program (NSLP) serves twenty-nine million school children every day and costs American taxpayers more than \$7 billion a year to provide purportedly “nutritionally balanced” meals. Not surprisingly though as noted previously, many students are filling up on items loaded in fats, calories and sodium while providing minimal nutritional value. These “junk foods” are the same coined as “competitive foods” since they compete with federally funded meals.

With 83 percent of elementary schools, 97 percent of middle and junior high schools, and 99 percent of high schools selling competitive junk foods, the potential impact on children’s health is enormous which is precisely the reason schools *do* maintain a responsibility to address health matters and the topic is not purely a private affair (Fried & Simon, 2007). As the USDA has shown time and time again, competitive foods adversely impact on learning. While poor nutrition and obesity have both been shown to correlate to poor academic performance, several studies have found that overweight children are more likely to have behavioral problems, score lower on math and reading tests in kindergarten and first grade, and are twice as likely to be tagged for remedial and special education classes (Fried & Simon, 2007).

As of the 2003-04 school year, seventy-five percent of high schools, sixty-five percent of middle schools, and thirty percent of elementary schools had “pouring rights” contracts, which are agreements where schools receive money and other incentives in exchange for granting exclusive beverage sales rights to the benefactor (Fried & Simon, 2007). The adverse nutritional impact of competitive foods has negative economic effects. Participation declines in NSLP when competitive foods are available. Also,

children who would otherwise purchase school lunch often purchase competitive foods instead. Thus, competitive foods tend to decrease revenue “on two levels, first by diverting revenue away from school food authorities, and second by replacing federal school breakfast and lunch reimbursements with family income (Fried & Simon, 2007).” Competitive foods are continually cited by legislators and school administrators alike as undermining the nutritional purpose of NSLP and thereby wasting taxpayer money. One bill to restrict competitive food sales offers in its support that “as children consume more and more of the foods typically sold through school vending machines and snack bars, it undermines the nearly \$10 billion in Federal reimbursements that we spend on nutritionally balanced school meals (Fried & Simon, 2007).”

The presence of legislation regarding “competitive foods” is by no means a recent phenomenon. Some refer to the push for lunchroom restrictions as a current “trend” or buzzword for politicians to utilize, but the federal government has been addressing the issue via legislation since the 1970’s. Congressional efforts related to competitive foods included a provision in the 2004 Child Nutrition and Women, Infants, and Children (WIC) Reauthorization Act that requires local school districts to establish wellness committees by the beginning of school year 2006-07 (Fried & Simon, 2007). Though falling a year behind the national deadline, Mississippi’s Healthy Student Act 2369 which passed in 2007 required this provision as well. Between 2003 and 2005, forty-five state legislatures considered bills intended to limit the availability of soft drinks and junk food in public schools. Usually, either nutrition standards develop through the legislative process and appear in specific statutory language in the enacted final law, or the task is delegated to another body. In most states that have passed laws, the legislature takes

initial action, and the education department or another administrative body or committee then promulgates the standards. Some states are bypassing the legislative process altogether and relying solely on administrative authority to make changes. In Texas, the Secretary of Agriculture implemented a number of school food reforms to both meals and competitive foods (Fried & Simon, 2007). Texas also requires school districts to have localized policies that conform to state agency rules.

Often a policy leader for the nation, California has been a hotbed of activity over school nutrition for years. The Los Angeles Unified School District (America's second-largest) unanimously passed a policy that took effect in 2004 that no longer allows the sale of soda in schools, becoming the first district in the nation to do so leading a wave of public activism to improve school nutrition (Fried & Simon, 2007). Now thanks to grassroots efforts and support from Governor Schwarzenegger, no soda beverages are allowed to be sold in any schools, kindergarten through grade twelve.

