

# bridging the gap

Research Informing Policies & Practices  
for Healthy Youth

## School Policies and Practices to Improve Health and Prevent Obesity: National Secondary School Survey Results

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SCHOOL YEARS

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## About Bridging the Gap

Bridging the Gap is a nationally recognized research program of the Robert Wood Johnson Foundation dedicated to improving the understanding of how policies and environmental factors affect diet, physical activity and obesity among youth, as well as youth tobacco use. The program identifies and tracks information at the national, state, community and school levels; measures change over time; and shares findings that will help advance effective solutions for reversing the childhood obesity epidemic and preventing young people from smoking. Bridging the Gap is a joint project of the University of Michigan's Institute for Social Research and the University of Illinois at Chicago's Institute for Health Research and Policy. For more information, visit [www.bridgingthegapresearch.org](http://www.bridgingthegapresearch.org).

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# Table of Contents

Introduction .....	1
Report Overview .....	1
Major Findings .....	2
Nutrition: School Meals .....	2
Nutrition: Competitive Foods and Beverages.....	9
Physical Activity and Physical Education.....	15
Wellness Policies.....	20
Concerns and Perceptions of School Administrators .....	22
Next Steps .....	24
Data on Health-Related Policies and Practices .....	25
Table 1: Summary of Health-Related Policies and Practices in Secondary Schools.....	25
Study Methods.....	34
Acknowledgments.....	36
.....	37
References .....	37

# Introduction

Today, more than 23 million children and adolescents in the United States—nearly one in three young people—are either obese or overweight.<sup>1</sup> Obese children are at higher risk for serious health problems, have greater psychological stress and are absent from school more often than their healthy-weight peers.<sup>2-5</sup>

In addition, significant disparities exist. Hispanic and non-Hispanic Black youths are more likely to be obese or overweight than non-Hispanic White youths,<sup>1</sup> and significant differences in overweight and obesity among children have been observed based on family income.<sup>6</sup> Lower-income youths, in particular, are more likely to be overweight as adults, which puts them at higher risk for lower educational attainment, chronic health problems, and dependency on welfare or unemployment compensation.<sup>7</sup>

Many leading public health authorities, including the Institute of Medicine (IOM), recognize the critical role schools play in preventing and reducing childhood obesity.<sup>8</sup> For example, the foods and beverages available in school have a significant impact on children's diets and their weight.<sup>9</sup> Schools also provide important opportunities for physical activity to children across all grade levels.<sup>10</sup> A growing body of evidence shows that school-based policies can help reduce children's caloric intake,<sup>11,12</sup> as well as their purchases and consumption of sugary drinks.<sup>13</sup> School-based interventions also help increase the amount of time children spend in physical activity while at school.<sup>14</sup> Because school policies and practices impact millions of children nationwide, changing the school environment to support healthy eating and promote physical activity are important goals for improving children's health and addressing disparities in overweight and obesity.

## Report Overview

This report updates one of the most comprehensive studies of health-related policies and practices in U.S. public middle and high schools to date, originally released in August 2011.<sup>15</sup> The major findings and trends presented in this report describe issues relevant to childhood obesity for five school years, from 2006-07 to 2010-2011. We examine foods and beverages offered through the National School Lunch Program and also outside of school meal programs, including those sold in vending machines, school stores and à la carte cafeteria lines. We also examine physical education requirements and rates of participation; participation in varsity and intramural sports; and walking and bicycling to and from school.

This report offers timely insights for the U.S. Department of Agriculture (USDA) to consider as it continues implementation of the Healthy, Hunger-Free Kids Act of 2010. The report also helps inform future policies that aim to prevent obesity and improve children's diets, physical activity levels and overall health. Data presented in this report:

- help document how secondary schools implemented district wellness policies during the first five years following the implementation deadline of the wellness policy mandate;
- provide guidance for local, state and federal policymakers about successes and areas where new legislation is needed to strengthen existing efforts;
- help school administrators, school board members and parents benchmark their own schools' progress and identify areas of greatest progress and weakness; and

- help school administrators, policy makers and the general public understand gains made and work still needed to address disparities in childhood obesity rates.

## Major Findings

Our findings are based on surveys of administrators (primarily school principals) from nationally representative samples of public middle and high schools.<sup>a</sup> Results describe policies and practices in place during the 2006–07 through 2010–11 school years, which are referred to throughout this report as 2007 through 2011, respectively. Data are weighted to reflect the percentages of students nationwide who attended a school with a policy or practice referenced in our survey. Weighting by the numbers of students affected, rather than simply giving the percentage of schools with a particular practice, ensures that larger schools (which affect more students) count more heavily than smaller schools. All findings were examined for changes over time and differences 1) between middle and high school; 2) by school socioeconomic status (SES); 3) by student race and ethnicity; and 4) by school majority race and ethnicity. In the presentation of results that follows, we discuss time trends for all measures. In general, differences between middle and high school, or by SES, or by race and ethnicity, are discussed only if the differences are statistically significant.

This report concludes with Table 1, which summarizes key practices for the 2007 through 2011 school years. More information, including complete statistical findings for all variables and for all school years, is available at [www.bridgingthegapresearch.org/research/secondary\\_school\\_survey](http://www.bridgingthegapresearch.org/research/secondary_school_survey).

Since our study began in 2007, there have been some improvements in the nutrition environment of U.S. public secondary schools. Many schools have been making an effort to offer students

healthier foods and beverages for lunch and to provide healthier options in competitive venues, such as vending machines, school stores and à la carte cafeteria lines. Yet, most students still had easy access to pizza, sugary drinks and junk foods.

Little to no progress was observed related to promoting physical activity among students during or after the school day. Physical education requirements for high school students were especially lax. Participation in sports and physical activity clubs remained low, as did the number of students who walk or bike from home to school.

This report highlights a number of conditions in middle and high schools that may be contributing to disparities across socioeconomic levels and across the racial and ethnic groups served. For example, Latino students were less likely to have a variety of healthy foods available through competitive venues than White students, including fruits and vegetables, salads, and whole grains. Students in low-SES schools and majority Black or Latino schools were less likely to participate in sports programs than their peers in predominantly white or high-SES schools. In addition, students in low-SES schools were less likely to attend a school that offered formal nutrition education or one that shares its recreational facilities outside of school hours. These are disparities that deserve focused attention and corrective action.

## **Nutrition: School Meals**

Public middle and high schools have demonstrated some progress in improving the nutritional quality of foods and beverages available through the National School Lunch Program; however, much remains to be done. Schools have a significant impact on students' nutritional choices and behaviors. According to the third School Nutrition Dietary Assessment Study in 2005, the average student obtained and consumed one quarter of their daily calories at school; among those who participated in school meals, the level reached almost 50 percent.<sup>16</sup> School meals—in particular school breakfasts—

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<sup>a</sup> Companion reports that focus on health-related policies and practices in U.S. elementary schools are available at [www.bridgingthegapresearch.org](http://www.bridgingthegapresearch.org).

have been shown to be especially important to lower-income youths. Based on an extensive review of the literature, Brown et al.<sup>17</sup> reported that among children in lower-income households (who are at high risk for obesity), those who participated in the School Breakfast Program had better eating habits, nutritional status, educational preparedness and educational outcome measures than their lower income peers who did not eat breakfast.

## Key Findings

The following section describes key findings among public secondary school students from 2007–2011.

### Student Eligibility to Receive Free and Reduced-Price Lunch

- Participating secondary school administrators reported that the percentage of students eligible to receive free and reduced-price lunch (FRPL) gradually increased from 47 percent in 2007 to 52 percent in 2011 for middle school, and from 37 percent to 43 percent for high school. These increases were significant for the total samples as well as five of the six SES tertiles (the mean percentage of students eligible to receive FRPL in low-SES middle schools increased, but not significantly).<sup>b</sup> The percentage of students eligible for FRPL in 2011 was significantly higher at the middle school level than high school ( $p < .001$ ).
- While no significant increase was observed in majority Black or Latino schools (where 50% or more of the students were of the specified racial and ethnic group), the percentage of students eligible for FRPL significantly increased in predominately White schools (where 66% or more of the student population was White), from 28 percent to 34 percent of students in middle schools, and 25 percent to 31 percent of students in high schools ( $p < .05$ ). This increased eligibility and reliance on free and reduced price foods in the schools no doubt

derives in large part from the deep recession that occurred during this period. As the percentage of students eligible for FRPL increases, the nutritional impact of foods and beverages available in schools is also likely to increase.

### Eating Breakfast and Lunch at School

- Almost 80 percent of middle and high school students attended a school that participated in the School Breakfast Program in 2011 (78% of middle and 82% of high school students), and almost 90 percent of students attended schools participating in the National School Lunch Program (87% of middle and 88% of high school students).
- The percentage of middle school students eating breakfast at school increased significantly from 25 percent in 2007 to 31 percent in 2011 ( $p < .05$ ), and the percentage of high school students doing so showed indications of a similar, but not significant, increase (from 20% to 22%). Significantly more middle school students were reported to eat breakfast at school than high school students ( $p < .001$ ). Eating breakfast at school continued to be significantly related to school SES and student race and ethnicity for both middle and high school students, with participation significantly higher in low-SES schools ( $p < .001$ ), and significantly more likely for Black and Latino students compared with White students ( $p < .001$ ). In 2011, free breakfast for any student, regardless of ability to pay, was available to 19 percent of middle school students and 16 percent of high school students. Such availability was much higher in low-SES schools than mid- or high-SES schools: 44 percent versus 12 percent and 2 percent for middle school students, and 37 percent versus 7 percent and 4 percent for high school students ( $p < .001$ ). Free breakfast regardless of ability to pay was also significantly less likely for White students than for Black or Latino students: 7 percent versus 34 percent and 35 percent for middle school, and 8 percent versus 30 percent and 31 percent for high school students ( $p < .001$ ).

<sup>b</sup> SES tertiles for both middle and high school are calculated yearly and are based on school administrator-reported percentages of students eligible for free and reduced-price lunch (FRPL). Each tertile represents one-third of the students ranked by this percentage for their school.

- The 2011 average full price<sup>c</sup> charged for a School Breakfast Program meal remained significantly higher than in 2007 for both middle and high school students, and middle school students also were charged higher prices for 2011 National School Lunch Program meals compared to 2007 prices. School Breakfast Program prices rose from an average of \$1.10 in 2007 to \$1.27 in 2010 for middle school students and then dropped slightly to \$1.23 in 2011 ( $p < .001$  for 2007 vs. 2011), and from \$1.20 in 2007 to \$1.32 in both 2010 and 2011 for high school students ( $p < .01$ ). Average National School Lunch Program prices rose from \$1.84 to \$2.08 in 2009 for middle school before decreasing to \$1.99 in 2011 ( $p < .01$  for 2007 vs. 2011). For high school students, average National School Lunch Program prices rose from \$2.00 to \$2.17 in 2009, and then decreased to \$2.01 in 2011 (differences between 2007 and 2011 were not significant).
- In 2011, the average full price charged for a National School Lunch Program meal was significantly lower for middle and high school students in low-SES schools compared to students in high-SES schools: \$1.86 versus \$2.12 for middle school ( $p < .01$ ), and \$1.76 vs. \$2.21 for high school ( $p < .001$ ).
- Figure 1 shows that about one-fifth of both middle and high school students were reported to bring their own lunch in 2011 (a significant increase for middle school students from 16% in 2007 to 19% in 2011;  $p < .05$ ). Approximately three-quarters of middle school (73%) and over half of high school students (54%) ate the lunch meal offered by the school in 2011 (middle school participation was significantly higher than for high school;  $p < .001$ ). The percentage of students reported to eat the school lunch meal was significantly negatively associated with school SES for both middle and high school students ( $p < .05$ ); that is, lower school SES was associated with more students eating the school lunch meal.
- Figure 1 also shows that the percentage of students reported to not eat any lunch was 5 percent for middle and 9 percent for high school students in 2011 (high school rates were significantly higher;  $p < .001$ ). The estimated percentage of students who did not eat lunch was significantly higher in low-SES schools than in high-SES schools (6% vs. 3% for middle school students, and 11% vs. 8% for high school students;  $p < .05$ ).
- In 2011, 10 percent of high school students were allowed to go off-campus at lunch (see Figure 1); a significantly higher percentage ( $p < .001$ ) than middle school, where no students were allowed to go off-campus.

