

**Mississippi School Nutrition
Environment Evaluation Data System
(MS NEEDS)**

**Technical Report Year Three
(2011-2012)
Outcomes**



The University of Mississippi

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Note: This is a preliminary draft of research outcomes which is for review and discussion and not intended for broad distribution, as some data measures may be added or modified prior to official distribution.

Mississippi School Nutrition Environment Evaluation Data System (MS NEEDS)

To gain an independent assessment of statewide progress in implementation of school nutrition policies, staff at the University of Mississippi conducted onsite assessments of the

school nutrition environments in 150 schools in the first year, 180 schools the second year, and 152 schools the third year, which functioned as a statewide representative sample, to evaluate the stage of implementation and level of compliance with Mississippi's established policies.

Study Design. A statewide sample of schools, 150 for the first year, 180 for years 2 and 152 for year 3, was obtained using selection probability proportional to school enrollment size to assure representation of schools with demographic mix and regional placement. The Mississippi School Nutrition Environment Evaluation Data System (MS NEEDS) instrument was designed to assess the level of nutrition policy implementation at each school, provide a comparison between schools with different demographics, and through repeated measures, show nutrition-related environmental changes over time. A statewide report, presenting cross-sectional analyses assessing statewide trends, is generated each year to provide updates for key stakeholders. The final report will include a comprehensive report of statewide progress by public health region.

The MS NEEDS instrument was used to collect data through (1) observation of school lunches (Observation Form), (2) interviewing the Child Nutrition Program (CNP) manager (Interview Form), and (3) reviewing school and district written documentation of food policies and procedures (Written Documentation Form). In addition, (4) detailed information was collected about the food and beverage items available at school stores, vending machines, and extra food items (Competitive Food Venues Forms). Please note that although the Healthy Student Act addresses school breakfast meals as well as lunch, only the lunch meals were observed. Where possible, data was collected about breakfast meals through the interview and written documents.

METHODS

Evaluation Design

An evaluation protocol was developed to assess the adoption of the Mississippi Health Students Act (MHS Act) in the schools' nutrition environment. The MHS Act's criteria were divided into "Policy Points" that were used to measure schools' compliance with the MHS Act. The evaluation was conducted through interviews, observations, and the manual gathering of information for the food and beverage venues within each school's child nutrition program and school grounds.

The mission of MS NEEDS was to help organize and better understand through meaningful indicators:

- The implementation status of the MHS Act throughout schools in Mississippi
- Ways the MHS Act has impacted changes in the MS school nutrition environment. .
- Barriers/challenges and successes to implementation of the MHS Act.

Subjects & Sampling

**One hundred fifty six schools, A total of 156 schools, 52 per school level (elementary, middle, and high school), were randomly selected to participate in year 3 of this study. Of those, 150 agreed to participate for interview (participation rate 96%), of which there are 5 multi-level schools: 1 elementary/middle school, 1 elementary/high school, and 5 middle/high schools.

According to the simple random sampling design of the study, the elementary/middle school is used both in elementary school category and middle school category. Likewise the elementary/high school and middle/high schools are used in both respective school categories.

This resulted in a final breakdown of 49 elementary schools, 50 middle schools, and 51 high schools for analyses.

Table 1. Demographics of sample

Demographic Indicator	All Schools (n=150)		Elementary (n=49)		Middle (n=50)		High (n=51)	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Sex: % females per school	48.7	42.0-54.4	48.5	42.0-54.3	48.4	42.9-54.4	49.2	45.0-54.0
Race: % students per school								
Asian	0.7	0.0-6.1	0.9	0.0-4.7	0.6	0.0-6.1	0.5	0.0-3.4
Black	50.1	0.3-100	54.8	0.4-100	43.8	0.3-100	51.5	2.5-100
Latino(a)	2.1	0.0-13.2	2.5	0.0-10.3	2.1	0.0-13.2	1.6	0.0-8.7
Native American	0.2	0.0-9.2	0.3	0.0-9.2	0.20	0.0-2.2	0.1	0.0-1.1
White	46.9	0.0-99.4	41.4	0.0-99.4	53.2	0.0-99.0	46.2	0.0-92.0

Table 2. Distribution of Schools per Mississippi Health Districts

Health District	All Schools % (n=150)	Elementary % (n=49)	Middle % (n=50)	High % (n=51)
Northwest MS	10.2	8.3	12.5	9.8
Northeast MS	14.3	12.5	12.5	17.7
Delta Counties	10.2	10.4	8.3	11.8
Tombigbee Area	8.8	4.2	10.4	11.8
West Central MS	17.0	22.9	16.7	11.8
East Central MS	8.8	12.5	4.2	9.8
Southwest MS	9.5	4.2	10.4	13.7
Southeast MS	10.9	12.5	14.6	5.9
Gulf Coast	10.2	12.5	10.4	7.8

Instruments

Interview Form. Each school’s Child Nutrition Program (CNP) Manager provided information about nutrition-related policies adopted by the school and how those policies had been implemented to date. Verbal responses to both quantitative and open-ended qualitative questions, as well as data pulled from written documentation were recorded on the Interview

Form. Written documentation provided by the CNP manager included the following: production records and lunch and breakfast menus from four full weeks in September, the school Wellness Policy, food safety policies, other school nutrition-related policy documents, and CNP staff training records. Most policy points of the MHS Act were covered on the Interview Form.

Observation Form. Data about schools' implementation of the MHS Act was collected on a single day through observation. Data recorded on the Observation Form primarily documented evidence of a school's compliance within the kitchen and cafeteria settings as observed during the lunch periods. Example indicators include the following: the types of fruits, vegetables, and beverages served at lunches; whether whole grain and "0 trans fat" foods were sold; if and how competitive foods were sold; evidence of CNP staff using written documentation for HACCP food safety plans; and ratings of the general atmosphere in terms of promoting healthier food options. Detailed information about specific food items sold were recorded on accompanying forms, the Reimbursable Meal, Vending, and Extra Food Items Foods forms, all of which were incorporated into the Observation protocol.