#### *Texas Farmers Market*

Sustainable Food Center (SFC), an Austin, Texas –area community-based nonprofit organization, cultivates a healthy community by strengthening the local food system and improving access to healthy, affordable food. In November 2006, SFC began accepting food stamp benefits, now called Supplemental Nutrition Assistance Program (SNAP), at its two main markets in downtown and in mid-city (USDA, Food and Nutrition Service, 2009). The purpose was to provide families who relied on food assistance with access to the freshest, healthiest foods available while removing barriers that hindered family farmers from selling to a particular market segment. Current

Farmers' Market SNAP sales are modest – averaging \$10,000 in yearly purchases by an average of 8-12 customers per week.

A wireless, battery-operated card terminal is kept at the central information booth of the market where customers can swipe their EBT cards, request a dollar amount, and, upon approval, receive that amount in wooden tokens that can be spent at individual vendors' booths on eligible food items. SFC has expanded the program by investing in additional card terminals that are used at its seasonal neighborhood farm stands. The terminals are also programmed to accept ATM and Debit cards, giving ATM/debit card user's wooden tokens of a slightly different color to subtly distinguish them from the restricted SNAP tokens. By assessing a \$2-per-swipe convenience fee for ATM/Debit cards, SFC is able to offset the costs associated with the SNAP card processing, making the program financially self sustaining (USDA, Food and Nutrition Service, 2009).

### *Conclusion*

The research article from Duke University in this section shows just how detrimental competitive junk foods can be in a school cafeteria environment. They have the innate ability to undermine the USDA food regulations by enticing schools with lucrative exclusive licensing rights and decrease the quality of food available to impressionable kids.

Minnesota has the lowest occurrence of childhood obesity in the nation and yet continues to strive for improving their school cafeteria's food choices by initiating a statewide cooperative to encourage participation in a food buying group that allows



schools to purchase local foods that meet specific nutrition requirements at a market price while simultaneously encouraging their state's blossoming farm to school programs.

Arkansas and South Carolina both utilized their state legislatures to regulate the conditions for students in schools. Implementing more rigorous nutrition and physical education goals than the national government requires. Arkansas even has gone so far as to require BMI screenings as part of the mandatory curriculum and has done so with great success.

After studying the national trends of the previous chapter coupled with the successful legislative actions taken by states in this portion, the following and final chapter will discuss what measures Mississippi is currently undertaking, the success of these measures and will be concluded with further prescriptions for the state.

## Chapter 4: Mississippi's Current Actions and Further Suggestions

### *Mississippi*

Mississippi ranks as one of the heaviest, if not the heaviest, states in the United States. This fact is not balanced just around adult body weights but the growing Body Mass Index (BMI) of children and adolescents. These consistently high rates of childhood overweight and obesity are cause for alarm for a multitude of reasons because they affect the populous of Mississippi and the state's welfare as a whole, not just on the individual's health basis. High cholesterol and high blood pressure, risk factors for heart disease and type 2 diabetes occur more frequently in overweight persons and obese and overweight children are most likely to develop psychological issues such as depression, eating disorders, and passivity.

The Bower Foundation, a nonprofit corporation whose mission is to "support innovative strategies to improve the health of Mississippians by proactively providing grants for the creation, expansion, and support of quality healthcare initiatives" was alarmed by the increasing weight of the states citizens and thus commissioned the University of Southern Mississippi in both 2003 and 2005 to conduct statewide BMI screenings of Mississippi school children (Center for Mississippi Health Policy, 2008). Unexpectedly, the survey showed that the actual reported rates of overweight and obesity were higher than the ones reported by national surveys and the rates were increasing in almost every grade. So in 2006 The University of Southern Mississippi surveyed the

Mississippi public and discovered that ninety five percent of adult Mississippians considered childhood obesity to be a serious problem and fifty six percent thought that government should play a significant role in addressing the issue. These statistics illustrated that residents acknowledged the problem and were not only receptive but the majority were supportive of public policy solutions to address the issue.

*Healthy Schools Act, SB 2369: Provisions*

Spurred by these findings the Mississippi Legislature studied policies already in place in other states, namely Arkansas, whose success has been previously covered in this report. In 2007, the Healthy Students Act, Senate Bill 2369 was crafted around Arkansas' Act 1220 to address Mississippi's high rates of childhood obesity by targeting public school environments as grounds for increased nutrition and health education.