### **Beverages and Foods Available Through the National School Lunch Program Meal**

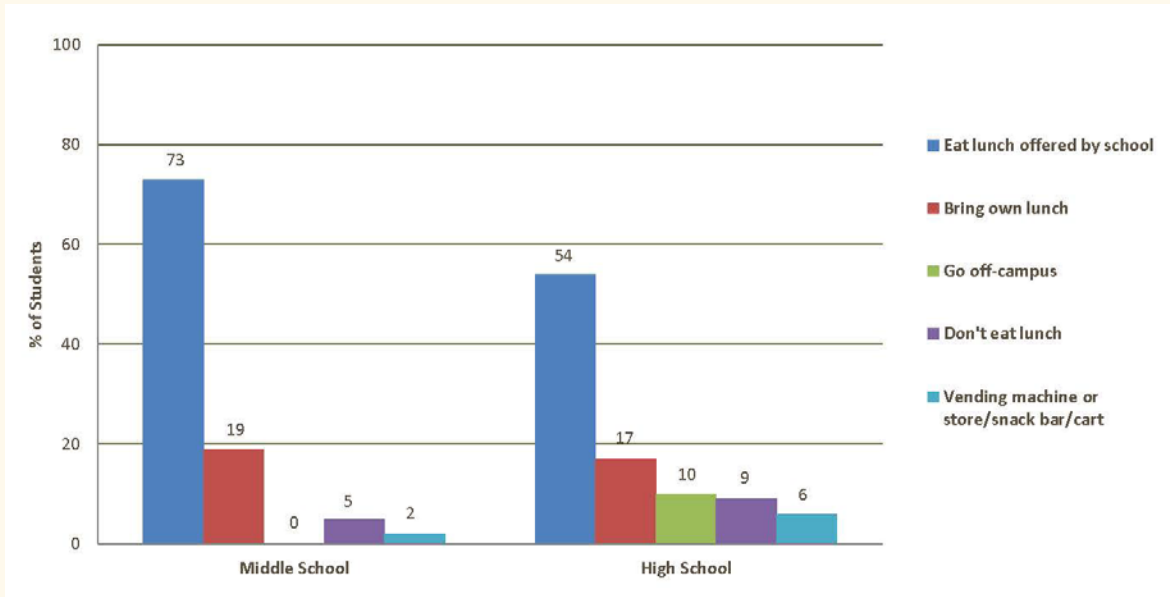
- There have been some significant improvements taking place in the mix of beverages available to students at school through the National School Lunch Program meal. Healthy beverages—those recommended by the IOM, including water, 100% juice, and nonfat or 1% milk—were available to virtually all secondary school students (97% for middle and 99% for high school students in 2011).
- In 2011, drinking fountains in the school cafeteria were available to approximately two-thirds of secondary school students.
- The availability of sugary beverages has decreased, but a sizable percentage of students are still offered such drinks as part of school lunch meals. In 2011, 26 percent of middle school students had sugar-sweetened beverages available, down from 35 percent in 2007 ( $p < .05$ ). The availability of sugar-sweetened beverages also decreased significantly for high school students from 47 percent in 2007 to 32 percent in 2011 ( $p < .01$ ).

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<sup>c</sup> Price data (unadjusted for inflation) are reported here for students attending schools that (a) participated in the respective program (School Breakfast Program or National School Lunch Program) and (b) did not provide a free meal to all students.



**FIGURE 1 Source of Lunch on Typical School Day, 2011**



Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

**Schools remain the primary lunch source for students, but while almost three-quarters of middle school students ate the lunch offered by the school, the rate was considerably lower (54%) among high school students in 2011.**

- Availability of high-fat or flavored milks decreased significantly from 2007 to 2011: from 75 percent to 50 percent for middle school students ( $p < .001$ ), and from 79 percent to 46 percent for high school students ( $p < .001$ ).
- Availability of generally healthy foods like fruits, vegetables and salads was fairly stable at high levels. In 2011, more than 90 percent of both middle and high school students were able to access fresh fruits, dried or canned fruit, and vegetables some days or most/every day.
- Availability of whole grains some days or most/every day increased significantly from

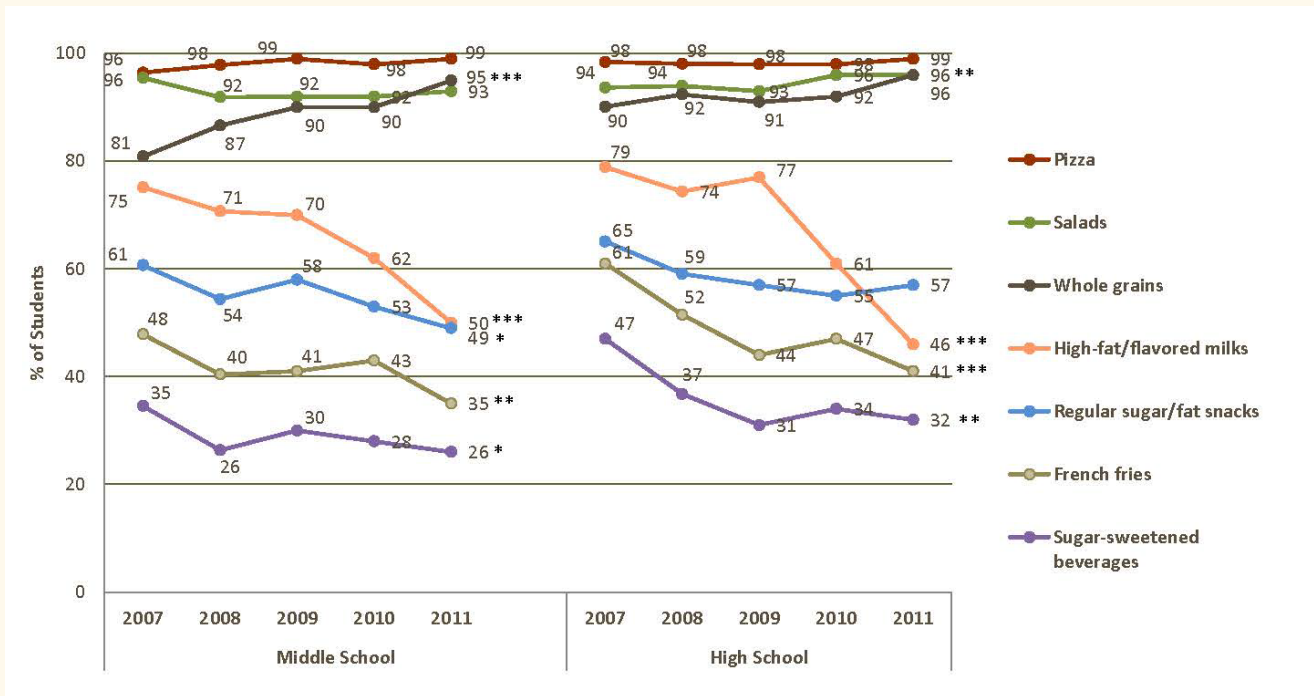
2007 to 2011 for middle school (81% to 95%) and high school students (90% to 96%).

- More than 80 percent of secondary school students were able to access pre-made main course salads in 2011, but only 40 percent of middle and 56 percent of high school students had a salad bar available.

Figure 2 provides trend information on selected beverages and foods available to secondary school students through the National School Lunch Program meal.



**FIGURE 2 Percentage of Students With Selected Items Available at Lunch Meals**



Data reported only for students whose schools participated in the National School Lunch Program.  
 \*p<.05; \*\*p<.01; \*\*\*p<.001 (significance level of differences between 2007 and 2011)  
 Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

**In 2011, the availability of high-fat/flavored milks, french fries, and sugary drinks continued to decrease for both middle and high school students, while the availability of whole grains continued to increase.**

- Foods with lower nutritional value that were served as part of the National School Lunch Program meal remained widely available to middle and high school students, though some progress was observed. Availability of french fries<sup>d</sup> on some days or most/every day decreased significantly from 48 percent in 2007 to 35 percent in 2011 for middle school students (p<.01) and from 61 percent to 41 percent for high school students (p<.001).
- While the availability of regular fat and sugary snacks<sup>e</sup> did not change significantly for high school students (57%), it significantly decreased for middle school students from 61 percent in 2007 to 49 percent in 2011 (p<.05).
- One almost universally available food, pizza, was offered some days or most/every day for almost all students (99% for both middle and

<sup>d</sup> The full wording of the questionnaire item was “deep-fried fries (including fries that are just reheated).”

<sup>e</sup> Any one or more of candy; salty snacks that are not low in fat, such as regular potato chips; cookies, crackers, cakes or other baked goods that are not low in fat; ice cream or frozen yogurt that is not low in fat.

high school students in 2011). In 2011, administrators were first asked for further information on pizza availability, specifically as to whether healthier versions (e.g., whole wheat crust, lower-fat versions) were offered. Approximately two-thirds of both middle and high school students attended schools where administrators reported that both regular and “healthier” pizza was available some days or most or every day.

### **School Food Policy Environment**

- The USDA initiative Team Nutrition offers a wide variety of resources to schools to improve nutrition choices available on school grounds and to improve nutrition education, ranging from fact sheets and education materials for students to classroom and school-wide events to competitive grant initiatives at the state level.<sup>18</sup> General school participation in Team Nutrition<sup>f</sup> did not change significantly from 2007 through 2011, at 36 percent for middle school students and 33 percent for high school students in 2011.
- Also remaining statistically stable were the percentages of students who had school food service provided by the school system (approximately 80% for both middle and high school) and food service management companies (approximately 20% for both middle and high school). Decisions about menus and food service issues continued to be made primarily at the district level; in 2011, 84 percent of middle and 76 percent of high school students attended schools with such decision-making.
- The percentage of middle and high school students attending schools that provided menus to students significantly increased over time: from 90 percent in 2007 to 95 percent in 2011 for middle school, and from 85 percent to 91 percent for high school ( $p<.05$ ). Provision of menus to students varied by school race/ethnicity, being significantly lower for students in majority Latino schools (90% for

middle and 77% for high schools in 2011) than predominately White schools (98% and 96%;  $p<.05$ ). Providing menus to parents increased for middle school students from 83 percent in 2007 to 93 percent in 2011 ( $p<.001$ ); the rate for high school students remained stable at 86 percent in 2011 (significantly lower than for middle school;  $p<.01$ ).

- Providing nutrition information to students did not change significantly over time (58% of middle and 64% of high school students in 2011), but the percentage of students attending schools that provided nutrition information to parents significantly increased from 2007 to 2011 (50% to 59% for both middle and high school students;  $p<.05$ ).

### **Policy Opportunities**

#### **Expand Participation in the School Breakfast Program**

Although eating breakfast is widely recommended, significant proportions of U.S. secondary school students, especially those from low-SES families, do not eat breakfast.<sup>19</sup> This study found that students in low-SES schools were much more likely than their mid- or high-SES peers to eat breakfast at school. As such, efforts to expand school participation in the School Breakfast Program may have a significant impact on student nutrition, especially in low-SES schools, and also may enhance student academic performance. The Healthy, Hunger-Free Kids Act of 2010 allows for grants to establish or expand school breakfast programs and gives priority to schools where 75 percent of students are eligible for free and reduced-price meals. It is important that efforts to increase participation in and expand the school breakfast program continue.

#### **Implement Updated Nutrition Standards for School Meals**

There is significant room for improvement in the nutritional quality of foods served as part of National School Lunch Program meals. In January 2012, as required by the Healthy, Hunger-Free Kids Act of 2010, USDA issued final regulations to update school meals offered under the National School Lunch and School Breakfast Programs.

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<sup>f</sup> Administrators were asked, “Does your school participate in the USDA-sponsored Team Nutrition program?” without specific detail on type of participation. Readers should be aware that participation in Team Nutrition can mean different things for different schools.

The updated standards largely adopt the recommendations of the IOM<sup>20</sup> and require schools to offer more fruits, vegetables and whole grains, while at the same time reducing saturated fats, trans fats, and added sugars and salt, and limiting milk fat to 1% or less. Implementation of these updated standards is underway—changes are expected to be in place during the 2012–13 school year and will be phased in over time. It is critical that these efforts continue swiftly and that schools receive training and technical assistance to help implement the new standards.

### **Finalize Certification and Compliance Procedures to Increase Federal Reimbursement Rates for School Meals**

Offering more fruits, vegetables and whole grains and offering fewer entrees that are high in fat and sodium would greatly improve the nutritional quality of school meals. The Healthy, Hunger-Free Kids Act of 2010 provides for increased reimbursement of six cents per lunch meal for school food authorities that comply with updated nutrition standards. Because nutrition standard improvements likely will increase schools' food service costs, it is critical that USDA moves quickly to implement certification and compliance procedures so schools can benefit from the increased reimbursement rates. Additional funding will be needed to enhance the quality of school breakfasts and help schools comply with the updated standards.

### **Promote Healthy Foods and Beverages**

This study found that fruits and vegetables were widely available in schools, yet national surveys show that secondary students consume low levels of such foods, which suggests that many students are not availing themselves of the healthier choices being offered at school.<sup>19</sup> This indicates the need for school offerings to be more attractive to students, either in terms of the types of foods presented or the way in which they are presented.

Creative examples of the latter approach, which is generally less expensive, have been tried in a number of schools with considerable success,<sup>21</sup>

including: placing vegetables at the beginning of the lunch line; encouraging the use of cafeteria trays (which increased choosing salads); having cafeteria staff routinely ask children if they want a salad; placing the salad bar in front of the checkout register; moving the chocolate milk behind the plain milk; and giving healthy food choices more attractive names.

These approaches are parallel to the kind of thinking that goes into marketing efforts in supermarkets, where placement, sequencing, labeling and other methods are carefully designed to maximize sales.