Reimbursable Meal Form. Data collectors documented the specific food and beverage items sold as part of the reimbursable lunch meal on the observation day. For each item they recorded a brief description, whether it was available only with the meal or if extra portions were for sale, whether the item was part of the original menu or was a substitution, and whether substitutions were reanalyzed for nutrients. In addition, if extra servings of the item were available after purchasing the meal, data collectors noted the price of the extra serving and its size in comparison to the portion served with the meal.

Extra Food Items Foods Form. Data were also collected on foods and beverages sold as extra food items during lunch periods. Data collectors recorded a description of each item,

whether an item was available for sale without having purchased a meal, the item's price, and either the number of calories or enough information to determine caloric content at a later date.

Vending/School Store Form. A form was completed for each vending machine and/or school store in the school. First, data collectors documented general information about the machine or store itself including hours of operation, location, group responsible for the machine or store, and if a machine was in the faculty lounge, and whether or not students had access. Then item specific details were noted, such as manufacturer, product name, flavor, size, number of slots (vending machines only), and price.

Procedures for Data Collection

The evaluation tool was pilot tested for clarity and validity in a local elementary and high school (who were omitted from the study) resulting in some revisions. Data collection began in February 2009. Ten consultants (data collectors) with nutrition and/or educational backgrounds were recruited to collect data in the schools using the MS NEEDS evaluation tool. Each of the data collectors were trained in two schools before evaluating a school on their own.

The program coordinator was responsible for arranging school visits through communication with the CNP district director and the data collector assigned to the school. Once arrangements were made to visit the school, a document with all the requested written documentation was faxed or emailed to the CNP district director. The written documents were requested to be at the school when the data collector met with the CNP manager.

Interviews were conducted between October 2010 and May of 2011. Upon arrival at the school, data collectors began the evaluation process by meeting with and interviewing the CNP

manager. The interview took approximately 60-90 minutes. Once the interview was completed, data collectors used their time to gather data on the competitive food venues such as vending machines and/or school stores. The observation evaluation was conducted during the lunch periods to observe the reimbursable meal and extra food items item sales.

The evaluation took an estimated time of five to six hours. Upon completion of the evaluation, data collectors mailed or delivered the evaluation document to the program coordinator. Once the evaluation tool was received it was reviewed for quality assurance. Any missing data or data that was unclear was investigated by the program coordinator with assistance from the data collector who evaluated the school. Once data was reviewed and validated it was ready to be entered into the MS NEEDS database program.

Upon completion of data entry for all 150 participating schools, the data was forwarded to biostatistician collaborator for data analysis.

Analyses

Basic descriptive statistics are presented in this report. Proportions and frequencies are presented for all schools and by school level – elementary, middle, and high school. For variables that have missing values, valid percentages are reported. One-way analysis of variance (ANOVA) or Pearson Chi Square were used, as appropriate, to determine if any significant differences existed between school levels on the various outcomes.

RESULTS

The results are presented by sections which correspond to the main policy points from the MHS Act as described above.

Section A: Healthy Food and Beverage Choices

Policy Point A.1: A minimum of one fresh fruit or vegetable choice should be offered to students each day.

Table 3. Percent of schools that served at least one fresh fruit **or** vegetable at lunch

Source and Indicator	All Schools %	Elementary Schools %	Middle/Jr High Schools %	High Schools %
<i>Production Records</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served at least one fresh fruit or vegetable all 5 days of the week for:				
Week 1	66.2	75.5	51.8	66.3
Week 2	61.4	65.3	56.3	60.0
Week 3	62.7	65.3	56.3	66.1
Week 4	58.3	67.3	47.9	53.0
All 4 Weeks	39.0	46.9	28.0	37.0
Percent of schools that never achieved compliance any week	19.6	14.3	26.1	22.2
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served at least one fresh fruit or vegetable at any time during the lunch period on the day of observation	86.0	89.9	84.3	80.1
Percent of schools that served at least one fresh fruit or vegetable for the entire lunch period on the day of observation	85.6	89.9	84.3	78.2

The data collector reviewed production records for four weeks with the CNP manager. All fresh fruits and vegetables identified by the CNP manager were highlighted by the data collector. The above table reflects that while in any given week, >58% of schools offered a fresh fruit or vegetable on the menu, only 39% of schools offered at least one fresh fruit or vegetable for four consecutive weeks.

On average, production records showed that a higher percentage of schools were able to provide fresh fruits when compared to fresh vegetables (Table 4). This also held true across school levels. There may be several factors contributing to the higher percentage of fresh fruit offerings. Through discussions with CNP managers, it appears that fresh fruit was more often provided through commodities than fresh vegetables. It also appears that there are more fresh fruit options than fresh vegetables that students will eat.

The same trend is shown in the observation data. A higher percentage of schools were able to serve fresh fruits (72.8%) when compared to fresh vegetables (53.7%).

Table 4. Percent of schools that providing fresh fruit and fresh vegetables at lunch.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Production Records</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served fresh fruit every day for:				
Week 1	46.6	57.1	26.1	52.5
Week 2	44.0	47.0	42.0	40.3
Week 3	46.2	47.0	44.3	46.9
Week 4	39.0	42.9	35.6	35.2
All 4 Weeks	19.6	24.5	12.0	19.2
Percent of schools that never achieved compliance any week	30.8	26.6	38.1	29.9
Percent of schools that served fresh vegetables every day for:				
Week 1	14.7	16.3	10.4	17.6
Week 2	14.8	14.2	12.3	19.7
Week 3	10.0	8.1	10.1	13.8
Week 4	16.8	24.5	3.9	17.8
All 4 Weeks	3.8	4.0	2.0	5.9
Percent of schools that never achieved compliance any week	69.3	61.3	79.6	72.6
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served at least one fresh fruit at any time on the day of observation	72.8	77.7	72.6	62.7

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Percent of schools that served at least one fresh fruit for the entire lunch period on the day of observation	70.9	75.6	70.6	60.9
Observation	(n=150)	(n=49)	(n=50)	(n=51)
Percent of schools that served at least one fresh vegetable at any time on the day of observation	53.7	65.3	42.0	44.5
Percent of schools that served at least one fresh vegetable for the entire lunch period on the day of observation	52.8	65.3	42.0	40.8

Although the MHS Act only requires that CNPs provide one fresh fruit or one fresh vegetable daily, 53.7% of schools providing fresh fruits daily offered more than one fruit and 13.2% of schools providing fresh vegetables daily offered more than one vegetable.