The act initially recognizes there is a "problem with Mississippi student inactivity and obesity" and subsequently outlines the guidelines that will be implemented. Specifically, the act delineates the amount of physical activity education and health instruction required for different grade levels (Mississippi General Assembly, 2010). These are consistent with those of Arkansas' act and are considered to be realistic goals, yet a fairly progressive (by Mississippi's standards) provision of the law requires that beginning with the 2006- 2007 school year, "each local school board shall, consistent with regulations adopted by the State Board of Education, adopt a school wellness plan which shall promote a healthy lifestyle for Mississippi's school children and staff (Mississippi General Assembly, 2010)." By 2008-2009 the wellness plans will promote increased physical activity, healthy eating, and the abstinence from the use of tobacco and drugs. The wellness plans will do so by incorporating such themes into core subject

areas of programs that may be developed in partnership with the Institute for America's Health (Mississippi General Assembly, 2010). The legislature will appropriate sufficient funds for the State Department of Education to employ a physical activity coordinator to assist districts on implementing the aforementioned programs. This coordinator will be responsible for monitoring the districts for adherence to current Mississippi standards and for the implementation of physical education curriculum.

Section two subsection eight of the bill will have huge impacts on the Mississippi way health education is handled in the state. The local school board of each school district must establish a "local school health council (Mississippi General Assembly, 2010)." The operative term here is *local*, the councils are formed at this basic level so to ensure the local community values are reflected in the school's wellness plan that will be drafted with input and help from the health council. Their duties will include recommending appropriate curriculum and number of hours of instruction regarding health and physical activity based education and practices that include coordinated approaches to school health designed to prevent obesity, cardiovascular disease, type II diabetes and other health risks (Mississippi General Assembly, 2010).

Section three commissions the State Department of Education to adopt and implement regulations by March 2008 regarding the compliance of Child Nutrition School Breakfast and Lunch programs. The regulations shall be in accordance with the USDA and as up to date in light of most recent scientific principles regarding good human health. The regulations will address at a minimum the following areas (Mississippi General Assembly, 2010):

- a) healthy food and beverage choices

- b) healthy food preparation
- c) marketing of healthy food choices to students and staff
- d) food preparation ingredients and products
- e) minimum and maximum time allotment for lunch and breakfast periods
- f) availability of food items during the lunch and breakfast periods
- g) methods to increase participation in the Child Nutrition School Breakfast and Lunch Programs

While a tremendous step forward for the state, Healthy Students Act 2007 is missing some key components such as compulsory Body Mass index screenings and institutional support of farm to school practices.

*Year One Report: Assessing the Impact of the MS Healthy Students Act*

In response to this piece of legislation, the Robert Wood Johnson Foundation in 2008 awarded the Center for Mississippi Health Policy a five year grant to study the impact, if any, of the Healthy Students Act on childhood obesity. Only the results for Year One have been published but it shows worthy progress in the implementation of school wellness policies. A crowning achievement is the Center for Disease Control and Prevention (CDC) recognizing Mississippi as “making the greatest strides among all states in removing unhealthy foods from schools (Center for Mississippi Health Policy, 2008).” The report indicates the most schools have implemented wellness committees and school health councils yet the work of these and their required reporting to school boards can be improved upon.

The University of Southern Mississippi reported in 2009 in the March issue of the *Journal of Mississippi Medical Association* that the obesity rates for Mississippi

schoolchildren have appeared to level off. This particular study, which is a portion of the overarching one funded by the Bower Foundation, tracks obesity rates for two years prior to the Healthy Student Act implementation and two years following. While the childhood obesity rates dropped from 25.5 percent to 23.9 from 2005 to 2009 respectively, the information discovered a growing disparity between white and nonwhite students (Center for Mississippi Health Policy, 2008). The percentage point difference between the two groups had more than doubled in the four year period, from 4.5 percentage points to 10.3 by 2009. The disproportion breaks down even further along gender lines as well. Twenty eight percent of nonwhite females are obese compared to only 16.4 percent for their white counterparts and 26.6 percent nonwhite versus 22.5 for white male (Center for Mississippi Health Policy, 2008)s. State health offices embrace this information as a tool instead of a roadblock by acknowledging that future programs will need to be geared towards the state' s African American population.

