III. Healthy Food in Schools

The school environment strongly impacts the behavior, and thus the health and well-being of the students. Over 55 million American children are enrolled in elementary or secondary school.[173] These children spend over six hours each day at school, on average.[174] Over 90% of enrollees attend schools that offer one or more Federal nutrition assistance programs.[175] In addition, many students consume foods sold at school, but outside the school meal programs. Most children eat at least one meal at school, either brought from home or provided by the school. Many will have more than one meal, along with snacks and other supplementary foods.

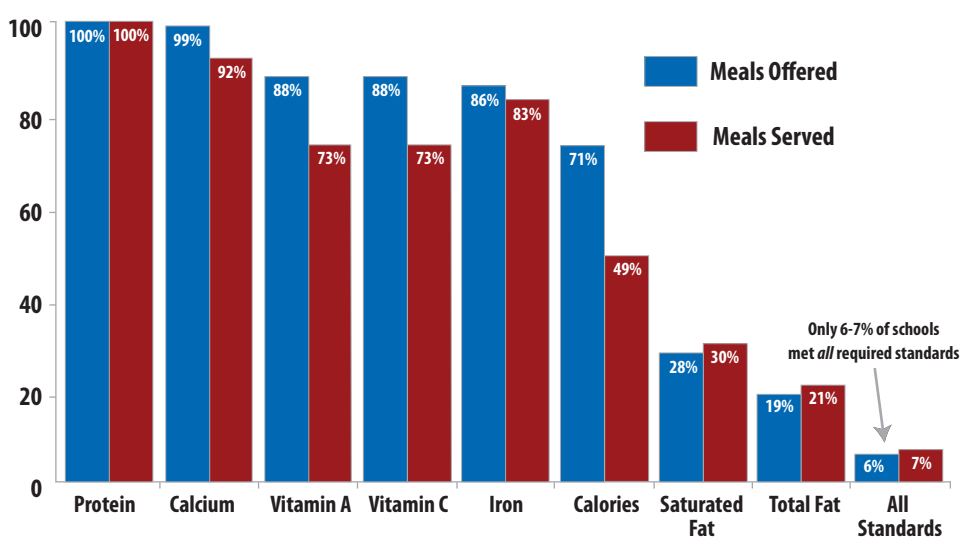
Beyond this, various educational and related activities, both at school and traveling to and from school, have an important impact on students' nutrition and physical activity behaviors. Children's choices depend on what is most visible and easily accessible; seemingly small differences in the school environment can have large effects on what children eat. The "choice architecture" intentionally or unintentionally designed into the school nutrition environment can make a decisive difference in our children's behaviors and health.

Unfortunately, some key aspects of current school meals, other foods at school, and environmental factors are contributing to obesity and failing to support good nutrition and physical activity behaviors. This chapter outlines a range of actions that families, communities, businesses, and governments at all levels can take to improve school foods and the school nutrition environment so they support and foster healthier food choices and help reduce childhood obesity. It focuses on four major areas:

- improvements in the quality of school meals;
- changes in other foods available at school to ensure that all food sold at school support healthful diets;
- modifications to curriculum, school program operations, and community policies and infrastructure to match changes in school foods; and
- revisions to policies and practices in juvenile justice and other institutional settings to ensure that all childhood and youth environments support healthy eating.

A. Quality School Meals

Meals provided under the federally-financed National School Lunch Program and School Breakfast Program must meet a range of food-based and nutrient-based standards to ensure they contribute effectively to a good diet. The most recent national study of the content of such meals, however, found that they were not always meeting program standards.



Source: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research, Nutrition and Analysis, School Nutrition Dietary Assessment Study-III, Vol. I: School Foodservice, School Food Environment, and Meals Offered and Served, by Anne Gordon, et al. Project Officer: Patricia McKinney. Alexandria, VA: 2007

- In the 2004-05 school year, although most school meals were consistent with meal pattern requirements and provided most key nutrients, 93-94% of meals failed to meet all nutritional standards, primarily due to not meeting standards for fat, saturated fat, or calories.[176]
- Most schools offered students the opportunity to select a balanced meal, but few students made the healthful choice. In about 90% of all schools nationwide, a student had opportunities to select low-fat lunch options, but in only about 20% of all schools did the average lunch actually selected by students meet the standards for fat.[177]
- Schools offered few whole grain foods in the school year 2004-05, and french fries and other similar potato products accounted for a disproportionate amount of the vegetable options on school lunch menus.
- Since the last time the Nutritional Standards and Meal Requirements for schools were set, the *Dietary Guidelines* have been updated. The Institute of Medicine recently provided recommendations for updated nutrition standards consistent with the 2005 *Dietary Guidelines*.[178] Those recommendations include increasing the amounts of fruits, vegetables and whole grains; reducing the amount of sodium and saturated fat provided; and setting a minimum and maximum number of calories for school meals. This must be done in a manner that is appealing and appetizing to children and in conjunction with effective nutrition education that helps students select and consume these foods. USDA is currently developing a regulatory proposal to guide schools in implementing updated standards.