Barriers

“Too expensive for schools budget”

“Lately the quality of fresh fruits and vegetables has decreased because of the freeze; tomatoes are soft & USDA lettuce and tomato commodities have helped; prices of fresh fruits and vegetables have increased.”

“only when produce truck doesn't deliver what's ordered”

“Cost is the only barrier. They try to buy fresh fruits that are in season to save money.”

“cost & then USDA sends canned/frozen that we need to use”

“Its hard on Mon, Tue because the truck doesn't run until Tues.”

“Some veggies are too expensive, like cauliflower. We'd like to serve more of a variety of veggies.”

“keeping them fresh until ready to serve”

“no barriers but commodities are often nearly ruined”

Policy Point A.2a: School menus shall offer a minimum of three different fruits weekly.

Table 5 shows that over 97% of all schools were able to comply with the policy to offer at least three different fruits each week per production records. All forms of fruit (fresh, canned, frozen, pre-prepared, and dried) were included in the numbers. In addition, on average, schools offered more than double (6.8) the required number of fruits during lunch

Table 5. Number of fruits served weekly during the lunch period.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Production Records</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served a minimum of three different fruits per week for:				
Week 1	99.4	100.0	98.0	100.0
Week 2	99.4	100.0	98.0	100.0
Week 3	97.2	98.0	94.1	100.0
Week 4	99.4	100.0	98.0	100.0
All 4 Weeks	97.2	98.0	94.1	100.0
Percent of schools that never achieved compliance any week	0.6	0.0	2.0	0.0
Average number of fruit served per week (over the four week period)	x = 6.8 std = 1.7	x = 6.9 std = 1.4	x = 6.5 std = 1.9	x = 7.2 std = 1.7

Policy Point A.2b: School menus shall offer a minimum of five different vegetables weekly.

As shown in Table 6, production records indicated that 82% of all schools complied with the policy to serve a minimum five different vegetables each week. All forms of vegetables (fresh, canned, frozen, pre-prepared, and dried) were included in the numbers. On average, schools served approximately 7.5 types of vegetables weekly.

Through the CNP manager interview some barriers identified for offering

Table 6. Number of vegetables served weekly during the lunch period.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Production Records</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served a minimum of five different vegetables per week for:				
Week 1	86.9	83.7	92.2	86.7
Week 2	91.2	91.9	88.0	94.1
Week 3	95.1	93.9	96.1	96.3
Week 4	91.9	89.7	92.2	96.0
All 4 Weeks	82.0	81.6	82.1	82.7
Percent of schools that never achieved compliance any week	3.0	4.1	2.0	1.9
Average number of vegetables served per week (over the four week period)	x = 7.5 std = 2.1	x =7.5 std =2.3	x =7.4 std =2.1	x =7.7 std =1.6

The majority of schools reported no barriers to serving 5 different types of vegetables per week; however, managers reported that students like some vegetables such as potatoes more than others. One school foodservice manager reported a lack of choices in the vegetables he or she was able to serve.

Policy Point A2.3: Schools should try to serve dark green vegetable and/or orange fruits three times per week.

Serving dark green and/or orange vegetables or fruits at least three times a week proved to be challenging with only 8.4% of all schools meeting the criteria for all four weeks. Compliance ranged from 4.1% in elementary schools to 21.7% in high schools (Table 7). Of particular notice is that overall, 32% of schools did not meet this policy for any week, suggesting that this policy may pose more difficulty for schools than the previous policies for fruit and vegetable offerings.

Table 7. Percent of schools that served three or more dark green and/or orange fruit and vegetable types.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Production Records</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that met the policy each week for:				
Week 1	40.6	40.8	36.4	46.1
Week 2	37.4	36.7	31.9	46.6
Week 3	39.3	46.9	24.1	44.0
Week 4	36.9	32.7	36.4	46.6
All 4 Weeks	8.4	4.1	6.2	21.1
Percent of schools that never achieved compliance any week	32.0	30.7	41.8	22.2
Percent of schools serving the 5 most common types				
Carrots	92.4	91.8	92.0	94.4
Sweet Potatoes	47.1	42.9	48.7	53.9
Turnip Greens	62.5	67.3	54.1	63.7
Broccoli	87.1	81.6	92.1	91.8
Cantaloupe	38.4	40.8	31.7	42.4

The MHS Act does not identify what comprises dark green and/or orange vegetables and fruits. For Year 2, the list used was based on the Institute of Medicine’s recommendations and obtained from the Mississippi Department of Education. It should be noted that CNPs following the MS Cycles II menus may find it difficult to incorporate the specific fruits and vegetables if they are not included three times per week.

This number may be different because oranges were not included in the count. Also, we did the counting in the office last year instead of having the data collectors count.

Policy Point A.3: Flavored nonfat, low-fat, or reduced-fat milk shall contain no more than 160 calories per 8-ounce serving.

Table 8. Types of milk served at lunch.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served a type of <i>white</i> milk				
Non-fat	13.5	20.4	4.2	11.5
1% fat	94.6	91.8	98.0	96.0
2% fat	1.4	0.0	2.0	3.7
Percent of schools that served a type of <i>flavored</i> milk				
Non-fat	11.5	12.1	14.6	5.6
1% fat	98.6	98.0	100.0	98.1
2% fat	1.4	2.0	0.0	1.9
Percent of schools met the criteria for all milk items served at all lunches.	98.4	100.0	96.1	98.1

No school served white whole milk or flavored whole milk for year three. Over 98% non-fat or reduced fat milk reviewed were compliant with the calorie policy. During Year 3, the state CNP mandated only 1% and non-fat milk sales; therefore, there was a significant decrease in 2% milk sales from Year 2 to Year 3. It is suggested that evaluation of this policy point may not be needed.

Policy Point A.4: Schools shall only offer 100% fruit and vegetable juice with no added sugar*.