The Healthy Students Act recognized the importance of providing nutritious food to students throughout the school day and as such required the State Board of Education to take serious consideration of this issue as has been discussed previously. The results after the first year of the Act's implementation were promising. In 2008 compared to 2006, principals reported the percentage of schools with 75 to 100 percent of students receiving nutritious food to have jumped from 35.2 percent to 72.3 (Center for Mississippi Health Policy, 2008). Nearly all the public schools who responded reported serving at least three different fruits weekly, increasing from 97 percent in 2006 to 99.6. The percentage of schools serving whole grains has risen points from 21.5 to 31.7 percent which, while simultaneously reporting an improvement also demonstrates that over two-

thirds of schools still do not serve whole grains (Center for Mississippi Health Policy, 2008). However, a mere 18 percent eliminated fryers from their school operation and only *15 percent* of schools reported serving dark green and or orange vegetables or fruits three times per week (Center for Mississippi Health Policy, 2008). This illustrates that while great strides are being made there will continue to be room for improvement. The state imagines that subsequent reports following the 2007-2008 Year One study will illustrate the continued commitment to nutrition.

Under new vending machine regulations, “full-calorie, sugared carbonated soft drinks” can no longer be sold to students during the day. Only bottled water, low or non-fat milk and 100 percent fruit juice are allowed in elementary and middle schools. High schools also allow for low/ no calorie beverages and sports drinks to be sold (Center for Mississippi Health Policy, 2008). The vending machine industry has, as reported, been very accommodating and compliant with the new regulations.

*Harvard Law School: Mississippi Delta Project*

The need for assistance in all varieties to combat Mississippi’s obesity epidemic is undeniable. Harvard Law School took an interest in the desperately impoverished Mississippi Delta region in 2009; their students focusing on advocacy and legislation related to food policy in the area, mainly farmers’ markets because

“farmers markets are a nationally recognized means of achieving several desirable goals: improved public health via increased access to healthy, fresh produce; improved revenue for local, small farmers and agricultural entrepreneurs; and a more sustainable, human- and environment-friendly regional food system (Harvard Law School, 2011).”

Initially their work was focused on providing business and legal advice to farmers markets in the Mississippi Delta and working with the Mississippi Department of

Agriculture and Commerce (MDAC) to amend state laws to promote the growth of markets (Harvard Law School, 2011).

Budget constraints, high rates of unemployment, and general economic woes plague the Mississippi Delta and are compounded by the states high rates of obesity. Communities far from grocery stores and instead surrounded by fast food venues have limited options for nutritious eating (Harvard Law School, 2011). A large portion of the state's poorest individuals rely on governmental aide from Supplemental Nutrition Assistance Program (SNAP, also formerly referred to as food stamps) and the Women Infant Children (WIC) food vouchers (Harvard Law School, 2011). Yet these coupons that the poorest Mississippians are awarded, who are also proportionally the most overweight citizens, have difficulty redeeming them at local farmers markets thus leaving them with very little access to the nutrient gold mine of fresh fruits, vegetables and farm products found at low cost at these locations. Thus this population is left with few alternatives to unhealthy fare and consequently results in growing waistlines.

In partnership with the Delta Directions organization, the Harvard Law School (HLS) Mississippi Delta Project compiled a study of the accessibility of using government food vouchers at Mississippi farmers' markets. They discovered barriers at both the state and local levels have essentially negated the ability to use federal vouchers at markets. The principle barriers are technology and funding, both of which are combatable. Since SNAP benefits are now distributed via an Electronic Benefits Transfer (EBT) card, farmers markets must have a device similar to a credit card machine in order to process the transaction (Harvard Law School, 2011). These machines come in either the wired or wireless variety. Wired machines require a telephone line and an electrical



outlet, both of which are uncommon at farmers markets. Wireless varieties require an internet connection and are far more expensive than the wired counterpart.