### **Provide Training and Technical Assistance, and Encourage Collaboration to Promote Implementation of School Food Standards**

Policy efforts for improving the nutritional quality of school meals will be most effective when supported by adequate training, technical assistance, resources and collaboration among policy makers, advocates, school food service personnel, researchers and students. The Healthy, Hunger-Free Kids Act of 2010 included about \$50 million for training and technical assistance. USDA should develop and implement a comprehensive training and technical assistance plan to optimize available funds.

### **Increase the Number of Schools Providing Menus with Caloric Information to Parents and Other Stakeholders**

Promoting easy access to school menus that include nutrition information, such as calorie counts, should help parents become more involved in the nutritional decisions of students at school. It also may help encourage parents to look for nutritional information when making food choices outside of school. Notably, the Healthy, Hunger-Free Kids Act of 2010 requires school districts to include information about the quality of school meals in their reports to USDA and the public. Efforts by schools to increase parent awareness of the childhood obesity problem, educate parents about the issues and motivate them to help seek solutions are critical for reversing the childhood obesity epidemic.

## **Nutrition: Competitive Foods and Beverages**

Competitive foods are so-designated because they “compete” with the School Breakfast Program and the National School Lunch Program, and students must pay to obtain them. There can be a number of possible venues for competitive foods on school grounds, including vending machines, school or student-run stores and snack bars/carts. School cafeterias can also provide a venue for competitive foods when individual items (often with poor nutritional value) are available for à la carte sale. Results indicate that competitive foods and beverages remain widely available in both middle and high schools. While the availability of some less healthy competitive items (such as regular soft drinks, high-fat or flavored milks, and french fries) decreased significantly from 2007 to 2011 for both middle and high school students, the availability of healthier competitive items (such as salad bars) also decreased for middle school students.

### **Key Findings**

The following section describes key findings among public secondary school students from 2007 to 2011.

### **Competitive Food and Beverage Venue Availability**

- As shown in Figure 3, the most common competitive food and beverage venue for middle school students continued to be à la carte sales in the cafeteria, available to 80 percent of students in 2011. Availability of vending machines in middle schools significantly decreased from 79 percent in 2007 to 65 percent in 2011 ( $p<.01$ ), and availability of stores or snack bars/carts was 44 percent.
- 2011 availability of both à la carte sales in the cafeteria and stores/snack bars/carts for high school students remained stable at 87 percent and 64 percent, respectively. Availability of vending machines for high school students decreased significantly from 96 percent in 2007 to 91 percent in 2011 ( $p<.05$ ).

Availability of all three competitive venues was significantly higher for high school students than for middle school students ( $p<.05$ ).

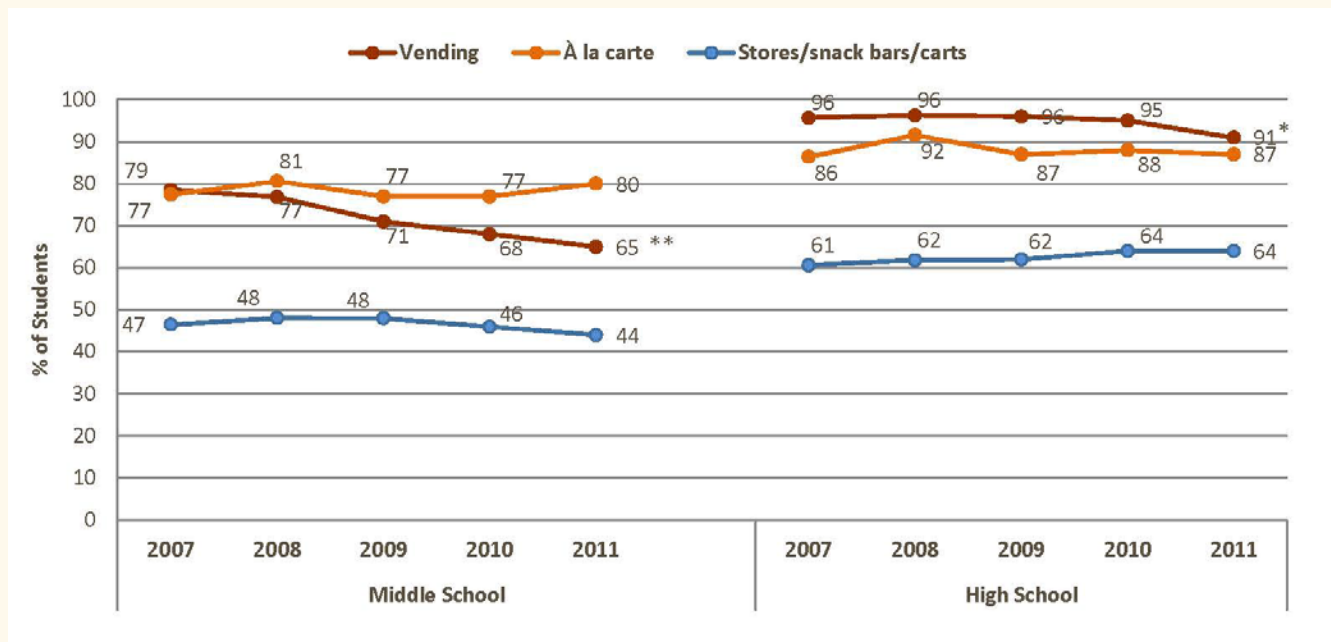
- In high-SES schools, availability of both à la carte and vending machines was significantly greater than in low-SES schools for middle and high school students in 2011 ( $p<.01$ ). Vending machine availability was higher for White than Black high school students ( $p<.05$ ), and middle school à la carte availability was significantly higher in 2011 for White than Latino students ( $p<.05$ ).

### **Competitive Food and Beverage Guidelines: Awareness and Implementation**

In 2006, the Alliance for a Healthier Generation, a partnership of the American Heart Association and the William J. Clinton Foundation, reached agreement with the major food and beverage distributors to improve the nutrition of foods and beverages available to students in competitive venues at school. Both school beverage guidelines and nutritional guidelines for competitive foods were developed. Neither the school beverage guidelines nor the nutritional guidelines for competitive foods are mandatory. State education departments, school districts or individual schools determine whether, and to what extent, they will follow the guidelines.

- School administrator knowledge of the Alliance guidelines for both beverages and competitive foods has increased since 2007. The percentage of students attending schools where school administrators reported no knowledge of the Alliance beverage guidelines decreased from 49 percent in 2007 to 35 percent in 2011 for middle school students ( $p<.01$ ), and from 39 percent to 20 percent for high school students ( $p<.001$ ). In 2011, administrator knowledge of the Alliance beverage guidelines was significantly higher for high school than middle school students attending schools where administrators reported no knowledge of the Alliance nutritional guidelines for competitive foods decreased from 63 percent in 2007 to 50 percent in 2011, and from 57 percent to 44 percent for high school students ( $p<.01$ ).

**FIGURE 3 Percentage of Students Attending Schools with Competitive Venues**



\*p<.05; \*\*p<.01 (significance level of differences between 2007 and 2011)  
 Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

**Availability of vending machines decreased significantly between 2007 and 2011 for both middle and high school students. However, the availability of all types of competitive venues remained high, particularly for high school students.**

- The percentage of students attending schools with competitive venues where the Alliance beverage guidelines had not been implemented decreased significantly for high school students across all three competitive venues examined (p<.001), and for both à la carte sales and vending machines for middle school students (p<.01). By 2011, the percentage of middle and high school students attending schools with no implementation of the beverage guidelines was 45 percent and 31 percent for à la carte sales, 44 percent and 33 percent for stores or snack bars/carts, and 38 percent and 30 percent for vending machines. Remaining students

- attended schools where the guidelines were either in process of being implemented or had been fully implemented.
- The percentage of students attending schools with competitive venues where the Alliance nutrition guidelines for competitive foods had not been implemented decreased significantly for both middle and high school students for à la carte sales (p<.01) and vending machine sales (p<.05). By 2011, the percentage of middle and high school students attending schools with no implementation of the nutrition guidelines decreased to 53 percent and 48 percent for à la carte sales, and 52



percent for both middle and high school students for vending machine sales. The percentage of middle school students attending non-implementing schools for store or snack bar/cart sales also significantly decreased to 52 percent ( $p < .01$ ), while for high school students it decreased from 67 percent to 57 percent (though not with statistical significance). As with the beverage guidelines, remaining students attended schools where the guidelines were either in process of being implemented or had been fully implemented.

- While both the Alliance guidelines for beverages and snack foods appear to have a constructive influence on the offerings of a large and increasing number of schools, it is clear from the following presentation of competitive venue food and beverage availability that there remains a great deal of room to improve the nutritional quality of competitive foods and beverages.

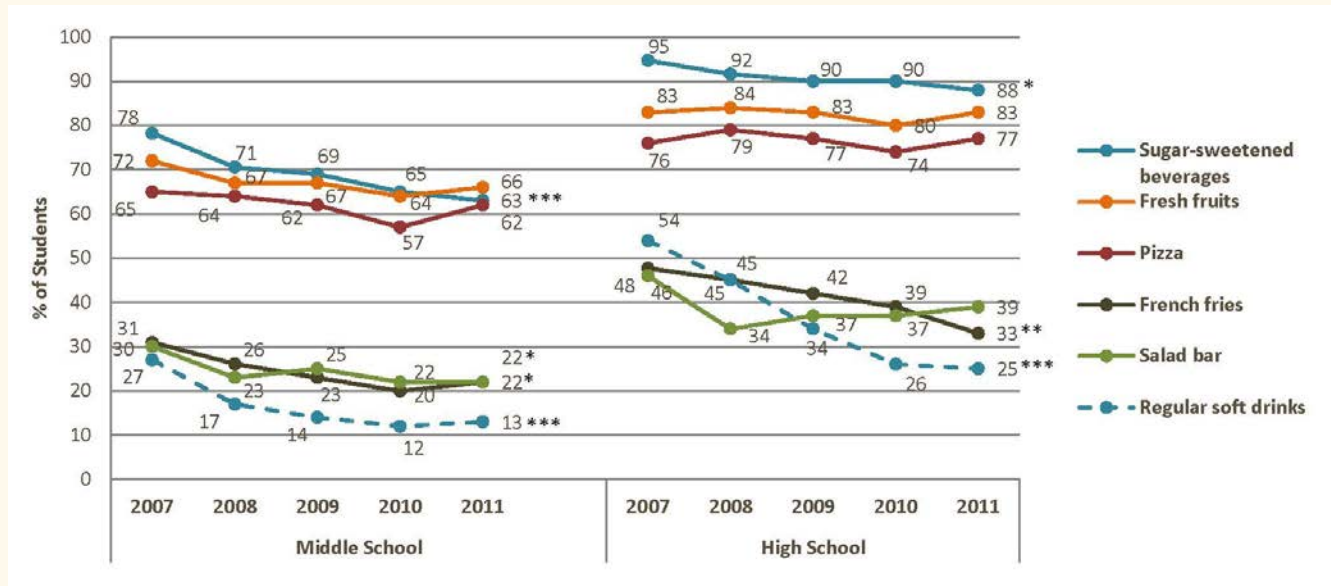
#### **Competitive Food and Beverage Availability**

- A wide variety of food and beverage availability measures will be discussed below; trends for selected items are presented in Figure 4. For virtually all measures, availability was significantly higher for high school students than for middle school students ( $p < .05$ ) (the only exceptions were for drinking fountain and commercial fast food availability). Such differences are not surprising given the findings above showing that overall competitive venue availability was significantly higher for high school than middle school students.
- The availability of all beverage categories decreased significantly from 2007 to 2011 for both middle and high school students. The wide-spread decreases were likely related to the observed decrease in vending machine availability.
- The 2011 availability of IOM-approved beverages (water, 100% juice, and nonfat or 1% milk) in competitive venues was very high

for middle (89%) and high school students (98%). Although these levels remained quite high, they had significantly decreased from 2007 levels of 96 and 100 percent for middle and high school students, respectively ( $p < .05$ ).

- In 2011, approximately two-thirds of secondary school students were reported to have drinking fountains available in the school cafeteria where meals and à la carte sales would occur. The availability of drinking fountains in other school locations was reported as follows: approximately 80 percent for gymnasium/locker rooms, nearly 100 percent for hallways near classroom areas, and just over 40 percent for other non-cafeteria school locations.
- Availability of all sugar-sweetened beverages, including regular soft drinks, sports drinks and high-calorie fruit drinks that are not 100% juice, decreased from 78 percent in 2007 to 63 percent in 2011 for middle school students ( $p < .001$ ) and from 95 percent to 88 percent for high school students ( $p < .05$ ).
- Importantly, the availability of regular soft drinks in any competitive venue decreased by more than half among both middle and high school students: from 27 percent in 2007 to 13 percent in 2011 for middle school, and from 54 percent to 25 percent for high school ( $p < .001$ ).
- Decreases in high school student regular soft drink availability occurred across competitive venue types. Among high school students, availability via à la carte sales in the cafeteria dropped 8 percentage points to 2 percent in 2011 ( $p < .001$ ), availability via stores or snack bars/carts dropped 8 percentage points to 9 percent ( $p < .01$ ), and availability via vending machines dropped 30 percentage points to 21 percent ( $p < .001$ ).
- Significant decreases in the availability of high fat/flavored milks were also seen across the secondary school environment (from 64% in 2007 to 36% in 2011 for middle school, and from 75% to 48% for high school;  $p < .001$ ).