Engaging the Community to Improve School Food: Aptos Middle School, San Francisco, CA

Beginning in the 2003-04 school year, the San Francisco Unified School District began implementing new school policies that set nutritional requirements for all foods sold in school. The changes were developed through the involvement of parents, community leaders, public health practitioners, and local physicians, spearheaded by a local organization, Parents for Public Schools in San Francisco, to implement changes in school food.

At the same time, parents at San Francisco's Aptos Middle School launched an effort specific to their school to change and improve the items sold on the snack bar menu. Student input on menu choices was an important guide to the menu changes. The success of the changes at Aptos in the 2002–03 school year helped establish the basis for the city-wide standards the following year.

The results include:

- Increased student satisfaction with school meals and increased participation in school meals programs.
- Increased service of fruits and vegetables.
- Better nutritional content of a la carte foods and increased revenue.

Source: Wojcicki, J.M., Heyman, M.B. (2006). Healthier Choices and Increased Participation in a Middle School Lunch Program: Effects of Nutrition Policy Changes in San Francisco. *American Journal of Public Health, 96*(9), 1542-1547.

Recommendations

The meals served through the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) are the main nutrition intervention in elementary and secondary schools, and are a substantial part of the diets of many school children. For schools to contribute effectively to reshaping eating behaviors, the meals offered at schools must model healthful choices and help improve healthful dietary intakes.

Because school meals programs operate as partnerships between local schools, communities, state educational agencies, and the Federal government, a multi-faceted strategy is needed to promote positive change. Key actions can help advance this goal.

Recommendation 3.1: Update Federal nutritional standards for school meals and improve the nutritional quality of USDA commodities provided to schools. USDA should issue revised meal pattern requirements for the National School Lunch and School Breakfast Programs based on the Institute of Medicine's recommendations for standards that conform to the 2005 Dietary Guidelines for Americans. While most of the foods used to prepare program meals are purchased by schools, foods that USDA distributes to schools are an important component of school meals. In recent years, USDA has made great improvements in the nutritional profile of foods that it gives to schools through its commodity support programs by reducing fat, sodium, and added sugars in many of its offerings. USDA should continue to seek and implement more improvements from commodity suppliers and reprocessors, and ensure that ordering and distribution systems favor school foods that meet the updated standards.

The **HealthierUS Schools Challenge** establishes rigorous criteria for schools' food quality, participation in meal programs, physical activity, physical education, and nutrition education–the key components that make for healthy and active kids–and provides recognition for schools that meet these criteria.

Schools can participate in this model program by going to http://www.fns.usda.gov/tn/healthierus/index.html and learning about the range of educational and technical assistance materials that promote key aspects of the Dietary Guidelines, including a Menu Planner for Healthy School Meals, which provides tips on serving more whole grains, fruits, and vegetables, and lower amounts of sugar, sodium, and saturated and trans-fats in school menus.

Food service workers in more than 75% of America's schools—along with principals, superintendents, and school board members across America—have committed to work together to reach *Let's Move!* Challenge goals.

Recommendation 3.2: Increase resources for school meals. Improving meals requires an investment in better foods, as well as modernized preparation and service equipment. Costs for meal programs are shared by Federal, Tribal and state governments and families of participating children, and they each have a role in supporting meal improvements.

- The Federal government should increase program reimbursements to support the provision of healthier foods.
- States and local communities should ensure that only costs that support preparation and service of school meals are charged to food service accounts, and seek opportunities to focus additional resources on meal improvements as budgets permit.
- Local communities should review their school meal pricing policies to ensure that revenue for meals only partially subsidized by USDA (i.e. "paid meals") keeps pace with free meals, in order to support full and prompt implementation of updated meals.
- School food service companies and other suppliers should constantly seek ways to improve the nutritional quality of the food they provide without increasing prices.