The HLS Mississippi Delta Project recommends that the Mississippi Department of Human Services should market free wireless machines directly to farmers markets as opposed to individual farmers as to ensure the broadest access statewide. Then the markets could easily adopt practices similar to the one detailed earlier in South Carolina where shoppers swipe their card upon entry to the market and are awarded redeemable tokens to be used at all booths throughout the venue. The Mississippi Department of Agriculture and Commerce (MDAC) oversee the WIC program at the state level. They have two voucher programs, the Farmers Market Nutrition Program and the Senior Farmers Market Nutrition Program, to ensure the use of the farmers market commodity amongst WIC's recipients. Yet, as reported by the Mississippi Delta Project, the programs are under-funded at the federal level thus the funding has remained stagnant for years in already strapped Mississippi budget. The project's report suggests using value-boosting strategies such as a double voucher incentive program or over issuing FMNP vouchers as only about one half of the issued vouchers are actually redeemed and they suggest using FMNP administrative funds to minimize obstacles to voucher redemption (Harvard Law School, 2011).

The HLS Mississippi Delta Project has also commissioned a Food Policy Council for the state which will undoubtedly prove itself to be a strong and effective player in the future of Mississippi's health policies. While still in the initial stages of development the council has already determined to employ the following four strategies in order to improve the state's food system a) Strengthening the connections between food, health,

natural resource protection, economic development and the agricultural community,  
b) researching, analyzing and reporting on information about the local food system, c)  
advocating for and advising on food system and food policy implementation,  
d) promoting and providing education on food system issues (Harvard Law School, 2011).  
Among the group's top concerns are facilitating WIC FMNP and SNAP vouchers to be  
redeemable at local farmers markets. A variety of other states have had great success in  
utilizing these food policy councils to streamline their processes and raise community  
awareness.

#### *Further Suggestions for Mississippi*

Clearly Mississippi is taking great strides toward addressing the mindset of the  
state toward obesity. We have witnessed a shift away from simply writing off the matter  
as a private matter toward combating the social institutions that are perpetuating the  
epidemic. Children are obviously the most at risk for a couple of reasons, namely that at a  
young age and through adolescence kids have little to no control over their nutrition and  
definitely are not inherently aware of healthy decisions if not instructed and secondly that  
an unhealthy lifestyle is a horrible foundation to set for future years; it is the indicator for  
tremendous health problems to manifest in the future. For Mississippi to be successful in  
their attempt to curtail the increasing waistlines of their student population patience and  
perseverance must continue with the programs in place and minds must be receptive to  
innovative ideas.

A large portion of this research has been geared toward Farm to School policies.  
They are endorsed by governmental agencies ranging the spectrum from local school

boards all the way to the White House. Mississippi is currently not embracing the potential this avenue has for the state. As just discussed, Harvard Law School realized this vacancy in policy and therefore has commissioned a team of students to help improve accessibility of the markets to low income individuals yet, schools have gone relatively unnoticed. Mississippi *must* incorporate Farm to School policies into their curriculum for their obesity battle to be successful.

Mississippi, more than other states, is always struggling to find funding for their programs, often resorting to mandating action instead. The fear of obtaining adequate funding has been a possible deterrent for initiating Farm to School policies in the past but the federal government recently has been encouraging these programs more than ever.

USDA's Farm to School Grants, which were authorized and funded (USDA Food and Nutrition Services, 2011) by the Healthy, Hunger-Free Children Act of 2010 will become available in October 2012. They may be awarded for up to \$100,000. According to this Act, competitive Farm to School Grants will be provided through the USDA that may be used for training, supporting operations, planning, purchasing equipment, developing school gardens, developing partnerships and implementing Farm to School activities (USDA Food and Nutrition Services, 2011). Also, more than \$7.7 million in funding grants was awarded in 2010 to support State agencies in implementing initiatives to promote health and nutrition improvement in child care settings through the Child and Adult Care Food Program (USDA Food and Nutrition Services, 2011).