**FIGURE 4 Percentage of Students with Selected Items Available in Competitive Venues**



Competitive venues include vending machines, school/student store or snack bars/carts, and à la carte at lunch.  
 \*p<.05; \*\*p<.01; \*\*\*p<.001 (significance level of differences between 2007 and 2011)  
 Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

**Encouraging decreases between 2007 and 2011 were observed in competitive venue availability of regular soft drinks, overall sugary drinks, and french fries for both middle and high school students.**

- Availability of fruits, vegetables, pre-made salads, and whole grains in competitive venues did not change significantly from 2007 to 2011. In 2011, 66 percent of middle and 83 percent of high school students had fresh fruit available in competitive venues; 61 percent of middle and 77 percent of high school students had vegetables available; 58 percent of middle and 74 percent of high school students had pre-made salads available; and 54 percent of middle and 69 percent of high school students had whole grains available. The availability of whole grains was measured only in à la carte cafeteria sales.
- Vegetables were predominately offered through à la carte sales in the cafeteria. While 60 percent of middle and 73 percent of high school students had vegetables available through à la carte cafeteria sales, only 3 percent

- of middle and 8 percent of high school students had access to vegetables in vending machines; and only 16 percent of middle and 19 percent of high school students had vegetables available through stores or snack bars/carts.
- Among middle school students, there was a significant decline in availability of salad bars<sup>8</sup> (from 30% to 22%; p<.05). Availability of salad bars did not change significantly for high school students (at 39% in 2011).
- For both middle and high school students, the availability of fresh fruits, vegetables, salads (both pre-made and salad bar) and whole grains was significantly lower for students in low-SES schools than for students in high-SES schools (p<.05).

<sup>8</sup> Availability of pre-made main course salads was examined in all competitive venues; however, salad bar availability was asked about only for à la carte sales.



- Less healthy foods continued to be available in competitive venues to students, although some improvements were observed. The availability of french fries decreased significantly from 31 percent in 2007 to 22 percent in 2011 for middle school students ( $p < .05$ ) and from 48 percent to 33 percent for high school students ( $p < .01$ ). Among middle school students, the availability of regular fat and sugary snacks<sup>h</sup> also significantly decreased from 71 percent in 2007 to 57 percent in 2011 ( $p < .001$ ); high school student availability did not change significantly and stood at 77 percent in 2011. Pizza availability remained relatively stable at 62 percent for middle and 77 percent for high school students in 2011, but was significantly less available for middle and high school students in low-SES schools than those in high-SES schools ( $p < .001$ ).
- Commercial fast foods<sup>i</sup> in either competitive venues or the lunch meal were available to 21 percent of middle and 25 percent of high school students in 2011.

### School Policies on Competitive Foods and Beverages

- Approximately half of middle school students (52%) and 60 percent of high school students attended schools where competitive venue prices were set to encourage consumption of healthier beverages and foods,<sup>j</sup> with no significant change over time.
- School administrators were asked about a variety of written policies for competitive food and beverage nutrition standards such as fat and calorie limits, caffeine content, and portion size. Schools commonly addressed the fat and sugar content of competitive products. In 2011, 62 to 65 percent of middle and high school students attended schools with policies limiting

the fat content of foods and milk products. Fifty-three to 63 percent of students had policies limiting the sugar content of foods and beverages. Policies on the calorie content of foods and beverages existed for 51 to 61 percent of students. Among all the policies surveyed, rates did not significantly change between 2009 (the first year the questions were asked) and 2011.

- School administrators were asked if their school district had any restrictions on items sold to students as fundraisers. Almost 30 percent of middle (29%) and 37 percent of high school students attended schools where policy was reported to follow state or district wellness guidelines (a significantly higher percentage for high school students;  $p < .05$ ). Eighteen percent of middle school students and one-quarter of high school students (25%) attended schools where the policy prohibited “foods of minimal nutritional value (soft drinks, candy, and gum),” and 19 percent of middle and 23 percent of high school students attended schools prohibiting sales of soft drinks as fundraisers. Schools with a policy specifying “only healthy foods allowed” were attended by 13 percent of middle and 10 percent of high school students.
- School administrators were also asked if mobile vendors (like those operating hot dog carts or ice cream trucks) were prohibited from selling food or beverages on school grounds during school hours. Responses indicated that 65 percent of middle school and 73 percent of high school students attended schools with such restrictions in 2011 (with high school levels being significantly higher;  $p < .05$ ).

### In-School Marketing, Including Exclusive Contracts

- Exclusive beverage contracts are typically multiyear contracts that grant a supplier sole rights to sell beverages on school grounds and, in turn, generate revenue for schools. Among middle schools, the percentage of students attending schools with exclusive beverage contracts declined from 67 percent in 2007 to 49 percent in 2011 ( $p < .001$ ). A corresponding decline occurred among middle schools receiving a percentage of contract sales, from

<sup>h</sup> Any one or more of candy; salty snacks that are not low in fat, such as regular potato chips; cookies, crackers, cakes or other baked goods that are not low in fat; ice cream or frozen yogurt that is not low in fat.

<sup>i</sup> Any availability of food from pizza places, sandwich or sub shops, or fast food chains during a typical week.

<sup>j</sup> School administrators were asked “To what extent has your school or school district set food prices (in vending machines, stores, à la carte) with the intent of encouraging students to eat healthier foods (e.g., fruits, vegetables, low-fat foods)?” A similar question asked to what extent the school or district set beverage prices (e.g., for bottled water, low-fat milk, sugar-free beverages) to encourage students to drink healthier beverages.

54 percent of students attending such schools in 2007 to 37 percent in 2011 ( $p < .001$ ). The percentage of high school students attending schools with an exclusive beverage contract also decreased significantly from 74 percent in 2007 to 65 percent in 2011 ( $p < .05$ ), and the percentage of high school students attended schools that reported receiving a specified percentage of sales from the existing contract decreased from 64 percent to 53 percent ( $p < .05$ ). Exclusive beverage contracts and all related outcomes were significantly more likely for high school than middle school students ( $p < .001$ ).

- In 2011, regular soft drinks were sold under an existing exclusive beverage contract in schools attended by 7 percent of middle and 18 percent of high school students. These percentages had decreased by about half from 2008 levels of 14 percent for middle and 37 percent for high school students ( $p < .01$  for middle and  $p < .001$  for high school). (The first year this item was included in the study was 2008.)
- For food vending revenue, school administrators first confirmed if food vending machines were available to students and if a company such as a vending company or soft drink/beverage supplier sold food items in such venues. The percentage of students attending schools that received revenue from food vending machines remained relatively stable at 20 percent for middle school and 42 percent for high school students in 2011 (rates significantly higher for high school vs. middle school students;  $p < .001$ ).
- No significant changes were observed in the percentage of middle school students exposed to advertising and promotion of soft drinks and/or items from fast-food restaurants. Rates for middle school students ranged from 0 percent for textbook covers/menus to 13 percent for sponsorships. Rates for high school students ranged from 1 percent for textbook covers/menus to 19 percent for sponsorships. Over time, significant decreases in exposure among high school students were observed for posters (dropping from 7% in 2007 to 3% in 2011;  $p < .05$ ) and sponsorships (decreasing

from 29% in 2007 to 19% in 2011;  $p < .05$ ). The percentages of high school students exposed to all forms of advertising other than coupons and textbook covers/menus was significantly higher than for middle school students ( $p < .05$ ).

## **Policy Opportunities**

### **Ensure USDA Guidelines for Competitive Foods and Beverages Meet or Exceed the Current Dietary Guidelines for Americans**

The Healthy, Hunger-Free Kids Act of 2010 gives USDA authority to update standards for all foods and beverages served and sold in schools, including those sold in vending machines, school stores and as à la carte items. In February 2013, the USDA released the proposed rules that would govern competitive foods; the comment period is open as the current document goes to press. The final rule should follow as a guide the standards for competitive foods set by the IOM, which recommend limits on fat, sugar, calories and serving sizes,<sup>21</sup> as well as the most recent Dietary Guidelines for Americans.

### **Encourage Schools to Implement Nutrition Guidelines for Competitive Foods and Beverages**

Schools, districts and states should continue to strengthen efforts to update their own nutritional guidelines for competitive products (using the Dietary Guidelines for Americans and the IOM standards to guide their efforts), especially since the proposed USDA standards will not preempt more stringent local policy. This will help ensure that all foods and beverages available to students contribute to a healthy diet.

Schools that have replaced less healthy competitive products with healthier items have reported no loss in revenues.<sup>22</sup> In fact, adding healthier competitive foods can even increase participation in the National School Lunch Program and attract new revenue.<sup>23,24</sup> Improving the nutritional quality of products offered in competitive food venues also could help to reinforce practices encouraged by school-based nutrition education.

## **Physical Activity and Physical Education**

Schools have historically played an important role in facilitating physical activity for their students during the school day.<sup>25</sup> However, physical education and other opportunities for activity, such as walking or biking to school, have been increasingly difficult to sustain due to competing demands and also school siting choices that have been made. The importance of maintaining and improving support for these activities has been repeatedly emphasized.<sup>26-29</sup>

Our results show little change in participation from 2007 to 2011 for physical education, sports programs and physical activity clubs among middle and high school students. However, significant increases were observed in areas of physical fitness testing and body mass index (BMI) assessment. Important differences remain evident by school SES and predominant race and ethnicity of the student body.

### **Key Findings**

The following section describes key findings among public secondary school students from 2007 to 2011. Trends for selected measures are presented in Figure 5.

### **Physical Education Requirements and Participation**

- Overall, the percentage of students attending schools that required physical education (PE) at their grade level did not change significantly from 2007 to 2011. Similarly, the percentage of students who participated in PE overall did not change. Requirements and participation rates were markedly different for middle and high school students. In 2011, PE was required for 80 percent of students in middle schools but only 33 percent of students in high schools

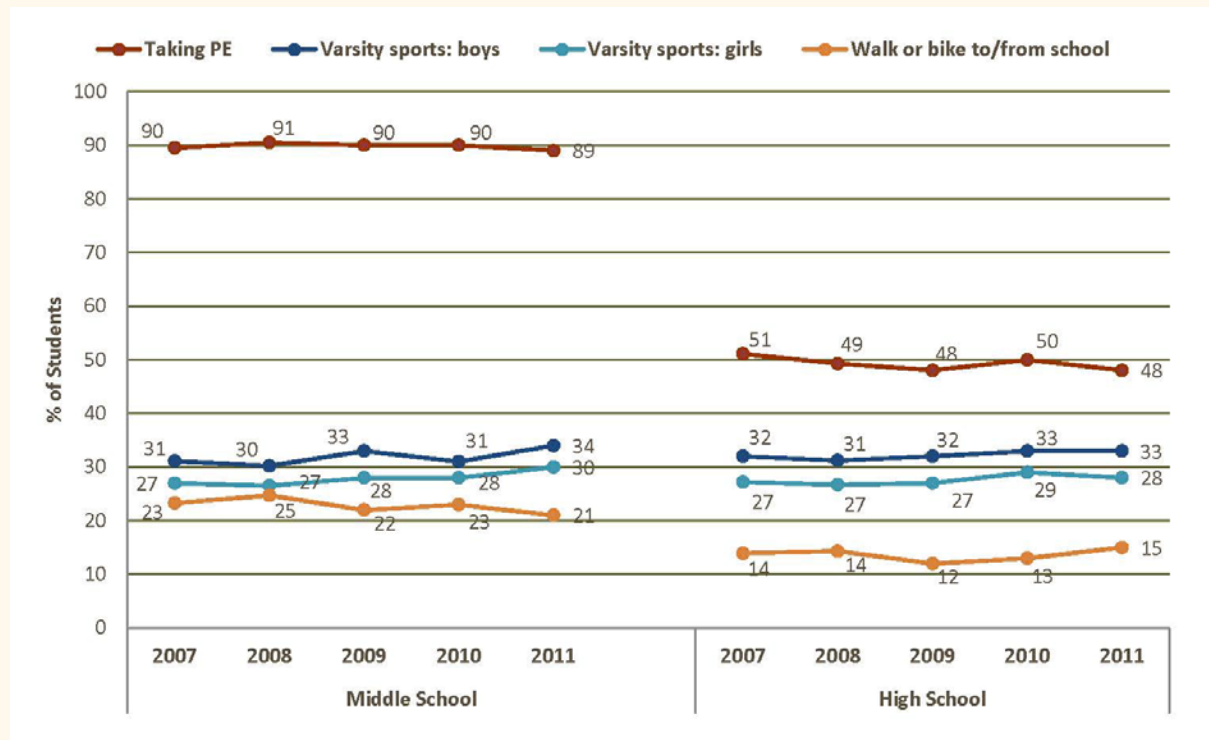
( $p < .001$ ). Following suit, 89 percent of middle school students took PE in 2011, whereas only 48% of high school students did so ( $p < .001$ ).