Table 9. Juice served at lunch.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Observation	(n=150)**	(n=49)	(n=50)	(n=51)
Percentage of schools who served juice during lunch	78.2	74.5	78.0	86.4
Observation	(n=117)	(n=35)	(n=38)	(n=44)
Of the schools who served juice, percentage that met the criteria for all juice items	98.7	97.1	100	100

Juice was served either in the reimbursable meal or as an extra food item.

**Three schools have missing value

Section B: Healthy Food Preparation

Policy Point B.1: Schools shall comply with the existing NSLP/SBP meal pattern requirements.

Table 10. Use of meal patterns complying with NSLP.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)	(n=49)	(n=50)	(n=51)
Percent of schools that reported using a valid meal pattern	100.0	100.0	100.0	100.0
Percent of schools using listed meal pattern ^a				
MS Cycles II Menu and Recipes	55.7	51.2	63.9	53.9
MS Cycles II Recipes Only	42.9	46.7	36.1	44.3
MS Cycles Recipes and any other meal pattern (Trad, Enhanced, Nutrikids, etc.)	14.9	16.3	14.0	13.3
None, no meal patterns used	0.0	0.0	0.0	0.0

Percent of schools that combined two or more meal patterns is as follows:

All = 31.50%, Elementary = 34.8%, Middle = 28.3%, High = 28.8%

Table 11. Percent of schools confirming that food substitutions met NSLP meal patterns.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Observation – Reimbursable Meal Form</i>	<i>(n=115)^a</i>	<i>(n=32)^a</i>	<i>(n=46)^a</i>	<i>(n=37)^a</i>
Percent of schools serving meal item substitutions that re-analyzed all substitutions for nutrient content	27.6%	25.0%	32.2%	24.4%

CNP managers used a reference guide referred to as the “Red book” to substitute food items to maintain nutrient integrity. Data collectors observed that substitutions tended to be foods leftover from a previous lunch meal. It is uncertain if the leftover item had been verified as meeting the nutrient requirements.

Policy Point B.2a: Schools develop and implement a food safety program by July 1, 2005.

Table 12. Percent of schools that developed and implemented a food safety program.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)[*]</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that developed and implemented a program by date of interview ^a	96.0	93.8	98.0	97.8
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools in which the manager was only aware of a verbal food safety/HACCP program, not a written document	1.0	0.0	2.0	1.9

^{*}Two schools t have missing value.

Policy Point B.2b. Every school shall develop a Hazard Analysis and Critical Control Point (HACCP) system plan as required by the Child Nutrition and WIC Reauthorization Act of 2004.

Table 13. HACCP plan and compliance with individual appliance types.

Indicator	All Schools		Elementary Schools		Middle/Jr High Schools		High Schools	
	n ^a	%	n ^a	%	n ^a	%	n ^a	%
Observation								
Percent of schools that documented the temperature in the preceding 24 hours for ALL “back of house”:								
Kitchen refrigerators	146	92.8	46	95.7	49	87.4	51	94.1
Kitchen freezers	143	96.1	46	97.8	49	93.7	48	95.8
Food warmers	122	66.7	37	62.2	42	73.7	43	65.8
Kitchen storerooms	145	83.4	45	75.5	49	89.7	51	90.4
Kitchen dishwashing	118	68.3	39	69.3	38	65.8	41	69.2
Percent of schools that documented the temperature in the preceding 24 hours for all “front of house”:								
Service tray lines	147	90.5	47	87.3	49	94.0	51	92.5
Service refrigerators	147	83.8	47	83.0	49	85.7	51	82.9
Service freezers	100	68.7	28	64.3	36	68.9	36	75.9
Food warmers	60	86.7	19	84.1	22	91.1	19	85.1

Samples vary across individual appliances because not all schools had each type of appliance.

Data are presented only for those schools that had such an appliance in their kitchens.

The most commonly used HACCP plan from USDA/NFSMI does not include specific temperature requirements for equipment, only for foods

Policy Point B.2c: Schools shall include in their School Wellness Policy (SWP) a food safety assurance program for all food offered to students through sale or service.

Table 14. Percent of schools that included a food safety assurance program in their SWP.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)	(n=49)	(n=50)	(n=51)
Percent yes	47.9	53.2	42.0	44.5
Percent no	2.9	2.1	2.0	5.9
Percent not sure	48.9	44.8	56.0	47.8
Percent of schools with no Wellness Policy document	0.4	0.0	0.0	1.9

Policy Point B.3: Schools shall secure a Food Service Operational Permit through the Mississippi State Department of Health for approval to operate under NSLP/SBP.

Table 15. Percentage of schools that had a valid operational permit on display in cafeteria and rating.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of permits on display	97.4	98.0	100	92.3
Schools with an A rating	86.8	85.7	90.2	84.5
Schools with a B rating	10.6	12.3	9.8	7.7

Policy Point B.4: Mississippi Department of Health conducts two School Food Service Facility Inspections per site each school year.

Table 16. Percent of schools that had two or more facility inspections in past year.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools with inspections in the past year:				
0 inspections	1.4	2.1	0.0	1.9
1 inspection	1.4	0.0	2.0	3.7
2 or more inspections	97.2	97.9	98.0	94.4

Policy Point B.5a: Schools shall implement healthy school food preparation techniques using training materials developed through sources such as USDA, National Food Service Management Institute or Mississippi Department of Education.

Table 17. Materials schools used for healthy food preparation training.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that used valid ^a training materials	75.1	81.7	72.3	64.8
Percent of schools using the following training materials:				
USDA	28.0	34.8	22.1	21.3
NFSMI	24.0	26.6	24.1	18.5
MDE	42.7	51.0	40.1	28.1
Other ^b	39.8	38.7	46.5	33.0
No sources used	24.9	18.3	27.7	35.2

^a Valid training materials include USDA, NFSMI, and MDE materials.

^b Other sources reported by managers include School Foodservice Association, School Nutrition Association, Fuel Up to Play 60, Dairy Council, CNP Director, Internet, MSU Extension Service, Journals, Recipe Books, USDA Team Nutrition, Recertification Classes, School Nutrition Magazine, ServSafe, CNP Certification, T. E. A. C. H. Mississippi, Office of Healthy Schools, HACCP, professional meetings. School Cafeteria Handbook

A wide variety of training materials have been used. Schools appear to use materials that are provided to them free and are not budgeting for these activities.