Recommendation 3.3: USDA should continue its outreach and technical assistance to help provide training for school food service professionals. To provide top-quality meals that are both healthy and appealing to students, local food service professionals need the tools, skills, and techniques to prepare and serve those meals. USDA should continue its program to build skills through guidance and technical assistance, and develop updated resources to support new standards. School districts should be encouraged to make meal improvements, as well as the food preparation training and knowledge a priority for their local food service team. Tribal, state and local policymakers can support these changes with accreditation requirements for food service professionals, and training funds to meet and sustain

the requirements. Private sector partners, from philanthropy to chefs, can help support and provide this training.

Recommendation 3.4: Schools should consider upgrading their cafeteria equipment to support the provision of healthier foods, for example, by swapping out deep fryers for salad bars. Federal resources that were recently made available for this purpose were heavily over-subscribed, indicating a strong level of local interest in making these kinds of changes. To supplement public resources, private companies that manufacture this equipment, companies that benefit from the sales of healthier products, and philanthropic partners should explore ways to make these items more affordable for schools.

Recommendation 3.5: USDA should work with all stakeholders to develop innovative ways to encourage students to make healthier choices. Putting better meals on the lunch line is not enough. The prominence, visibility, and easy accessibility of particular foods greatly matter and will inevitably have an effect on choice.[179] Where possible, healthy foods should be offered and presented in ways that encourage students to choose and consume them. This can improve students' food selection and consumption. For example, schools can automatically provide vegetables with an entrée unless the student switches to a less nutritious side dish. USDA should support the development and demonstration of innovative strategies and schools should use them to make healthy meal choices easy and compelling for students.

Recommendation 3.6: USDA should work to connect school meals programs to local growers, and use farm-to-school programs, where possible, to incorporate more fresh, appealing food in school meals. Schools should be encouraged to seek opportunities to purchase foods from local farm cooperatives. USDA should work through its "Know Your Farmer, Know Your Food" initiative and Farm to School Tactical Team to identify and eliminate regulatory barriers to local procurement, assist schools in accessing local markets, and enable food producers to effectively serve their local schools. USDA, the Bureau of Indian Affairs and the Bureau of Indian Education at the Department of the Interior, should also collaborate to increase local, traditionally appropriate foods in Tribally-controlled school meal programs, such as bison and salmon.

Listening to Student Customers: "No Thank You Bites" at Baltimore Public Schools

Chef Tony Geraci, Baltimore City Food Service Director, has undertaken a wide variety of strategies to engage students in making healthier choices in his low-income district. One of the most innovative is "No Thank You Bites," in which schools make available to students two-ounce samples of a new entrée, fruit or vegetable item. Students that try a sample are given star stickers. Each month, students with stars are invited to a "Constellation Party," at which Geraci and other district food service professionals are able to talk to the students about their preferences among the samples, and meal offerings more generally. Samples that are popular become part of the menu, and all of the input is used to shape future options.

As Geraci explained in Congressional testimony last fall, "We're treating kids like the savvy consumers they are…. If a student likes what she tries, great. If not, she simply says, 'No thank you.' But everyone who works with us to expand their palates and their minds is rewarded and we listen to their suggestions."

Recommendation 3.7: Schools should be encouraged to make improvements in their school meal programs through the HealthierUS Schools Challenge in advance of updated Federal standards. While Federal school meal standards are being updated, schools should be encouraged to start immediately to improve their food offerings by committing to meeting the Challenge. Many already have, with over 650 schools certified to date. Challenge schools meet a range of high standards for the quality of school meals and all food sold in school, as well as a number of other important criteria. As part of the First Lady's Let's Move campaign, the Administration is actively promoting and encouraging schools to meet the Challenge criteria. Food service workers in more than 75% of America's schools—along with principals, superintendents, and school board members across America—have already committed to work together on this effort.[180]

Benchmarks of Success

Achieving the *HealthierUS* School Challenge goals. Double the number of schools that meet the Challenge criteria by June 2011, and add another thousand schools in each of the following two years.

All elementary and secondary schools offering meal options that meet standards for total fat and saturated fat by 2015. This can be measured by the USDA-commissioned School Nutrition Dietary Assessment Study. Assuming funds continue to be made available for this survey on a regular five year schedule, data on school year 2014-15 would be published in early 2017.

B. Other Foods in Schools

Foods offered in addition to and in competition with the meal program often do not contribute to a good diet. Such foods can be sold in the cafeteria, snack bars, vending machines, or other venues. Unlike foods served as part of the school meals programs, these foods are exempt from most Federal nutrition requirements. Often prominent and visible in schools, they contribute to obesity and unhealthy food choices.