While some pieces of legislation detailed in Chapter Two did not get ratified to the Healthy Hunger-Free Children Act of 2010, their supporters have not given up. The "Let's Move Salad Bars to Schools" group is now accepting applications for grants to do

just that. Any K- 12 school participating in the National School Lunch Program is eligible and schools currently awarded with Bronze status or above in the Healthier U.S. School Challenge (HUSSC) automatically qualify for a salad bar donation, with the stipulation that the school or district desires and can support a salad bar every day in school lunch (Let's Move!, 2011). Mississippi has a number of these awarded schools! The organization has already awarded over 550 salad bars and Mississippi would be a viable competitor these monies.

The People`s Garden Initiative which is backed by the USDA challenges communities to grow and maintain community gardens (U.S. Department of Agriculture, 2011). Increased consumption of fruits and vegetables improves nutrition, especially for diet-related diseases such as obesity and diabetes. Children who garden are more likely to eat fruits and vegetables and have greater knowledge about nutrition and healthy eating habits. Gardening provides a low-impact exercise for people within a large range of physical ability (U.S. Department of Agriculture, 2011). The garden must be a collaborative effort between other volunteers, neighbors or organizations within the community and would be an impressive way to get the entire populous involved in growing food that could be used in school cafeteria`s and donated to local food banks. The possibilities for such a venture in Mississippi are endless.

The Food and Nutrition Service (FNS) announced, on April 7, 2011, the selection of Washington State University (WSU) to implement the People`s Garden School Pilot Program. WSU will develop school gardens in 70 high-poverty schools located in various urban, suburban, and rural areas in New York, Iowa, Arkansas, and New York involving an estimated 2,800 students (U.S. Department of Agriculture, 2011). Their research

questions revolve around whether or not students consumed more fruits or vegetables at home and at school due to the presence of these gardens. Mississippi could easily adapt the template these schools will be utilizing to pilot their own programs.

Ensuring the nation's schools set the foundation for our young people's health education is an avenue that needs improvement is widely accepted. Therefore the immense focus and funding these programs have received continue to maintain high public support. Yet, there are two problems that arise if communities narrowly focus on schools. First, it leaves a huge section of the population unexposed to the activism to promote health consciousness, which fosters the growth of the second issue. While some kids eat a significant portion of their daily calories at school, there are equally as many if not more who do not. Regardless of the good intentions of governmental programs, they cannot control what the health environment is like inside individual homes or communities. Therefore, when health programs are aimed primarily at schools, parents, caretakers, and individuals without children are not receiving the education or skills needed to carry this type of environment over into their realms of authority.

For these reasons, it would be beneficial for community players such as local schools or colleges, YMCAs, groceries, dieticians, and chefs to join forces in offering free classes to their neighborhoods. The programs would be chaired by local food policy councils or SNAP centers and be funded via sponsorships by participating businesses. The courses could range the whole spectrum of nutrition such as growing, shopping smartly, and instruction in cooking with seasonal foods and how to incorporate inexpensive food alternatives for prepackaged commodities. The overarching theme of the series would centralize on fostering healthful families and individuals.

In order for the programs to gain a foothold in communities, they would need to be marketed to illustrate how they help *everyone* in the community by educating people in the correlation between obesity and chronic health problems like diabetes, heart disease, high blood pressure, and many other manageable illnesses. The higher the rate of individuals struggling with these problems correspondingly increases the money being spent on healthcare out of the state budget. It is not difficult to imagine that if a few of these privately sponsored public nutrition classes gained popularity and public support they could easily be adopted as campaign fodder for local politicians and, if successful, being granted money out of the state health budget to ensure the continuation of them.