Policy Point B.6a: Schools should limit fried foods whenever possible and practical.

Table 18. Number of fried food items per week served with reimbursable lunch.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools serving, on average, this number of fried items per week with the reimbursable lunch meal				
3 or more items/week	17.0	16.3	15.7	20.3
2 items/week	17.1	14.2	17.9	22.1
1 item/week	10.9	12.2	5.9	15.2
Less than 1 item/week	11.8	14.2	8.1	11.5
No fried food items	43.2	43.0	52.4	30.9
Percent of schools where fried items with reimbursable meal:				
Stayed the same	48.6	44.8	58.3	43.3
Decreased in the last year	50.0	53.1	41.7	54.9
Increased in the last year	1.4	2.1	0.0	1.9

Of the schools whose number of fried food items served with reimbursable meals stayed the same during the past year, 30.4% reported already serving no fried foods with the meal.

Table 19. Number of fried food items per week served on a la carte line.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)*	(n=49)	(n=50)	(n=51)
Percent of schools serving, on average, this number of fried items per week with the a la carte line:				
3 or more items/week	10.3	6.2	11.8	16.8
2 items/week	7.0	2.1	8.1	16.0
1 item/week	7.4	8.3	5.9	7.7
Less than 1 item/week	4.1	4.2	4.2	3.7
No fried food items	71.2	79.3	70.0	55.7
Interview	(n=150)	(n=49)	(n=50)	(n=51)
Percent of schools where fried items on extra food items:				
Stayed the same	72.0	77.1	74.5	57.9
Decreased in the last year	27.1	20.8	25.6	42.1
Increased in the last year	1.0	2.1	0.0	0.0

*Two schools have missing value.

Of the schools whose number of fried food items with the a la carte line stayed the same during the past year, 60.5% reported already serving no fried foods on extra food items.

Policy Point B.6b: Schools shall develop a long range plan for reducing and/or eliminating fried products in their lunch and breakfast menus.

Table 20. Percent of schools with a plan for reducing or eliminating fried food items.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)*	(n=49)	(n=50)	(n=51)
Percent of schools with Plan	52.6	56.2	39.5	63.2
Percent of schools who do not serve fried foods	34.3	29.2	44.5	30.9
Percent of schools with no plan or CNP manager unaware of a plan	13.1	14.5	16.0	5.9

*One school has missing value.

Qualitative responses regarding a description of schools’ plans to reduce or eliminate fried foods include:

- communication from CNP director
 - stating fryers will be eliminated within a certain time period
 - Bake everything that can be baked.
 - Only fry when necessary
- Some managers believe the plan is stated in the wellness policy.
- Plan to reduce/phase out fried food items
- Whenever equipment must be replaced, use combi-ovens instead.
- managers expect to get rid of fryers at any time
- Managers are waiting for directors to order combi-ovens
- Fryers will be replaced with combi ovens.
- Requests for combi-ovens in 3 year plans
- Schools are waiting for funds, may be able to get grants

Policy Point B.6c: The long range plan should include preparation methods using existing equipment and/or goals to replace fryers with combi-oven/steamers as budgets allow.

Table 21. Schools with plans to replace fryers.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools whose long range plan replaces fryers with steamers and/or combi-ovens	44.9	51.0	33.9	47.5
Percent of schools whose long range plan replaces fryers with:				
Combi-ovens only	31.3	34.0	23.8	36.3
Steamers only	2.0	2.1	2.0	1.9
Combi-ovens and steamers	11.6	14.9	8.1	9.4
Neither	13.0	10.6	12.4	19.2
Unclear	18.1	14.9	25.8	13.8
Not applicable	24.1	23.5	28.3	19.5
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools with a minimum of one working:				
Fryer	56.0	57.1	47.6	65.3
Combi-oven	34.4	37.5	32.2	30.9
Steamer	57.5	54.1	64.4	54.9

*Two schools have missing value.

Not applicable refers to schools with fryers that have already been replaced or schools with no fryers to be replaced. It appears that efforts are being made to decrease the use of fryers and replace fryers with combi-ovens and steamers.

Section C: Marketing of Healthy Food Choices to Students and Staff

Policy Point C.1: Train School Foodservice Administrators, Kitchen Managers, and Cooks in Marketing, New Cooking Techniques, and Garnishing using available or newly developed training tools, such as Marketing Sense – Mississippi Department of Education, Office of Child Nutrition.

Table 22. Percent of schools whose CNP staff attended trainings in last 12 months

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that reported having the CNP manager attend at least one training in the last 12 months	58.0	65.3	46.5	58.4
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=51)</i>	<i>(n=50)</i>
Percent of schools that reported having at least one CNP staff member attend at least one training in the last 12 months	45.6	53.1	34.5	45.0

Table 23. Types of trainings attended by school food service staff

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150) *</i>	<i>(n=49)</i>	<i>(n=51)</i>	<i>(n=50)</i>
Percent of schools whose CNP Manager attended a training on:				
Marketing	17.7	20.3	18.2	11.5
New cooking techniques	16.7	22.4	14.3	7.5
Garnishing	18.5	22.4	16.0	13.6
Other ^a	42.9	49.0	30.5	46.7
Percent of schools whose CNP staff attended a training on:				
Marketing				
New cooking techniques	9.4	12.3	10.3	1.9
Garnishing	11.6	18.4	6.3	3.8
Other ^b	8.1	12.2	6.0	1.9
	35.1	38.7	22.9	44.0

* One school has missing data.

^a Other included: ServSafe & other food safety trainings, manager recertification training, other MDE trainings, school orientation at start of year, school nutrition conference, wellness, etc.

^b Other included: ServSafe & other food safety trainings, in-service trainings by food service director, MDE nutrition, stress management, promoting fruits and vegetables, etc.

Policy Point C.2: Use the Whole School Approach in Marketing the Local Wellness Policy. Administration, faculty, staff, students, and parents need to be solicited to be a part of the implementation of the Local Wellness Policy.