A la carte lines allow students to choose cafeteria foods that may be part of a Federally-reimbursable program meal, without choosing healthy meal components that make that meal consistent with nutrition standards. As a result, students who choose a la carte foods are less likely to consume appropriate amounts of key foods and nutrients than those who do not.[181]

Many schools offer foods in vending and snack bars that may undermine more balanced offerings at meal time. Foods commonly available in these venues include cookies, crackers, pastries, and other high-fat baked goods, as well as salty snacks and sports drinks.[182]

Some schools rely on food sales to cover the cost of extracurricular activities and other expenses.[183] This can lead to offerings driven by popularity and revenue potential, rather than nutrition. However, many schools found that offering healthier foods did not decrease revenue, and in some cases, increased revenue.[184]

In too many schools, such foods facilitate poor nutritional choices for students,[185] and accustom children to poor dietary practices that may ultimately contribute to obesity. They also undermine parents' efforts

to promote a healthy diet for their children. Evidence in some states reveals that setting standards for foods competing with program meals can improve students' consumption of more healthy food options.[186]

Recommendations

Like school meals, local schools must work hand-in-hand with Federal, Tribal, and state governments to reshape their competitive food policies. Key actions can help advance this goal.

Recommendation 3.8: Increase the alignment of foods sold at school, including in the a la carte lines and vending machines, with the Dietary Guidelines. Under current law, USDA has very limited authority to set and enforce standards for foods regularly sold outside the Federally-supported school meals programs. In the upcoming reauthorization of the Child Nutrition programs, the Administration is committed to gaining authority to develop and issue these standards for schools participating in USDA programs, and the food and beverage industry has stated its strong support for Congress providing USDA with this authority.[187] The standards would be developed through a transparent and participatory public rulemaking process, and the Institute of Medicine's evidence-based recommendations for such standards[188] can serve as a foundation for the USDA's proposal.

Recommendation 3.9: Food companies should be encouraged to develop new products and reformulate existing products so they meet nutritional standards based on the Dietary Guidelines and appeal to children. Food manufacturers and marketers have a critical role to play in meeting new standards, and have already shown an ability to adapt their products to appeal to more nutrition-conscious consumers over the past several years. These industries should be encouraged to continue to use their energy and ingenuity to develop foods that schools can offer within and outside of the school meals programs. These foods should support healthy diets and offer the taste and convenience needed to appeal to students. For example, food companies should be encouraged to:

- Offer whole grain-rich bread and cereal products such as sandwich rolls and pastas;
- Reformulate entrees, sauces, and condiments to contain less sodium, while incorporating alternative flavorings and seasonings to maintain palatability; and
- Reduce the high levels of added sugars in many flavored milks and yogurts.

Benchmarks of Success

Assuming new Federal standards for the nutritional quality of all foods in schools are in effect by 2013, schools should achieve full substantive compliance by that date. In the meantime, progress can be measured by an increase in the number of schools meeting the HealthierUS School Challenge, described above. "Substantive compliance" is meant to denote full consistency between all foods sold in school and Federal standards; any non-compliant schools should be working on USDA-approved corrective actions to achieve substantive compliance.

C. Food-Related Factors in the School Environment

Many facets of the school setting can affect children's dietary choices. Some operate directly on their eating behaviors, while others are more subtle. In too many schools, the connection between service of meals and other foods at school and the responsibility to educate, enable, and motivate healthful nutrition habits is weak or non-existent.

Nutrition Education

More, and better, nutrition education is needed in many schools. While approximately 75% of schools require nutrition education as part of health curriculum requirements, the time spent on nutrition and dietary behavior has declined in recent years, and funding has been limited.[189] Many teachers are not equipped with the skills and knowledge to integrate and promote nutrition education into their classroom curricula. Research has shown that nutrition education interventions, if well designed and effectively implemented can improve dietary behaviors.[190]

Lunch Room Environment

Eating behaviors can also be shaped by the cafeteria and lunch room setting, such as the display and description of food and beverages, pricing and methods of payment, and the length of time and time of day made available to eat.[191] Some experiments indicate that these factors can promote healthy choices,[192] although it is not yet clear precisely how such strategies can best be applied in schools.