- Requirements and participation levels generally did not change significantly from 2007 to 2011. One exception was a significant *decrease* in participation among students at low-SES high schools (54% in 2007 to 42% in 2011;  $p < .05$ ).
- In 2011, participation in PE was significantly lower among low-SES middle and high school students compared with high-SES middle and high school students. On average, 83 percent of middle school students and 42 percent of high school students at low-SES schools participated in PE compared with 94 percent and 57 percent of middle and high school students at high-SES schools ( $p < .01$ ). Participation in PE was also significantly lower for students in majority Black and majority Latino middle schools compared to students in predominantly White middle schools. Ninety-five percent of students *attending* majority White middle schools took PE versus 83 percent and 86 percent of students at majority Black and majority Latino middle schools ( $p < .01$ ).

### **Minutes and Weeks of PE**

- During the 2011 school year, the average number of minutes of PE per week was 148 minutes for middle school students and 88 minutes for high school students. This average represents the mean number of minutes across all target grade students and all weeks during the school year, regardless of whether any particular student took PE for part or all of the school year. The average number of weeks of PE during the school year was 26 weeks for middle school students and 14 weeks for high school students. Students in middle schools had significantly more time in PE and significantly more weeks of PE relative to students in high school ( $p < .001$ ).

**FIGURE 5 Percentage of Students Participating in Various Forms of Physical Activity**



Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

**Participation rates for both middle and high school students in various forms of physical activity remained essentially flat and quite low over the 2007 to 2011 time period.**

### Participation in Sports Programs

- Participation in interscholastic or varsity sports did not change significantly from 2007 to 2011. About a third of boys reported participating in interscholastic/varsity sports at the middle and high school levels in 2011. Levels of interscholastic/varsity participation for girls were 30 percent for middle school students and 28 percent for high school students.
- Participation in intramural sports or physical activity clubs did not change significantly from 2007 to 2011 for either girls or boys. Participation in intramural sports was about twice as high in middle school students

compared to high school students. For boys, 25 percent of middle school boys participated in intramural sports or physical activity clubs versus 12 percent of high school boys ( $p < .001$ ); for girls, 22 percent of middle school girls and 10 percent of high school girls participated in intramural sports or physical activity clubs ( $p < .001$ ).

- Both middle and high school students attending low-SES schools were significantly less likely than students in high-SES schools to participate in interscholastic or varsity sports ( $p < .01$ ). Middle school students attending low- or mid-SES schools were less likely than students at

high-SES middle schools to participate in intramural or physical activity clubs ( $p < .05$ ).

- In predominantly White middle schools, the percentage of boys and girls participating in interscholastic or varsity sports was higher compared with students in majority Black schools or majority Latino schools ( $p < .05$ ). At the high school level, students at predominantly White high schools had higher rates of interscholastic or varsity sports participation compared with students at predominantly Latino high schools for both boys and girls ( $p < .001$ ). Students at predominantly White high schools had higher rates of interscholastic or varsity sports participation compared with students at predominantly Black high schools for girls only ( $p < .05$ ). We suspect that the costs of sports participation may be responsible for some of these differences and plan to explore what costs are associated with joining varsity teams in later surveys.

#### **Walking or Bicycling to School**

- The percentage of students who walked or bicycled to school remained unchanged and very low. In 2011, just over one-fifth (21%) of middle school students and about one in seven (15%) high school students walked or bicycled to school. Rates of walking or biking to school were significantly higher among middle school students compared to high school students ( $p < .001$ ).
- Both middle and high school students in low-SES schools were significantly more likely to walk or bike to school than their mid- and high-SES counterparts (31% versus 19% and 14% in middle school, and 22% versus 13% and 10% in high school;  $p < .01$ ). A greater percentage of students in majority Black and majority Latino schools—in both middle and high schools—walked or biked to school compared with students in predominately White middle or high schools (35% and 35% versus 13% in predominantly White middle schools, and 19% and 36% versus 10% in predominantly White high schools;  $p < .05$ ).

#### **Physical Fitness Testing and Body Mass Index Assessment**

- The percentage of students attending schools that gave physical fitness tests increased appreciably from 2007 to 2011. In 2011, 84 percent of middle school students were in schools that gave any fitness tests up from 73 percent in 2007 ( $p < .01$ ). The corresponding figures for high school were 57 percent in 2011 compared with 36 percent in 2007 ( $p < .001$ ). Similar trends were seen for the percentage of students in middle and high schools where *all* students were tested ( $p < .05$  and  $p < .001$  for middle and high schools, respectively). The percentage of students in high schools where all students were tested was two times greater in 2011 (24%) than in 2007 (12%). Rates in middle school were 62 percent in 2011 versus 53 percent in 2007.
- Students in low-SES middle schools were less likely to attend a school that gave fitness tests to any or all students compared to students who attended mid- or high-SES middle schools ( $p < .001$ ). Seventy-one percent of students in low-SES middle schools attended a school that gave fitness tests to any students compared with 90 percent at mid- and high-SES middle schools. Similarly, 42 percent of students at low-SES middle schools attended a school that gave fitness tests to *all* students compared with 69 percent and 73 percent for students in mid- and high-SES middle schools, respectively.
- There was an increase in the percentage of secondary school students who attended schools that measured student body mass index (BMI). For middle school students, 45 percent attended schools where some students were measured compared to 33 percent in 2007 ( $p < .01$ ). For high school students, the percentage of students in schools that measured any student BMI increased from 27 percent in 2007 to 38 percent in 2011 ( $p < .05$ ). In middle schools, there was a significant increase in the percentage of students in schools where all students were measured, from 24 percent in 2007 to 36 percent in 2011 ( $p < .05$ ). There was a three-fold increase from 2007 to 2011 in the percentage of high school students who were in schools where all



students were measured (6% to 18%,  $p < .001$ ). Still, the majority of secondary students attended schools that did not conduct BMI measurements on any students in 2011.

- The percentage of students who attended schools that sent results of the fitness and BMI assessments to parents also increased, likely due to the increase in the percentage of students who underwent the tests. Parents of middle school students were more likely than parents of high school students to be sent the results ( $p < .001$ ). More than half (58%) of middle school students were in schools that sent fitness test results to parents, compared with 30 percent of high school students. Slightly more than one-third (36%) of middle school students and one-fifth (20%) of high school students were at schools that sent BMI results to parents, a significant increase over 2007 levels (20% in middle school students and 11% in high school students;  $p < .01$ ).

#### **Shared Use of School Facilities: Joint Use Agreements**

- The vast majority of middle and high school students (91% and 93%, respectively) were in schools that allowed external organizations and individuals to use school grounds or facilities for physical activity or sports programs outside of school hours. These rates were similar to those seen in 2010, when such joint use arrangements were first measured. Although the majority of students attended schools that shared their facilities, students in low-SES schools were significantly less likely to be in schools that allowed this access compared with students in high-SES schools (79% and 85% for middle school and high school students in low-SES schools compared with 98% for both middle and high school students in high-SES schools;  $p < .01$ ).

## **Policy Opportunities**

### **Improve Physical Education Requirements**

Districts and schools should develop and enforce physical education policies that align with evidence-based guidelines, including those for time spent in moderate-to-vigorous physical activity. Such efforts may help more students meet the U.S. Department of Health and Human Services (USDHHS) physical activity recommendation (at least 60 minutes of moderate-to-vigorous physical activity daily) and learn lifelong skills that contribute to healthy behavior. Additionally, as USDA develops model policies and technical assistance for local wellness policies in accordance with the Healthy, Hunger-Free Kids Act of 2010, it should consider requiring districts to set specific goals for physical education.

Regular fitness assessments can help monitor student progress and aggregate results can be used to improve physical education programming. Increasing awareness of the link between physical activity and improved academic performance<sup>30,31</sup> is one strategy for motivating key decision makers to support such policy changes.

### **Include Active Physical Education as a Core Requirement in the Elementary and Secondary Education Act**

As Congress considers reauthorization of the Elementary and Secondary Education Act, it should consider making physical education a core and mandatory requirement to ensure that all students are getting adequate amounts of exercise and that physical education classes follow evidence-based guidelines and are taught by certified teachers.

### **Increase Participation in Physical Activity Outside of Physical Education**

Policies that support opportunities for students to be active before, during and after the school day—including participation in intramural sports, physical activity clubs and/or varsity sports—will likely help more children meet the USDHHS recommendations.

### **Increase Prevalence of Joint Use Agreements**

Local policy officials should facilitate joint use agreements between municipalities and educational institutions to create more opportunities for community members, including school children in sports clubs and teams not run by the schools, to use available facilities for physical activity. They should adopt policies to address liability issues that might block implementation of joint use agreements, when necessary.<sup>32</sup> The need appears to be greatest among schools that serve low-SES students.

ChangeLab Solutions provides several resources that help guide the structure and implementation of joint use agreements, including model agreements, an overview of liability risks in all 50 states and a checklist for developing an agreement.<sup>k</sup>

### **Support Walking and Bicycling to School**

Increasing participation in Safe Routes to School and walking school bus programs could help increase active commuting among students. Safe Routes to School programs also may help advance long-term changes in the community that support walking and bicycling more generally, such as new sidewalks, bike lanes and traffic calming devices. Collaboration among school administrators, planners and local officials is essential for building and maintaining such initiatives.

Congress has the opportunity to ensure programs such as Safe Routes to School and other bicycle and pedestrian-friendly initiatives receive adequate funding as part of surface transportation reauthorization efforts.

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<sup>k</sup> More information about ChangeLab Solutions' joint use agreement resources is available at <http://changelabsolutions.org/childhood-obesity/joint-use>.



## **Wellness Policies**

The Child Nutrition and WIC Reauthorization Act of 2004 required school districts or local education agencies that participate in federally subsidized child nutrition programs (such as the National School Lunch Program and School Breakfast Program) to establish and implement a local school wellness policy by the start of the 2006–07 school year. Our survey found that in 2011, 87 percent of middle school students and 88 percent of high school students were in schools that participated in the National School Lunch Program, so the great majority of districts represented in our sample were obliged to establish a wellness policy.

### **Key Findings**

The following section describes key findings among public secondary school students from 2007 to 2011.

### **Establishing and Implementing a Wellness Policy**

- In 2011, 82 percent of middle and 78 percent of high school students attended a school where a wellness policy had been established by either the school or school district (a significant increase at the middle school level from 73% in 2007;  $p < .05$ ). High school students attending low-SES schools were less likely than their peers in high-SES schools to have established wellness policies (69% vs. 86%;  $p < .01$ ).
- Approximately one-third of both middle (30%) and high school students (32%) attended schools with a developed plan for implementing the wellness policy in 2011, and just over half attended schools where an individual had been designated as responsible for wellness policy implementation (56% for middle and 53% for high school). These rates have remained relatively stable since 2007, though at the high school level a decreasing proportion of schools have an individual responsible for implementation (change not significant).

### **Specific Goals in the Wellness Policy**

- The percentage of students attending schools with explicit wellness goals for physical activity, nutrition education, and foods and beverages available to students remained generally stable. Physical activity goals were in place in schools serving 61 percent of middle and 55 percent of high school students in 2011; nutrition education goals were in place for 51 percent of both middle and high school students, and goals for foods and beverages available to students were in place for approximately three-fifths of both middle (62%) and high school (61%) students.
- About two-thirds of both middle and high school students attended schools with nutrition guidelines for all foods in 2011: 68 percent for middle and 67% for high school students.

### **Formal Classroom Instruction in Physical Activity and Nutrition**

- Formal classroom instruction in physical activity, exercise and fitness decreased at the middle school level, from 96 percent of students who were offered such instruction in 2007 to 89 percent in 2011 ( $p < .01$ ). Such instruction also decreased slightly for high school students from 98 percent in 2007 to 95 percent in 2011 ( $p < .05$ ).
- Formal classroom instruction in nutrition and dietary behavior did not change significantly between 2007 and 2011. In 2011, 80 percent of middle and 89 percent of high school students were offered such instruction. Middle and high school students in low-SES schools were significantly less likely to receive formal classroom instruction on nutrition and dietary behavior than their peers in high-SES schools (60% vs. 93% in middle school; 84% vs. 92% in high school;  $p < .05$ ).
- Availability of formal instruction in both physical activities, exercise and fitness, as well as formal instruction in nutrition and dietary behavior, were significantly higher for high school students than for middle school students ( $p < .01$ ).

### **Healthy School Recognition**

- In 2011, only about 2 percent of secondary school students attended a school that was certified as a USDA HealthierUS school or designated as having an Alliance for a Healthier Generation Healthy School Program, according to administrator reports. It should be noted that nearly half of secondary school students attended schools where the administrator did not know if the school had received such certification or designation.