Table 24. Members of school district wellness committees.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150) *</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools <i>without</i> a wellness committee	8.2	7.3	6.4	12.5
Percent of schools whose wellness committees include administration, faculty, staff, students, <i>and</i> parents.	18.1	9.8	22.8	28.1
Percent of schools with the following types wellness committee members:				
School board members	9.7	7.33	12.3	10.6
Superintendent	13.6	17.2	12.3	8.5
School principals	70.1	70.8	72.5	65.3
Teachers	74.4	80.4	68.7	70.6
PE Teacher	41.1	39.1	43.9	41.1
School nurses	49.0	44.0	54.4	51.0
Other school staff	59.2	63.3	57.9	52.5
CNP director	23.6	21.9	22.8	28.1
CNP staff	46.0	41.5	54.1	43.2
Parents	59.3	53.7	64.6	62.6
Other community members	38.8	29.3	49.7	41.7
Health professionals	20.4	12.2	24.6	30.8
Students	27.2	14.7	36.0	39.6

*16 Schools have missing data.

School CNP staff was identified as members in 46% of schools that had school wellness committees. Since a significant part of school wellness policies revolve around the school nutrition environment and the CNP programs it is important that CNP representatives have a voice regarding school wellness directives.

Section D: Food Preparation Ingredients and Products

Policy Point D.1: School districts shall adopt the Dietary Guideline recommendation that trans fatty acids will be kept “as low as possible”.

Table 25. School emphasis on reduction of trans fatty acids.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150) *</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools reporting that nutrient analyses address trans-fat in:				
Lunch menus	43.7	40.9	48.5	43.3
Breakfast menus	24.1	26.5	24.4	17.7
Lunch and breakfast menus	23.9	26.5	24.4	17.7
Neither menu	11.6	22.5	0.0	3.8
Respondent unsure for lunch	44.1	36.6	49.6	52.9
Respondent unsure for breakfast	40.3	38.6	41.5	44.1

*One school has missing value.

NOTE: It was identified that the nutrient analysis included with the MS Cycles II menus does not include trans fat. An alternative means of nutrient analyses would need to be conducted to identify the trans fat in the school lunch menu.

Policy Point D.2: Wherever possible and practical, school lunch and breakfast programs shall include products that are labeled “0” grams trans fat.

Table 26. Percent of schools incorporating “0 trans fat” products into meal program foods

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview (for lunch menus)</i>	<i>(n=60) *</i>	<i>(n=24)</i>	<i>(n=17)</i>	<i>(n=19)</i>
Of the schools that found “0 trans fat” products, percent that incorporated at least one “0 trans fat” product into:				
Lunch menus	99.1	100.0	100.0	95.0

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview (for breakfast menus)</i>	<i>(n=42) **</i>	<i>(n=19)</i>	<i>(n=10)</i>	<i>(n=13)</i>
Of the schools that found “0 trans fat” products, percent that incorporated at least one “0 trans fat” product into: Breakfast menus ^a	96.8	94.8	100.0	100.0
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools at which a product labeled “0 trans fat” was observed at lunch	28.8	32.6	21.9	30.2

*For Lunch: 90 schools either made no attempt to find “0 trans fat” product; Or, made attempt but no product were found. For this analysis n=60.

**For breakfast: 108 schools either made no attempt to find “0 trans fat” product, Or, made attempt but no product were found. For this analysis n=42.

Percentage of managers who learned which state bid products are “0 trans fat” from the State Child Nutrition Program office:

- All schools= 24.6% out of 143 schools (7 schools have missing value)
- Elementary schools = 25.0% out of 44 schools (5 schools have missing value)
- Middle schools = 26.3% out of 50 schools
- High schools = 21.2% out of 49 schools (2 schools have missing value)

NOTE: CNP managers are not fully aware of the nutritional significance of incorporating foods with “0 trans fat” into the school lunch menus. Increases in training regarding the nutritional benefits of decreasing the amount of trans fats in the diet and increased awareness of 0 trans fat foods offered through the state bid may support an increase in 0 trans fat foods offered in the CNP.

Policy Point D.3: Schools shall incorporate whole grain products into daily and weekly lunch and breakfast menus based on product availability and student acceptability.

Table 27. Percent of schools incorporating whole grain products into meal program foods

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that incorporated at least one whole grain product into:				
Lunch menus	96.3	95.9	94.1	100.0
Breakfast menus	92.8	92.9	91.1	95.3
Lunch and breakfast menus	75.6	75.6	76.2	74.9
Neither menu	1.6	2.0	2.0	0.0
<i>Observation</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools that served a minimum of one whole grain product in <i>at least one</i> lunch	57.9	57.2	58.5	58.7
Percent of schools that served a minimum of one whole grain product at <i>all</i> lunches	56.6	55.1	58.5	56.9
<i>Observation</i>	<i>(n=87)</i>	<i>(n=28)</i>	<i>(n=30)</i>	<i>(n=29)</i>
Of the schools that served a minimum of one whole grain product in <i>at least one</i> lunch, Percent of schools at which a whole grain product was labeled as whole grain	43.3	53.5	30.6	39.5

*One school has missing value for lunch menus, twenty four schools have missing value for breakfast menus.

Interview: Percentage of managers who learned which state bid products are whole grain from the State Child Nutrition Program office.

- All schools =66.8%
- Elementary schools =59.2%
- Middle schools=71.4%
- High schools=75.9%

Section E: Minimum and Maximum Time Allotment for Students and Staff at Breakfast and Lunch Periods

Policy Point E.1: Schools shall schedule at least a minimum of 24 minutes to ensure an adequate eating time for school lunch.

Table 28. Percent of schools at which students have enough time to eat lunch.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Frequency with which students have adequate time to eat their school lunch meal (% schools):				
None of the time	3.0	4.1	2.0	1.9
Some of the time	8.1	6.1	10.1	9.9
Most of the time	23.7	20.5	28.0	24.8
Always	65.2	69.4	59.9	63.5
<i>Observation^a</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools providing at least 24 minutes for all observed lunches ^a	45.0	42.9	45.9	48.0
<i>Observation</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Percent of schools at which all students finished eating during all observed lunches	80.2	79.7	82.1	78.6

*One school has missing value

The maximum number of lunch periods observed was four. Procedure for beginning and ending lunch periods varied among schools. Most schools used either a bell for ending the lunch period or a staggered system where yada yada

Actual arrival and departure times of students is beyond CNP control.