In addition, some schools' meal service arrangements discourage some children, particularly low-income children, from taking advantage of school meals, undermining the impact of improvements in the nutritional quality of those meals. For example, one survey found that one-third of high schools had separate lines or rooms for the school lunch program and competitive foods. In many of those schools, the vast majority of the students standing in the lunch line were low income.[193] Marketing of food and beverages within schools has also grown substantially in recent years, and may influence food choices in ways that do not contribute to good health.[194]

In addition, some middle and high schools permit students to leave campus for lunch. One study found that 29% of high schools reported having an "open campus" lunch policy.[195] For those who eat lunch off-campus, improvements in school meals will have little impact on their dietary intake. Some schools are also surrounded by fast-food restaurants with few healthy options.[196]

Schools should also be made aware of factors that can impact a child's decision about what to eat, including food allergies and religious restrictions, and they should be encouraged to use existing options to accommodate children's needs.

Recommendations

Recommendation 3.10: USDA and the U.S. Department of Education should collaborate with states to increase the availability and consistency of nutrition education in schools. States should be encouraged to ensure that teacher preparation requirements include basic nutrition knowledge and nutrition education as part of every teacher's skill set. USDA and the U.S. Department of Education should work together to improve national standards and requirements for nutrition education. Teachers in local

schools can explore interdisciplinary approaches to incorporate healthy eating in the school curriculum (for example, history may have a subject related to healthy diets, math may include how to calculate the needed caloric intake, foreign languages may have students design a menu). The Bureau of Indian Education, Teach for America, and other teacher corps programs could also expand their partnership to include nutrition education.

Recommendation 3.11: Where possible, use school gardens to educate students about healthy eating. School gardens offer opportunities for fun and physical activity while also serving as an important educational tool to help students understand how healthful food is produced. Some research suggests that school gardens used as part of a nutrition education strategy can increase knowledge of fruits and vegetables and influence behavior change among children.[197] Schools can further make the link between agriculture and nutritious food by inviting local farmers markets to operate from area school yards. Parents and students can also share their knowledge when shopping together for locally grown fruits and vegetables or participating in Community Supported Agriculture programs.

Recommendation 3.12: Technical assistance should be provided to schools about how to a cafeteria and lunch room environment can support and encourage a healthful meal. Factors such as the timing and length of the meal period; cleanliness and noise level in the dining room; and adequate space for eating can all play a role in what children consume.

Recommendation 3.13: Schools should be encouraged to ensure that choosing a healthy school meal does not have a social cost for a child. Efforts that make school meals more nutritious and appealing cannot effectively improve students' choices if other factors undermine their opportunity to select them. For example, many schools provide reimbursable meals at a different serving station than a la carte foods. Children can be discouraged from considering full meals if they are not exposed to them. Furthermore, in schools where most meals are served free or at reduced-price, separating lines can create a perception that program meals are intended only for lower-income students, potentially creating a stigma that prevents children who cannot afford a la carte food from eating at all.[198] Schools should be encouraged to examine their operational practices to ensure that all students have a full opportunity to consider and choose a school meal.

Recommendation 3.14: Schools should be encouraged to consider the impact of food marketing on education. Food marketing can occur at school in a number of forms, including on scoreboards, food display cases, and vending machines; in student publications, educational materials provided "free" by food firms, branded fundraisers and food reward programs; and even market research conducted on campus.[199] Schools should be encouraged to limit school-based marketing that contributes to poor health. Private companies should be encouraged to voluntarily shift towards the promotion of healthy foods and away from advertising that promotes unhealthy products.

Recommendation 3.15: School districts should be encouraged to create, post, and implement a strong local school wellness policy. Recognizing the critical role schools play in promoting students' health, preventing childhood obesity, and combating poor nutrition and physical inactivity, Congress passed a law requiring school districts to establish a local wellness policy in 2004. This policy would sets goals for nutrition education, physical activity, campus food provision, and other school-based activities designed to promote student wellness. School boards and other community leaders should

work to ensure this policy reflects the abovementioned recommendations, while tailoring them to their communities' needs. Tribes can work with the National Indian Education Association and National Indian School Board Association to develop an effective school wellness policy that reflects Tribal values and culture. USDA should also seek authority in the Child Nutrition and WIC Reauthorization Act to strengthen school wellness policy development, implementation, monitoring, and evaluation. The U.S. Department of Education should work with USDA to support these efforts.

To aid in the development and implementation of the wellness policy, schools should consider establishing a health advisory council, as a number of communities have done. These councils, comprised of school officials and staff, parents, local public health authorities, and other community members, foster an exchange of information on a wide range of issues that influence the local school environment. They also provide support, oversight, and accountability for school nutrition improvement efforts.[200]

Benchmarks of Success

Increase in the number of school districts that provide a healthful school environment, which could include such features as nutrition education integrated into school programming; lunch room environments that support healthy eating; strong marketing policies; and a school health advisory council. Progress can be assessed using data from the School Health Policies and Programs Study (SHPPS), which is conducted every six years by CDC's National Center for Chronic Disease Prevention and Health Promotion. The most recent SHPPS data is for 2006; the next study will be done in 2012 and released in 2013.