Nourishing New York is a nonprofit organization based out of New York City that has gained national recognition for their community success in feeding and educating homeless and low income individuals in how to nourish themselves in regards to combating issues such as diabetes, malnutrition, and obesity that arises from high rates of poverty and lack of access to quality foods (Nourishing NYC, 2011). Mississippi could easily adapt the format of their Community Nutrition Class programs to fit the culture in the state. The goal of the classes is to introduce Nourishing New York's clients to affordable and nutritionally dense grocery items and then, in turn, demonstrate how they can be prepared in a healthy and delicious way (Nourishing NYC, 2011). Menu items are usually quick and easy to prepare in order to fit into the participants' busy lives. Classes cover more general issues of nutrition, such as how to read nutrition labels and understand the new food pyramid and since target communities for this program are low-income, as opposed to homeless, persons the classes are tailored to people with limited budgets, limited time, and limited cooking spaces. The classes have been successful as

well with data collected showing that 100% of respondents report changed eating habits and 89% report weight loss (Nourishing NYC, 2011). With positive results such as these, the possibility of implementing a similar program in Mississippi ought to be seriously considered as a tool to combat the state's high rate of obesity and low levels of produce consumption.

### *Conclusion*

It is undeniable that Mississippi's public health is in crisis. The rates of obesity and obesity related diseases have reached unprecedented levels. Thankfully the state began to take serious legislative measures in 2007 with the authorization of SB 2369: Mississippi Healthy Schools Act which studies from The University of Mississippi, The University of Southern Mississippi, and Mississippi State University have found great improvements being made in school cafeterias, education programs and physical activity incentives. Also the high profile involvement of Harvard Law School in the Mississippi Delta region has brought national attention to the state's epidemic and will undoubtedly manifest into consistent health changes among the population in that area which are predicted to reverberate throughout the state. The founding of a food policy council who is majorly concerned with ease of access of SNAP recipients at farmers markets and farm to school policies is another constructive avenue for actualizing permanent change in the state's food systems.

Yet there is still plenty that can be done to mitigate the prevalence of unhealthy lifestyles fostered in the state. For one, Mississippi needs to capitalize on the expansive farm lands the state encompasses to promote farm to school policies, educate students and citizens alike on safe growing practices and farm to fork policies, and community

players need to recruit these farms to donate their excess produce to local food banks or sell it at a small fee. This would also benefit local farms by promoting the need to support community growers and keep the benefits of the economy within the region.

Schools are the foreground of where this battle is being fought since students are the foundation of the state's future and they are more acceptable to the lifestyle changes encouraged. Mississippi should follow Arkansas in implementing mandatory Body Mass Index screenings for students as part of their semester report card. This information could easily be coupled with information packets sent with the report instructing parents on healthful ranges of BMI and the health risks associated with maintaining a high BMI. While Mississippi is always struggling to find funds and reach a balanced budget, school systems would be excellent candidates for federal grants and awards for a variety of programs such as moving salad bars to cafeterias and initiating public gardens that would provide a portion of the food for cafeterias and local food banks.

The communities need intervention as well if the state expects to permanently alter the status quo. Implementing community cooking and nutrition classes and planting community gardens could manifest into huge changes for the citizens of the state. If neighborhood organizations teamed up and created similar programs to the one described by Nourishing New York's members the low income families would have free access to education regarding healthful eating, smart and cost efficient shopping, and knowledge of nutrition labels all the while being taught how to eat and cook in ways to manage obesity related diseases, such as heart disease and diabetes that plague the state's inhabitants. If success for these programs blossoms as expected and they illustrate positive changes in weight and health levels for participants, while simultaneously gaining and maintaining



public support they could easily be adopted into the state's budget for continuing and growing their presence.

Mississippi is definitely taking positive strides in addressing the obesity problem and so long as public attention and concern remains consistent, there is no reason the state cannot overcome their ranking as the fattest state and meet or fall below the national average for obese persons. Mississippi has the potential to be a progressive player in ensuring health conscious lifestyles via a number of avenues for all of its citizens, regardless of class or race.

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