### **Policy Opportunities**

#### **Maximize Opportunities Included in the Healthy, Hunger-Free Kids Act of 2010**

Model wellness policies and technical assistance developed for school districts by USDA should reflect the intent of the Healthy, Hunger-Free Kids Act of 2010, which calls for:

- ~ making the content of wellness policies more transparent to help parents, students and others in the community better understand the provisions;
- ~ requiring the measurement and evaluation of the wellness policies; and
- ~ providing resources and training to help with designing, implementing, promoting, disseminating and evaluating wellness policies.

To ensure that wellness policies are implemented successfully at the local level, USDA should develop best practices and model policies, as well as regulations that allow districts and schools to tailor the provisions to meet their individual needs.

Schools should take the lead in implementing their district wellness policy, ensure timely review and provide feedback about their implementation efforts to the school community.

#### **Ensure that Schools and Districts Have Adequate Resources to Implement Wellness Policies**

Lack of funding, insufficient staff time and limited support from district and school administrators have been identified as barriers for implementing district wellness policies.<sup>33</sup> Governments at all levels will need to reallocate and maximize resources to help districts and schools implement wellness policy provisions.

## **Concerns and Perceptions of School Administrators**

The section of questionnaire that focused on the school administrators' perceptions asked specifically about their levels of concern for student nutrition, physical activity and overweight, as well as for the perceived extent of effort directed towards addressing student nutrition and physical activity on the part of both the school and its school district. In general, the levels of concern about student nutrition, physical activity and overweight expressed by school administrators remained fairly stable from 2007 through 2011. Differences in levels of concern about overweight and physical activity were evident by school SES.

### **Key Findings**

The following section describes key findings among public secondary school students from 2007 to 2011.

#### **Concern for Student Overweight, Nutrition and Physical Activity**

- A significantly higher percentage of middle than high school students had administrators who reported that schools should be involved to a great or very great extent in addressing the problem of childhood obesity: 61 percent versus 48 percent ( $p \leq .01$ ).
- As shown in Figure 6, administrators seemed to be less concerned about students being overweight than about nutrition and physical activity. In 2011, 61 percent of middle school students attended schools where the administrator expressed great or very great
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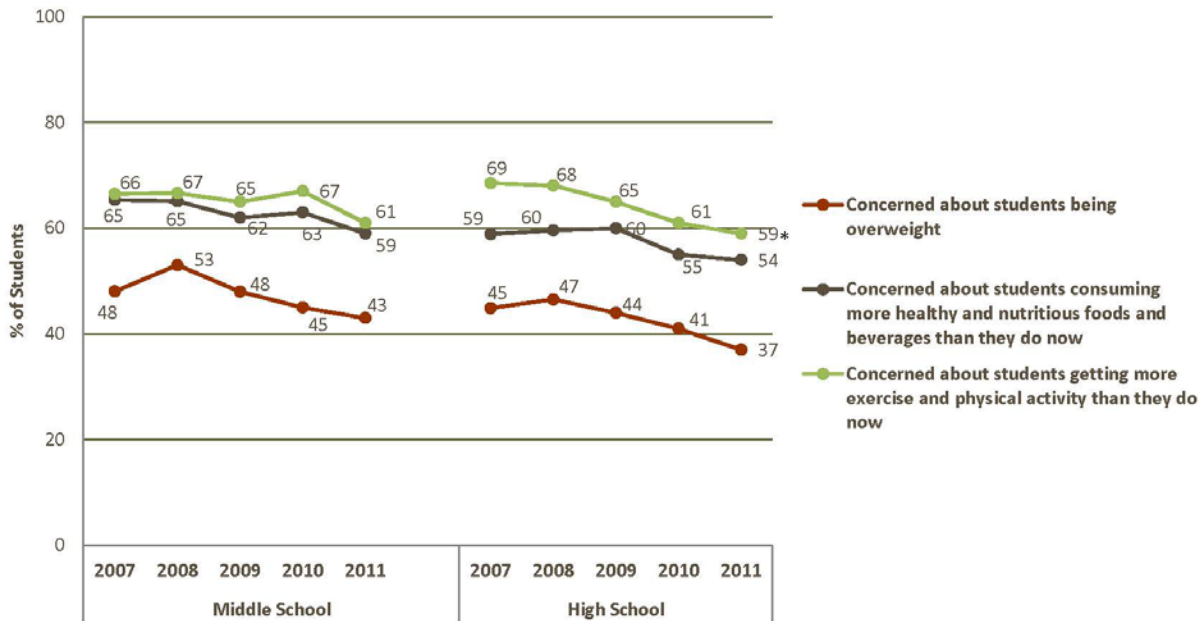
concern about student physical activity levels; the corresponding figure for nutrition was 59 percent; and 43 percent attended schools where the administrator expressed concern about students being overweight. Percentages for high school students were similar at 59 percent, 54 percent and 37 percent for physical activity, nutrition and overweight, respectively. These percentages showed no statistically significant change between 2007 and 2011 other than for concern for physical activity levels for high school students, which decreased from 69 percent in 2007 to 59 percent in 2011 ( $p < .05$ ).

- In 2011, middle and high school students attending low-SES schools were significantly more likely to have school administrators expressing great or very great concern about student overweight and about their getting enough physical activity than students in high-SES schools ( $p < .05$ ).

#### **School and School District Efforts to Improve Student Nutrition and Physical Activity**

- Reported school or school district efforts to improve both student nutrition and physical activity remained fairly stable from 2007 to 2011. Just under half of all middle and high school students attended schools where the school administrator reported making efforts to improve student nutrition to a great or very great extent at the school district or school level. Roughly half of all middle school students attended schools with such efforts to improve student physical activity at either the school district or school level. Efforts at the high school level were somewhat lower, averaging about 35 percent.

**FIGURE 6 Percentage of Students Attending Schools with Principals Who Were Concerned to a “Great Extent” or “Very Great Extent” About Student Overweight, Nutrition, and Physical Activity**



\*Difference between 2007 and 2011 was significant at  $p < .05$ .  
 Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

**School administrators consistently showed higher concern for student exercise and physical activity and nutrition than for student overweight. Concern for all three issues has been declining.**

### Policy Opportunities

#### Support the Implementation of Successful, Low-Cost Interventions

Principals and other administrators need models of success both for improving student dietary and beverage choices during the school day, as well as for helping students be more active. Clearly more resources would help, and they may be most needed in schools serving low-SES populations and Black and Latino students. Because resources are likely to be in short supply for the foreseeable future, models that carry only modest costs would appear most promising.

#### Participate in National Initiatives that Support Healthy Schools

A number of national initiatives provide resources and technical assistance to help principals, teachers and administrators make the school environment healthier for students. For example, the Team Nutrition program and the HealthierUS School Challenge are both supported by USDA, and the Alliance for a Healthier Generation offers the Healthy Schools Program. There is certainly room for increased participation in such programs. As noted previously, this study found 36 percent of middle school students and 33 percent of high school students attended a school that participated in some way in Team Nutrition in 2011.

## Next Steps

Since 2007, a number of public secondary schools in the U.S. have made an effort to make healthier foods and drinks more available, but foods that are high in fat, sugar and/or sodium are still readily available. Clearly, there has been insufficient progress in helping students be active during and after the school day. This report also highlights a number of conditions in middle and high schools that may contribute to disparities in childhood obesity. Our data identify specific policies and practices that, if changed, may help address these disparities and create a healthier school environment for all students.

The Bridging the Gap team has been collecting nationally representative data on health-related practices in elementary, middle and high schools annually since the 2006–07 school year, which was the first year of the federal wellness policy mandate. Annual surveys by Bridging the Gap will

continue to track changes in state and district policies and school practices relevant to student health. We also will monitor the impact of these changes to identify areas where progress is being made, as well as areas where particular need remains. These findings will provide timely guidance for the continued implementation of the Healthy, Hunger-Free Kids Act of 2010.

In addition, ongoing tracking will help assess the impact of the Healthy, Hunger-Free Kids act of 2010, the reauthorization of the Elementary and Secondary Education Act, and key state and local policies that impact children’s overall health. Future reports also will examine links between adopted wellness policies, their level of implementation in schools, and secondary school students’ self-reported physical activity levels, dietary patterns and body mass indices to identify policies with the greatest potential to reverse the childhood obesity epidemic.

# Data on Health-Related Policies and Practices

Table 1 summarizes data from 2007 through 2011. All data are weighted to reflect the percentages of public secondary school students nationwide who were impacted by these practices. Data for other survey topics and demographic sub-sample comparisons are available at [www.bridgingthegapresearch.org/research/secondary\\_school\\_survey](http://www.bridgingthegapresearch.org/research/secondary_school_survey).

**Table 1: Summary of Health-Related Policies and Practices in Secondary Schools**

School Meals	Responses	Middle School					High School					MS v HS	
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011		
<b>Eating breakfast and lunch at school</b>													
Students ate breakfast offered by school	[Average %]	25%	26%	30%	30%	31%	*	20%	18%	20%	23%	22%	§
School offered breakfast to students													
...U.S.D.A. School Breakfast Program	Yes	79%	82%	84%	80% <sup>a</sup>	78%		77%	86%	82%	83%	82%	
...any breakfast	Yes	90%	89%	90%	91%	90%		93%	94%	92%	93%	93%	
School offered breakfast free to all students	Yes	--	--	22%	20% <sup>a</sup>	19%		--	--	18%	18% <sup>a</sup>	16%	
Average full price charged for School Breakfast Program meal	[Average price <sup>b</sup> ]	\$1.10	\$1.11	\$1.20	\$1.27 <sup>a</sup>	\$1.23	***	\$1.20	\$1.20	\$1.24	\$1.32 <sup>a</sup>	\$1.32	** †
Students allowed to go off-campus at lunch	Yes	--	--	--	1%	1%		--	--	--	19%	23%	§
On a typical day for lunch, students:													
...each lunch offered by school <sup>c</sup>	[Average %]	73%	72%	73%	74%	73%		57%	55%	54%	58%	54%	§
...bring their own lunch	[Average %]	16%	18%	17%	18%	19%	*	15%	14%	16%	16%	17%	
...go off campus to buy lunch	[Average %]	0%	0%	0%	0%	0%		10%	11%	9%	9%	10%	§
...don't eat lunch	[Average %]	6%	6%	5%	5%	5%		8%	9%	10%	9%	9%	§
...buy lunch from vending machine or store/snack bar/cart	[Average %]	4%	4%	4%	3%	2%	**	8%	9%	8%	6%	6%	§
School offered U.S.D.A. National School Lunch Program	Yes	91%	92%	93%	90% <sup>a</sup>	87%		89%	96%	92%	92% <sup>a</sup>	88%	
School offered lunch free to all students	Yes	--	--	10%	9%	6%	*	--	--	9%	8% <sup>a</sup>	4%	**
Average full price charged for National School Lunch Program meal	[Average price <sup>b</sup> ]	\$1.84	\$1.93	\$2.08	\$2.05 <sup>a</sup>	\$1.99	**	\$2.00	\$2.04	\$2.17	\$2.03 <sup>a</sup>	\$2.01	
Average length of lunch period	[Time in minutes]	31	31	30	31	31		34	34	33	34	34	§

School Meals, cont.	Responses	Middle School					High School					MS v HS	
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011		
<b>Beverages and food available through the National School Lunch Program meal</b>													
Beverages available in National School Lunch Program meals <sup>d</sup> :													
...healthy beverages <sup>e</sup>	Some/most/every day	98%	98%	96%	96%	97%		99%	98%	95%	98%	99%	
...sugar-sweetened beverages <sup>f</sup>	Some/most/every day	35%	26%	30%	28%	26%	*	47%	37%	31%	34%	32%	**
...whole, 2% or flavored milk	Some/most/every day	75%	71%	70%	62%	50%	***	79%	74%	77%	61%	46%	***
...other beverages <sup>g</sup>	Some/most/every day	39%	32%	32%	32%	30%	*	49%	39%	35%	39%	30%	***
Students have access to drinking fountains in cafeteria	Yes	--	--	--	68%	70%		--	--	--	66%	67%	
Healthier foods available in National School Lunch Program meals:													
...fruits and vegetables	Some/most/every day	99%	100%	100%	99%	100%		100%	100%	99%	100%	100%	
...fresh fruits	Some/most/every day	99%	100%	99%	99%	100%		98%	99%	98%	99%	100%	
...other fruits (e.g., dried or canned fruits)	Some/most/every day	89%	91%	91%	92%	93%		92%	95%	93%	92%	93%	
...vegetables (e.g., carrot sticks or celery sticks)	Some/most/every day	96%	99%	98%	99%	100%	*	99%	100%	98%	99%	100%	
...salads	Some/most/every day	96%	92%	92%	92%	93%		94%	94%	93%	96%	96%	
...pre-made, main course salads	Some/most/every day	86%	83%	83%	79%	82%		84%	87%	85%	87%	86%	
...salad bar	Some/most/every day	48%	41%	44%	43%	40%		55%	43%	45%	48%	56%	§
...whole grains	Some/most/every day	81%	87%	90%	90%	95%	***	90%	92%	91%	92%	96%	**
Less healthy foods available in National School Lunch Program meals:													
...french fries	Some/most/every day	48%	40%	41%	43%	35%	**	61%	52%	44%	47%	41%	***
...pizza	Some/most/every day	96%	98%	99%	98%	99%		98%	98%	98%	98%	99%	
.....regular pizza	Some/most/every day	--	--	--	--	73%		--	--	--	--	74%	
....."healthier" pizza <sup>h</sup>	Some/most/every day	--	--	--	--	75%		--	--	--	--	73%	
...regular fat and sugary snacks <sup>i</sup>	Some/most/every day	61%	54%	58%	53%	49%	*	65%	59%	57%	55%	57%	
<b>School food policy environment</b>													
School participated in Team Nutrition	Yes	40%	44%	41%	35%	36%		35%	45%	34%	37%	33%	
	No	18%	24%	26%	25%	29%	**	23%	28%	31%	33%	32%	*
	Don't know	42%	32%	34%	40%	35%		42%	27%	34%	30%	34%	
School food service was provided by:													
...school system	Yes	81%	79%	79%	79%	79%		76%	81%	81%	78%	82%	
...food service management	Yes	18%	20%	19%	18%	20%		22%	16%	18%	22%	17%	
...other	Yes	1%	3%	3%	3%	3%		5%	5%	3%	2%	2%	*