D. Food in Other Institutions

Other institutions that play a significant role in the lives of children and young adults do not consistently support healthful nutrition behaviors.

Afterschool Programs

For many children, school activities do not end when the last bell rings. Afterschool programs, such as expanded day care centers, tutoring and other instruction programs, and 21st Century Community Learning Centers, serve children in elementary schools across the nation. In 2008, 56% of public elementary schools offered one or more such programs.[201] As with school during regular hours, the afterschool environment influences the eating behaviors of participating children. Because many of these programs operate in low-income communities where access to food may be more limited, incorporating healthful meals and snacks can be especially important. Federally-supported afterschool snacks are available through the National School Lunch Program (NSLP) and the Child and Adult Care Food Program (CACFP). Support for more substantial meals like supper is available through CACFP for low-income communities, but currently in only a limited number of states.

Juvenile Detention and Correctional Settings

While limited research exists on the nutritional services for youth in the juvenile detention and correctional facilities, anecdotal evidence suggests that many detained and incarcerated youth consume diets high in fat, cholesterol, and sodium and low in fresh fruit and vegetables. These types of diets are particularly problematic for incarcerated youth with special dietary needs. In addition, facilities may not employ or have access to licensed nutritionists or dietitians to oversee institutional food services.

Providing appropriate nutrition in juvenile detention and correctional settings is underscored by the population size and the risk factors for weight related problems facing these youth. Data shows that in 2007 more than 360,000 delinquency cases resulted in youth being placed in secure detention and nearly 149,000 resulted in youth being placed out of their home.[202] During a one-day count in 2008, approximately 80,000 youth were housed in 3,000 publicly and privately operated juvenile facilities, including public, private, and tribal facilities.[203]

Many of these young people are at risk for or have serious health concerns that are often undiagnosed or untreated, and they experience physical and mental health problems at rates exceeding those in the general youth population.[204] They are frequently children who have experienced severe familial dysfunction, witnessed violence, or have been victims of physical and sexual abuse.[205]

Many juvenile detention centers operate the National School Lunch Program and School Breakfast Program, but it is unclear how many such institutions offer meals that are consistent with the programs' nutritional requirements. Effective nutrition education, institutional food services, culinary arts, and recreational programming are critical components in addressing the overall health care needs of this vulnerable group.

Recommendations

Recommendation 3.16: Promote good nutrition through afterschool programs. Afterschool programs face distinct circumstances and challenges beyond those that impact children and young people during the school day. States and communities can develop standards and strategies tailored for afterschool programs by building on and integrating the afterschool snack components of USDA's Child Nutrition programs. The Federal government could develop and offer model approaches and resources to inform these efforts.

Recommendation 3.17: Promote healthy behaviors in juvenile correctional and related facilities. States and localities should be encouraged to ensure that juvenile justice facilities use nutrition programs available to them, such as USDA's school meal programs. Federal, state, and non-governmental organizations should collaborate to develop evidence-based programs and standards for health promotion and disease prevention services, including nutrition counseling, meal services, and recreational programs that meet the needs and circumstances of juvenile justice populations. Related programs such as organic fruit and vegetable gardening, farming, and culinary arts initiatives in juvenile justice facilities can potentially promote health, education, workforce development, and positive youth development.

Benchmarks of Success

As this area is explored further, it may be appropriate to develop benchmarks to track progress in improving nutritional outcomes in these settings.

Key Questions for Future Research

- How can we make healthy foods more affordable for use in schools? And more attractive to children?
- What can we learn from behavioral economics to support healthful eating in schools, and how can schools promote healthful eating over the longer term?
- What are the correlative and/or causal linkages between exposure to food marketing in schools and food consumption patterns or obesity?
- How can effective school-based nutrition education models be identified and scaled up to national implementation?
- How does participation in the afterschool snack and meal programs supported by USDA affect children's diets, opportunities for nutrition education and physical activity?
- To what extent are health promotion and disease prevention services such as nutrition counseling, improved diet, and recreational programs, provided to youth in the juvenile justice system? What evidence-based food services, nutritional education, and exercise programming can best address the needs of youth involved in juvenile justice systems?