“Teachers not keeping on the schedule”

“If there is a fire drill or tornado warning, the children cannot get to the cafeteria to eat.

“Some lunches have more students than others. Also, training the cashiers can cause the line to back up. Some food items take longer to serve than others.”

“Students moving slowly through the line slow things down.”

“The lines slow them down on certain days with labor-intensive menus (nachos take longer to serve).”

“complicated menus”

“Every so often supply & demand-If they run out of an item some meals are affected. No routinely.”

“Hold up with testing can be a problem. When this happens, students who are testing are provided with bag lunches.”

“When staff is short handed they can only run one line and they cannot get the students through efficiently.”

“Students should have 30 min. to eat every meal! School policy doesn't allow students to fully participate in the learning by rushing them through meals. They all need to be able to learn how to behave during meals.”

“They talk.”

“sometimes teachers bring students in a few min. late so other classes will be late also.

2-3 times/month”

“They don't have enough time to get through the line & eat. Also, the cashier speed affects the speed of the line.”

“Depends on what we're serving”

“CNP manager feels that the younger grades need more time to eat.”

NOTE: Some uncertainty as to the required number of minutes required for lunch times. Some schools identified 18 minutes as the minimum time allowed.

Policy Point E.2: Schools should take into consideration the recommend time of 10 minutes for a child to eat school breakfast after they have received the meal.

Table 29. Percent of schools at which students have enough time to eat breakfast.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Frequency with which students have adequate time to eat their breakfast meal (% schools):				
None of the time	0.0	0.0	0.0	0.0
Some of the time	2.7	0.0	6.0	4.2
Most of the time	14.8	12.3	20.6	12.2
Always	82.5	87.7	73.4	83.6

*Two schools do not serve breakfast, two schools have missing value

Section F: The Availability of Food Items during the Lunch and Breakfast Periods of the Child Nutrition Breakfast and Lunch Programs

Policy Point F.1: Schools districts shall comply with the Mississippi Board of Education Policy of Competitive Food Sales as outlined in Mississippi Board of Education Policies.

The four MDE competitive food sales policies are the following:

1. No food items will be sold on the school campus for one (1) hour before the start of any meal services period.
2. The school food service staff shall serve only those foods which are components of the approved federal meal patterns being service (or milk products) and such additional foods as necessary to meet the caloric requirement of the age group being served.
3. With the exception of milk products, a student may purchase individual components of the meal only if the full meal unit also is being purchased.
4. Students who bring their lunch from home may purchase water and milk products.

This preliminary baseline report will address policies #1 and #4. Policies #2 and #3 will be addressed in future years once the reimbursable meal data can be analyzed in more detail. Data will be presented, however, which describe Child Nutrition Managers’ experiences with barriers to complying with all four competitive food sales policies, and whether these policies are incorporated into any school or district level policy documents.

Table 30. Percentage of schools complying with Competitive Food Sales Policy #1

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)	(n=49)	(n=50)	(n=51)
Percent of schools reporting that no competitive food sales are made within 1 hour of any meal	82.5	85.8	84.0	73.1
Percent of schools at which competitive food sales were observed within the hour prior to lunch via vending machines and/or school stores (Denominator: all schools in sample).	4.6	4.1	5.9	4.0

Over 81% schools do not sell to students one hour prior to any meal via vending machines or school stores. This includes 42 elementary schools, 42 middle schools, and 35 high schools.

Interview Percentage of schools that have this policy written in a document

- All schools: 58.9%
- Elementary schools: 61.1%
- Middle schools: 58.3%
- High schools: 54.7%

NOTE: CNP managers are aware of competitive food policies.

Table 31 Venues for food sales at schools in violation of Competitive Food Sales Policy #1.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=51)</i>	<i>(n=51)</i>
<i>Number of schools selling foods in the hour before breakfast via:</i>				
Vending machines	8	0	3	5
School stores	2	0	1	1
Fundraisers	2	0	0	2
Teacher sales	2	0	1	1
Other	0	0	0	0
<i>Number of schools selling foods in the hour before lunch via:</i>				
Vending machines	2	0	1	1
School stores	5	2	2	1
Fundraisers	2	0	0	2
Teacher sales	3	0	1	2
Other	4	2	0	2
<i>Observation – Vending Form</i>	<i>(n=55)</i>	<i>(n=14)</i>	<i>(n=18)</i>	<i>(n=23)</i>
<i>Number of schools having competitive foods available for purchase within 1 hour before/after lunch in these locations:</i>				
Cafeteria	2	0	0	2
Faculty lounge	23	8	8	7
Gym/locker room vending	3	1	1	1
Hallway	7	2	2	3
Other	3	1	1	1
Outside on school grounds	17	2	6	9
<i>Observation – Vending Form</i>	<i>(n=99)</i>	<i>(n=30)</i>	<i>(n=32)</i>	<i>(n=37)</i>
<i>Number of schools with the following groups in charge of machine/store:</i>				
Food services	5	1	1	3
Principle/administrator	87	26	30	31
School club	1	0	1	0
Other	6	3	0	3

*Three schools have missing value.

Table 32. Percent of schools complying with Competitive Food Sales Policy #4

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Observation	(n=150)*	(n=49)	(n=50)	(n=51)
Percent of schools <i>observed</i> where a student purchased a milk or water product without purchasing a reimbursable meal	34.9	32.8	33.0	42.3

*Three schools have missing value.

NOTE: These percentages only reflect direct observation by the data collector.

Policy Point F.2: School districts shall update the wellness policy to address limiting the number of extra sale items that may be purchased with a reimbursable meal. This policy will exclude extra beverage purchases of milk, juice and/or water.

Table 33. Percent of schools incorporating this policy into the School Wellness Policy

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)*	(n=49)	(n=50)	(n=51)
Percent of schools that incorporated this policy into their School Wellness Policy*	21.2	20.5	22.6	21.1

* One school has missing value.

Approximately 45% schools answered “not sure” about whether or not the School Wellness Policy addressed limiting the number of extra sale items that may be purchased with a reimbursable meal.