School Meals, cont.	Responses	Middle School					High School					MS		
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	HS		
Decisions about menus and food service issues were made by:														
...district	Yes	85%	82%	80%	82%	84%		84%	79%	81%	81%	76%	*	†
...school	Yes	19%	20%	18%	18%	16%		24%	31%	23%	23%	26%		‡
...contractor	Yes	12%	14%	14%	13%	13%		13%	10%	10%	12%	14%		
...other	Yes	3%	6%	4%	5%	4%		3%	3%	4%	3%	2%		
School provided menus to:														
...students	Yes	90%	92%	91%	96%	95%	*	85%	87%	87%	93%	91%	*	
...parents	Yes	83%	88%	89%	92%	93%	***	80%	81%	82%	86%	86%		‡
School provided nutrition information to:														
...students	Yes	56%	64%	61%	58%	58%		56%	64%	64%	59%	64%		
...parents	Yes	50%	60%	55%	58%	59%	*	50%	57%	53%	56%	59%	*	
Competitive Foods and Beverages	Responses	Middle School					High School					MS		
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	HS		
<b>Competitive food and beverage venue availability</b>														
School offered foods or beverages in the following competitive venues:														
...à la carte sales in the cafeteria	Yes	77%	81%	77%	77%	80%		86%	92%	87%	88%	87%		†
...stores or snack bars/carts	Yes	47%	48%	48%	46%	44%		61%	62%	62%	64%	64%		§
...vending machines	Yes	79%	77%	71%	68%	65%	**	96%	96%	96%	95%	91%	*	§
<b>Competitive food and beverage guidelines: Awareness and implementation</b>														
School administrator was aware of Alliance school beverage guidelines														
	No	49%	28%	27%	33%	35%	**	39%	14%	23%	26%	20%	***	§
	Yes, some	33%	56%	56%	53%	53%	***	44%	66%	56%	56%	62%	***	†
	Yes, quite a bit	18%	17%	17%	14%	12%		18%	21%	21%	18%	17%		†
School offered foods or beverages in the following competitive venues but the Alliance <i>school beverage guidelines</i> had not been implemented:														
...à la carte sales in the cafeteria	Yes	62%	43%	32%	37%	45%	**	57%	31%	34%	30%	31%	***	‡
...stores or snack bars/carts	Yes	55%	40%	39%	39%	44%		57%	26%	34%	34%	33%	***	
...vending machines	Yes	57%	38%	33%	31%	38%	***	56%	33%	30%	30%	30%	***	
School district or school implementing or planning to implement other beverage guidelines														
	Yes	--	--	31%	23%	25%		--	--	33%	27%	24%	*	
School administrator was aware of Alliance nutritional guidelines for competitive foods														
	No	63%	46%	48%	51%	50%	**	57%	31%	44%	43%	44%	**	
	Yes, some	27%	38%	42%	41%	42%	***	31%	56%	42%	45%	47%	***	
	Yes, quite a bit	10%	16%	10%	8%	8%		12%	13%	14%	12%	9%		

Competitive Foods and Beverages, cont.	Responses	Middle School					High School					MS	
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	HS	
School offered foods or beverages in the following competitive venues but the Alliance <i>nutritional guidelines for competitive foods</i> had not been implemented:													
...à la carte sales in the cafeteria	Yes	70%	50%	50%	51%	53%	**	72%	52%	56%	46%	48%	***
...stores or snack bars/carts	Yes	69%	48%	61%	49%	52%	**	67%	46%	59%	47%	57%	
...vending machines	Yes	68%	52%	59%	58%	52%	*	71%	49%	54%	48%	52%	***
School district or school implementing or planning to implement other food guidelines	Yes	--	--	32%	22%	21%	**	--	--	29%	23%	25%	
<b>Competitive food and beverage availability</b>													
Beverages available in competitive venues:													
...healthy beverages	Yes	96%	96%	93%	95%	89%	**	100%	99%	98%	99%	98%	* §
...sugar-sweetened beverages (including regular soft drinks)	Yes	78%	71%	69%	65%	63%	***	95%	92%	90%	90%	88%	* §
...regular soft drinks	Yes	27%	17%	14%	12%	13%	***	54%	45%	34%	26%	25%	*** §
...whole or 2% milk, or flavored milk	Yes	64%	61%	59%	48%	36%	***	75%	72%	74%	57%	48%	*** ‡
...other beverages	Yes	74%	69%	65%	62%	60%	**	94%	88%	87%	87%	84%	** §
Regular soft drinks available in:													
...à la carte sales in the cafeteria	Yes	0%	1%	0%	0%	0%		10%	5%	3%	2%	2%	*** †
...stores or snack bars/carts	Yes	6%	4%	3%	2%	4%		17%	12%	10%	8%	9%	** †
...vending machines	Yes	24%	15%	13%	10%	9%	***	51%	43%	32%	23%	21%	*** §
Students have access to drinking fountains in:													
...gymnasium/locker rooms	Yes	--	--	--	83%	83%		--	--	--	82%	85%	
...hallways near classroom areas	Yes	--	--	--	99%	98%		--	--	--	97%	97%	
...other non-cafeteria locations at school	Yes	--	--	--	47%	45%		--	--	--	51%	42%	*
Healthier foods available in competitive venues:													
...fruits and vegetables	Yes	74%	70%	69%	67%	68%		84%	86%	85%	83%	85%	§
...fresh fruits	Yes	72%	67%	67%	64%	66%		83%	84%	83%	80%	83%	§
...other fruits (e.g., dried or canned fruits)	Yes	64%	60%	61%	57%	58%		72%	79%	74%	72%	73%	§
...vegetables (e.g., carrot sticks or celery sticks)	Yes	64%	62%	62%	58%	61%		73%	78%	77%	74%	77%	§
...salads	Yes	68%	62%	64%	59%	62%		78%	78%	78%	76%	77%	§
...pre-made, main course salads	Yes	63%	59%	60%	54%	58%		72%	75%	73%	70%	74%	§
...salad bar	Yes	30%	23%	25%	22%	22%	*	46%	34%	37%	37%	39%	§
...whole grains	Yes	53%	54%	53%	50%	54%		61%	72%	69%	67%	69%	§

Competitive Foods and Beverages, cont.	Responses	Middle School					High School					MS v HS		
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011			
Less healthy foods available in competitive venues:														
...french fries	Yes	31%	26%	23%	20%	22%	*	48%	45%	42%	39%	33%	**	‡
...pizza	Yes	65%	64%	62%	57%	62%		76%	79%	77%	74%	77%		§
.....regular pizza	Yes	--	--	--	--	44%		--	--	--	--	59%		§
....."healthier" pizza	Yes	--	--	--	--	47%		--	--	--	--	55%		†
...regular fat and sugared snacks	Yes	71%	61%	61%	63%	57%	**	83%	77%	78%	76%	77%		§
Commercial fast foods available in competitive venues and/or lunch meals <sup>l</sup>														
	Yes	--	--	27%	27%	21%		--	--	29%	28%	25%		
<b>School policies on competitive food and beverages</b>														
Competitive venue prices were set to encourage consumption of healthier:														
...beverages	Some or a lot	54%	55%	58%	54%	52%		55%	57%	62%	63%	60%		†
...foods	Some or a lot	48%	51%	56%	52%	54%		52%	58%	62%	64%	60%		
School had written policies addressing competitive venue food and beverage nutrition for:														
...foods														
...fat content	Yes	--	--	67%	64%	63%		--	--	63%	61%	62%		
...sugar content	Yes	--	--	68%	62%	63%		--	--	61%	61%	62%		
...sodium content	Yes	--	--	57%	53%	55%		--	--	52%	49%	53%		
...calorie content	Yes	--	--	63%	59%	61%		--	--	59%	58%	57%		
...portion size	Yes	--	--	66%	61%	62%		--	--	64%	59%	59%		
...milk														
...fat content	Yes	--	--	69%	64%	65%		--	--	63%	60%	63%		
...sugar content	Yes	--	--	62%	55%	57%		--	--	53%	53%	53%		
...calorie content	Yes	--	--	62%	57%	58%		--	--	55%	53%	54%		
...beverages other than milk														
...sugar content	Yes	--	--	61%	59%	57%		--	--	61%	61%	62%		
...caffeine content	Yes	--	--	49%	50%	50%		--	--	48%	50%	50%		
...calorie content	Yes	--	--	56%	55%	51%		--	--	55%	56%	56%		
...portion size	Yes	--	--	58%	58%	55%		--	--	58%	57%	55%		
...availability of free drinking water	Yes	--	--	53%	53%	50%		--	--	50%	48%	52%		

Competitive Foods and Beverages, cont.	Responses	Middle School					High School					MS		
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	HS		
School district had restrictions on items sold to students as fundraisers:														
...no soft drinks allowed	Yes	--	--	--	21%	19%	--	--	--	23%	23%			
...no food products	Yes	--	--	--	3%	3%	--	--	--	4%	2%			
...no foods of minimal nutritional value (soft drinks, candy, gum)	Yes	--	--	--	23%	18%	--	--	--	28%	25%	†		
...only healthy foods allowed	Yes	--	--	--	17%	13%	--	--	--	14%	10%			
...follow state or district wellness guidelines	Yes	--	--	--	--	29%	--	--	--	--	37%	†		
Mobile vendors:														
...prohibited from selling on school grounds during school hours	Yes	--	--	--	78%	65%	**	--	--	--	76%	73%	†	
...sell foods or beverages near school grounds during school hours	Yes	--	--	--	--	6%	--	--	--	--	6%			
<b>In-school marketing, including exclusive contracts</b>														
District or school had existing exclusive beverage contract in place	Yes	67%	65%	63%	55%	49%	***	74%	79%	74%	71%	65%	*	§
School received specified percentage of sales from exclusive beverage contract	Yes	54%	55%	53%	45%	37%	***	64%	68%	62%	61%	53%	*	§
Regular soft drinks sold to students under exclusive beverage contract	Yes	--	14%	13%	12%	7%	**	--	37%	28%	19%	18%	***	§
School received specified percentage of sales from food vending machines	Yes	21%	19%	19%	20%	20%		46%	44%	43%	44%	42%		§
Soft drinks and/or fast-food restaurants were promoted by:														
...sponsorships	Yes	11%	13%	9%	12%	13%		29%	21%	21%	17%	19%	*	†
...coupons	Yes	10%	11%	8%	7%	7%		8%	6%	9%	8%	8%		
...textbook covers or menus	Yes	2%	3%	0%	1%	0%		1%	2%	2%	2%	1%		
...exclusive beverage contract ads (excluding vending machine ads)	Yes	7%	9%	9%	6%	5%		17%	19%	12%	14%	14%		§
...posters	Yes	2%	3%	4%	1%	1%		7%	4%	2%	3%	3%	*	†
<b>Physical Activity and Physical Education</b>														
School required physical education for student's grade level	Yes	83%	83%	82%	83%	80%		37%	35%	32%	34%	33%		§
Physical education participation														
...students took physical education	[Average %]	90%	91%	90%	90%	89%		51%	49%	48%	50%	48%		§
...number of weeks of physical education taken per year	[Average # weeks]	--	--	--	--	26		--	--	--	--	14		§
...minutes of physical education per student per week	[Average # minutes]	--	--	--	--	148		--	--	--	--	88		§