NOTE: While this policy was identified as being included in the school wellness policy there was no endeavor to investigate implementation of the policy.

Policy Point F.3: Schools may sell extra items in individual packages not to exceed 200 calories.

Table 34. Percent of schools meeting calorie limit on Extra Food Items food items

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Observation – Extra Food Items Form	(n=129)	(n=39)	(n=45)	(n=45)
Percent of schools that were fully compliant – 100% of Extra Food Items sold were 200 calories or less	87.8 %	87.2%	90.7%	84.7%

NOTE; While most schools are trying to comply with meeting the calorie limit, several schools still offered 1 or 2 items that did not meet the 200 calorie requirement. Non-compliant items included:

- Sun Chips
- Cheez Its
- Doritos
- Baked Doritos
- Funyuns
- Ranch Dressing
- Rainbow Pop-ups
- Ham and Cheese Sandwiches
- Steak and cheese Sandwiches
- French Fries
- Frosted Flakes

Policy Point F.4: Schools may sell extra (menu) items in portions not to exceed the menu portion serving size.

Table 35. Percent of schools meeting portion size for extra meal item

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Observation – Reimbursable Meal Form^a</i>	<i>(n=88)</i>	<i>(n=18)</i>	<i>(n= 35)</i>	<i>(n=35)</i>
Percent of schools where all the serving size of an extra portion item from the reimbursable meal was observed as smaller or the same size as the portion size in the meal	96.5%	100.0%	97.2%	91.4.0%
Percent of schools where all the serving size of an extra portion item from the reimbursable meal was observed as larger than the portion size in the meal	3.5%	0.0%	2.8%	8.6%

Extra food items in 79.6% of schools were not observed.

Policy Point F.5: Schools will use marketing, pricing, and nutrition education strategies to encourage healthy extra sale selections.

Table 36. Percent of schools using various strategies to encourage healthy food item sales.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
Interview	(n=150)*	(n=49)	(n=50)	(n=51)
Percent of schools that reported discussing the following strategies to promote healthy food sales:				
Marketing	64.9	61.2	66.4	70.7
Pricing	10.7	10.3	12.0	9.9
Education	50.1	48.9	54.3	46.6
Observation	(n=150)**	(n=49)	(n=50)	(n=51)
Percentage of schools at which consultants observed the following strategies:				
Daily healthy specials are advertised	12.1	17.1	8.4	6.0
Healthy marketing in cafeteria	48.5	53.3	44.2	43.8
Nutrition information available for foods items without packaging	1.5	0.0	2.1	4.0
USDA meal food looks appealing	54.3	61.7	48.3	46.5
Observation	(n=150)***	(n=49)	(n=50)	(n=51)
Average number of health promotion posters – nutrition promotion and milk promotion --per school in the cafeteria or lunch line area	7.5 (0-69)	6.3 (0-43)	10.3 (0-69)	6.5 (0-28)
Percent of schools with posters in the cafeteria for:				
Nutrition promotion	63.0	56.3	73.1	63.2
Milk promotion	74.4	65.3	82.1	83.6

*One school has missing value.

** Eight schools have missing value.

***Four schools have missing value

NOTE: There is no definition for “Marketing” identified in the policy. Marketing could be viewed as a poster on the wall. In documenting number and types of posters in the cafeteria it was identified that the most frequently seen posters (i.e. milk) were free and mailed to the CNP manager.

Section G: Methods to Increase Participation in the Child Nutrition School Breakfast and Lunch Programs

This section addresses the following policies as outlined in the MS Healthy Students Act: *Policy Point G.1*: Since school food service operates like a business with income and expenses, adequate marketing ensures a successful program operation. When devising a plan, remember

the following: 1) Define your business, 2) Define your customer, evaluate your plan, and budget. Define your objectives.

Policy Point G.2: Family education will be the key to building a healthy future for all Mississippians. Mississippi public schools offer the best resources, facilities, and structure to promote family nutrition education.

Policy Point G.3a: Schools are strongly encouraged to develop academic partnerships with appropriate governmental agencies to offer family nutrition education programs.

Policy Point G.3b: Family education should be incorporated into each school’s Wellness Policy.

Policy Point G.6: Schools will promote healthful eating and healthy lifestyles to students, parents, teachers, administrators and the community at school events.

Table 37. Percent of schools promoting healthy eating via meal programs, family nutrition, etc.

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Policy Point G.1 Percent of schools with a plan to promote these programs:				
Lunch meal	21.1	26.6	22.1	7.6
Breakfast meal	21.7	24.5	20.2	17.7
Lunch & breakfast meals	17.9	24.5	16.3	5.6
No plans for either meal	74.0	73.4	71.7	78.3
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Policy G.2 Percent of schools that offered resources to promote family nutrition education in last year	48.7	55.2	43.7	41.5
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Policy G.3a Percent of schools with partnerships to promote family nutrition	13.2	16.4	12.0	8.0
<i>Interview</i>	<i>(n=150)</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Policy G.3b Percent of schools whose Wellness Policy incorporate family education	36.5	46.9	28.6	25.1
<i>Interview</i>	<i>(n=82)</i>	<i>(n=25)</i>	<i>(n=29)</i>	<i>(n=28)</i>

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Interview</i>	<i>(n=150)*</i>	<i>(n=49)</i>	<i>(n=50)</i>	<i>(n=51)</i>
Policy G.6 Percent of schools that had activities in last 12 month promoting healthy eating and/or healthy lifestyles	46.1	56.0	35.3	41.9

*One school has missing value.

Vending policy guidelines

Table 38. Percent of schools in compliance with vending regulations

Source and Indicator	All Schools	Elementary Schools	Middle/Jr High Schools	High Schools
<i>Observation – Vending form</i>	<i>(n=84)</i>	<i>(n=20)</i>	<i>(n=30)</i>	<i>(n=34)</i>
Number of schools with ALL snack and beverage items on approved list	15	7	3	5
Number of schools that has snack and/or beverage items on not approved list due to size	16	0	6	10
Number of schools that has snack and/or beverage items not on either (approved or not approved) list	57	12	22	23

NOTE: Some items were on neither the approved vending list nor the denied vending list from MDE.