Physical Activity and Physical Education, cont.	Responses	Middle School					High School					MS		
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	HS		
Students participated in interscholastic or varsity sports:														
...boys	[Average %]	31%	30%	33%	31%	34%		32%	31%	32%	33%	33%		
...girls	[Average %]	27%	27%	28%	28%	30%		27%	27%	27%	29%	28%		
Students participated in intramural sports or physical activity clubs:														
...boys	[Average %]	26%	24%	23%	23%	25%		12%	13%	12%	13%	12%	§	
...girls	[Average %]	23%	21%	20%	19%	22%		11%	10%	11%	12%	10%	§	
Students walked or bicycled from home to school	[Average %]	23%	25%	22%	23%	21%		14%	14%	12%	13%	15%	§	
School gave students physical fitness tests:														
...had any testing	Yes	73%	76%	83%	86%	84%	**	36%	41%	58%	63%	57%	***	§
...all students were tested	Yes	53%	54%	61%	62%	62%	*	12%	16%	27%	29%	24%	***	§
...only students taking physical education were tested	Yes	20%	20%	22%	24%	21%		23%	23%	29%	32%	31%	*	‡
Parents or guardians provided with results of physical fitness tests	Yes	44%	52%	53%	56%	58%	**	15%	21%	29%	32%	30%	***	§
School measured students' body mass index (BMI):														
...had any assessments	Yes	33%	37%	47%	45%	45%	**	27%	32%	42%	40%	38%	*	†
...all students were assessed	Yes	24%	26%	34%	33%	36%	**	6%	11%	20%	18%	18%	***	§
...only students taking physical education were assessed	Yes	7%	8%	11%	9%	8%		17%	15%	17%	17%	16%		‡
Parents or guardians provided with results of BMI measurement	Yes	20%	24%	33%	35%	36%	***	11%	17%	25%	23%	20%	**	§
School had activities in place to promote physical activity	Yes	61%	65%	56%	48%	41%	***	46%	51%	41%	36%	36%	*	
Outside organizations/individuals allowed to use school facilities for physical activity or sports programs outside of school hours	Yes	--	--	--	92%	91%		--	--	--	94%	93%		
Wellness Policies	Responses	Middle School					High School					MS		
District or school had established a wellness policy	Yes	73%	78%	81%	81%	82%	*	80%	84%	76%	77%	78%		
Implementation plan for wellness policy:														
...district or school had developed plan	Yes	33%	33%	33%	34%	30%		33%	36%	35%	35%	32%		
...district or school was currently developing plan	Yes	23%	20%	20%	18%	18%		26%	26%	19%	16%	16%	**	
...district or school had not developed plan	Yes	20%	23%	22%	24%	27%		25%	22%	24%	26%	27%		
...district or school had no wellness policy	Yes	8%	7%	5%	4%	5%		4%	4%	5%	7%	7%		
...administrator did not know if plan existed	Yes	17%	17%	20%	21%	20%		11%	12%	16%	16%	18%	*	
Designated individual was responsible for implementing school wellness policy	Yes	55%	54%	60%	58%	56%		61%	66%	63%	59%	53%		

Wellness Policies, cont.	Responses	Middle School					High School					MS v HS	
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011		
Explicit student wellness goals had been developed for:													
...physical activity	Yes	55%	58%	60%	63%	61%		54%	53%	55%	55%	55%	
...nutrition education	Yes	45%	50%	55%	56%	51%		57%	60%	52%	56%	51%	
...food and beverages available to students	Yes	--	--	67%	59%	62%		--	--	60%	59%	61%	
Significant activities underway to promote healthier eating and drinking practices <sup>f</sup>													
	Yes	60%	63%	50%	49%	41%	***	58%	55%	42%	45%	43%	***
District or school had nutrition guidelines for all foods	Yes	66%	67%	70%	68%	68%		59%	68%	68%	69%	67%	
Had advisory body for nutrition and/or exercise recommendations:													
...at district level only	Yes	36%	44%	43%	39%	38%		37%	44%	45%	44%	43%	
...at school level only	Yes	6%	7%	5%	7%	8%		6%	6%	5%	7%	7%	
...at both district and school level	Yes	19%	17%	13%	12%	12%	*	18%	14%	12%	11%	11%	*
Stakeholders involved in wellness policy development included:													
...school food personnel	Yes	74%	72%	75%	77%	73%		76%	83%	77%	77%	74%	
...school administrators	Yes	67%	68%	73%	72%	70%		77%	78%	70%	70%	68%	*
...teachers	Yes	68%	67%	68%	67%	66%		69%	71%	66%	64%	64%	
...parents	Yes	60%	61%	60%	60%	63%		63%	61%	57%	60%	54%	* †
...students	Yes	47%	45%	43%	45%	46%		63%	60%	54%	52%	50%	**
...school board members	Yes	43%	42%	44%	42%	43%		51%	51%	46%	45%	41%	*
District offered formal classroom instruction on:													
...physical activity, exercise and fitness	Yes	96%	94%	94%	91%	89%	**	98%	97%	95%	96%	95%	* ‡
...nutrition and dietary behavior	Yes	78%	83%	81%	83%	80%		91%	95%	91%	90%	89%	‡
School was certified as a USDA HealthierUS School													
	Yes	--	--	--	3%	2%		--	--	--	4%	3%	
	No	--	--	--	50%	51%		--	--	--	53%	55%	
	Don't know	--	--	--	47%	47%		--	--	--	43%	42%	
School designated as an Alliance for a Healthier Generation Healthy School Program													
	Yes	--	--	--	1%	0%		--	--	--	3%	2%	
	No	--	--	--	51%	52%		--	--	--	54%	55%	
	Don't know	--	--	--	48%	48%		--	--	--	43%	43%	

Principals' Perceptions	Responses	Middle School					High School					MS
		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	v
												HS
Extent of concern about student overweight	Great/very great	48%	53%	48%	45%	43%	45%	47%	44%	41%	37%	
Extent of concern about student nutrition	Great/very great	65%	65%	62%	63%	59%	59%	60%	60%	55%	54%	
Extent of concern about student physical activity levels	Great/very great	66%	67%	65%	67%	61%	69%	68%	65%	61%	59%	*
Extent of school effort to improve student nutrition	Great/very great	55%	59%	56%	51%	49%	45%	49%	46%	48%	49%	
Extent of school district effort to improve student nutrition	Great/very great	52%	62%	54%	52%	49%	48%	52%	48%	47%	48%	
Extent of school effort to improve student physical activity	Great/very great	55%	59%	58%	51%	51%	38%	43%	38%	38%	38%	§
Extent of school district effort to improve student physical activity	Great/very great	46%	46%	50%	43%	40%	36%	38%	33%	36%	34%	
Extent schools should play a role in addressing childhood obesity	Great/very great	--	--	--	--	61%	--	--	--	--	48%	‡

Source: Bridging the Gap, Institute for Social Research, University of Michigan, 2012.

Significance of change from 2006-07 baseline to the most recent year of data available (2010-11) is indicated with \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Significance of differences between middle and high school in 2011 is indicated with †  $p < .05$ ; ‡  $p < .01$ ; §  $p < .001$

<sup>a</sup> Data estimate for this item are slightly different in this monograph as compared with earlier versions due to changes in data coding procedures.

<sup>b</sup> Price data are unadjusted for inflation.

<sup>c</sup> Data for this item may have slight differences in this monograph as compared with earlier versions due to use of the same question in a different section of the questionnaire.

<sup>d</sup> Data reported only for students whose schools participated in the National School Lunch Program.

<sup>e</sup> Any one or more of beverages that have been defined by the Institute of Medicine as healthy beverages for students in all grades: bottled water; 100% fruit or vegetable juice with no added sweeteners; low-fat (1%) or non-fat (skim) milk.

<sup>f</sup> Any one or more of regular soft drinks; sports drinks; and fruit drinks that are not 100% fruit juice and that are high in calories.

<sup>g</sup> Any one or more of diet soft drinks; other no-calorie or very low-calorie beverages; "light" juices.

<sup>h</sup> For example, whole wheat crust, lower-fat versions.

<sup>i</sup> Any one or more of candy; salty snacks that are not low in fat, such as regular potato chips; cookies, crackers, cakes or other baked goods that are not low in fat; ice cream or frozen yogurt that is not low in fat.

<sup>j</sup> Any availability of food from pizza places, sandwich or sub shops, or fast food chains during a typical week.



## Study Methods

The results presented here are derived from surveys of school administrators—mostly school principals—in a sample of schools chosen to be representative of secondary schools in the coterminous United States. Separate subsamples are used to represent middle schools and high schools, and the results for each are reported separately. A full description of the study can be found elsewhere.<sup>15,34</sup>

### Samples

The Bridging the Gap initiative began in the 1996-1997 school year. Schools for the Bridging the Gap study were drawn each year from the schools that had participated in the Monitoring the Future study, and were cycling out of that study after two years of having their students in a chosen grade surveyed in their classrooms. The annual Monitoring the Future samples consisted of three nationally representative subsamples—one each of schools containing 8th, 10th and 12th grade students. However, only about 200 schools participated each year in total (including both public and private schools)—not enough to make reliable estimates of changes occurring in the conditions in U.S. schools. Therefore, as the focus of the Bridging the Gap shifted toward childhood obesity, a supplementary nationally representative sample of almost 600 public secondary schools was added, and their

principals were invited to complete a questionnaire each year beginning in 2007. These samples were defined in a way consistent with the Monitoring the Future design, in that three separate subsamples of schools are surveyed each year—one each of schools selected because they contained students in 8th, 10th or 12th grade.

For the years 2007 and 2008, the data presented here are taken from the supplementary nationally representative sample of public schools described above. Beginning in 2009, the annual Monitoring the Future samples were asked the full complement of questionnaire items related to childhood obesity. Thus, for 2009 and later, this monograph combines data from both the annual Monitoring the Future samples (public schools only) and the supplementary samples. Those selected in the 8th grade samples are here defined as middle schools, while those selected in the 10th or 12th grade samples are defined as high schools, and the 10th and 12th grade results have been combined here.

### Response Rates and Sample Sizes

Sample sizes vary from year to year primarily as a result of slightly shifting response rates. Table 2 provides sample sizes and response rates for both the Monitoring the Future (MTF) and supplement samples.

**Table 2. Response Rates, 2007-2011**

Year	MTF Sample		Supplement Sample		
	Schools Responding	Response Rate	Schools Responding	Response Rate--Original	Response Rate--With Replacement
2007	N/A	N/A	446	76%	N/A
2008	N/A	N/A	527	77%	89%
2009	141	84%	566	76%	91%
2010	136	84%	569	73%	90%
2011	138	79%	529	65%	86%

*Notes:* MTF schools were first combined with the larger supplement sample of schools in 2009. Replacement schools were first introduced into the supplement sample in 2008.

## Presentation of Findings

This report contains results of two types. The first describes conditions in U.S. secondary schools as measured in the national school survey conducted that year. Results are reported separately for middle schools and high schools; and within each of those levels of schooling, are reported for the entire national sample of schools as well as for selected subgroups of schools and types of students. The second type of reporting deals with the amount of change that has been observed between the first year and the most recent data collection year (spanning five survey years from 2007–2011). Indications of change in the policies and practices of schools are of particular importance, and provision of accurate change estimates is one of the major goals of Bridging the Gap. As additional years are added, we should have an even better understanding of changing conditions and of the rates of change in U.S. secondary schools.

All results reported here reflect the percentage of students enrolled rather than the percentage of schools. Thus, the answers describing conditions in the schools given by principals of large schools weigh in more heavily by virtue of the fact that their schools serve more students than do smaller schools. For example, if one school has 100 students in the target grade (8th, 10th or 12th) and a second school has 500 students in the same target grade, then the larger school will weigh into the results at a rate five times greater than the first. Put another way, when percentages are calculated for the answers to questions, each principal's answers are weighted by the number of students enrolled in the target grade in that school.

The results presented in this report have been drawn from *Bridging the Gap: Complete Descriptive Statistics on Secondary Schools, School Years 2006–07 to 2010–11*, which provides a complete compilation of the findings from the 2007–2011 surveys (see [www.bridgingthegapresearch.org/research/secondary\\_school\\_survey](http://www.bridgingthegapresearch.org/research/secondary_school_survey)). In this report, results are provided separately and side-by-side to facilitate comparisons for:

- ~ all middle schools and all high schools;
- ~ three levels of socioeconomic status of the student body (separately for both middle schools and high schools);
- ~ middle schools and high schools weighted by the number of White, Black and Latino students attending each one; and
- ~ middle schools and high schools with student bodies that are predominately White (>66%), majority Black (>50%), and majority Latino (>50%).

Note that there are two methods for comparing across diverse racial and ethnic populations. One looks at whole schools that are majority (or predominantly in the case of Whites) one race or ethnic group. Quite a number of schools do not fit into any of these three categories. Thus, the other method of comparison uses individual students as the unit of analysis. It looks at all schools and weighs each school into its calculations by how many students in each group attend it in the grade of interest. So, for example, if one school serves 50 out of 1,000 Latino students in the entire 8th grade national sample, the characteristics of that school will account for 5 percent of the total value for Latino students on any school characteristic of interest, because 5 percent of all Latino students are exposed to the characteristics of that particular school. A school that serves many Latino students will weigh into the estimates for those students more than a school that serves only a few, but all schools that serve Latino students will weigh into the calculation.

All differences between years and between groups are tested for statistical significance, and significant results are identified as such in the document *Bridging the Gap: Complete Descriptive Statistics on Secondary Schools, School Years 2006–07 to 2010–11*, as well as in this report. A guide to using that document has been carefully designed to be readable and understandable to the non-scientist to guide and facilitate its easy use. It can be accessed on the same link.

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