

## Farm to School Programs: A Piece to the Puzzle for Solving Childhood Obesity

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### Purpose

Approximately 12.5 million American children and adolescents are obese. Over the past three decades, obesity rates have nearly tripled for children ages 2 to 5 (from 5 percent to 14 percent), more than tripled for youth ages 12 to 19 (from 5 percent to 17 percent), and more than quadrupled for children ages 6 to 11 (from 4 percent to 19 percent) (Winterfeld, 2008). Being overweight puts children and teenagers at a greater risk for developing type 2 diabetes, as well as increasing risk factors for heart disease at an early age. Fortunately, healthy eating combined with a physically active lifestyle can help children and adults achieve and maintain a healthy weight, thereby reducing obesity-related diseases.

There is an open debate among policy makers about how to best address the prevalence of obesity among children and adolescents. Policymakers have considered a variety of approaches to facilitate opportunities for a healthier diet and increased exercise beginning in childhood. One area of emphasis is the National School Lunch Program (NSLP). The purpose of this paper is to present a review of the NSLP from a pragmatic, policy-oriented standpoint.

### Background

Childhood obesity in its numbers is a growing issue, but there are also additional social indicators demonstrating the increasing problems associated with the childhood obesity epidemic. Being overweight puts children and teenagers at a greater risk for developing type 2 diabetes, as well as increasing risk factors for heart disease at an early age. Moreover, obesity is costly. Annual obesity-attributable U.S. medical expenses were estimated at \$75 billion for 2003. Taxpayers fund about half of this through Medicare and Medicaid.

Childhood obesity is a national issue, impacting all states in the United States. While all children are susceptible, children from low-income households are especially vulnerable for becoming overweight or obese. A final social indicator is that current children and adolescents will be the first generation to have a shorter life expectancy than their parents.

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The most prevalent nutrition related legislative responses include:

- nutrition standards in schools
- nutrition education
- prohibition of trans fat, nutrition menu information
- farm to school programs
- taxes on foods with minimal nutritional value

Physical activity legislative responses include:

- physical education or physical activity in schools
- recess legislation
- walkable communities
- safe routes to school
- citizen and workplace wellness programs

This analysis will focus on the nutrition-based response of farm to school programs. That is, whether to adopt programs as part of the NSLP or not to adopt programs. Farm to school programs exist in many forms across the United States, but in general have the same goal. The goal is to bring healthy food from local farms to schoolchildren. The programs facilitate connections between local farms and schools to provide fresh fruits and vegetables. It is a way to teach students about the path from farm to fork, while instilling healthy eating habits that can last a lifetime. At the same time, use of local produce in school meals and educational activities provides a new

direct market for farmers in the area and mitigates environmental impacts of transporting food long distances (Farm to School Network, 2008).

### Overview of Policies

An investigation of the health of young men who were rejected in the World War II draft revealed a connection between physical deficiencies and childhood malnutrition. These results led Congress to enact the 1946 National School Lunch Act as a “measure of national security to safeguard the health and well-being of the Nation’s children” (Cooney & Kennedy, 2001). The NSLP has had a major, generally positive impact on the nutritional status of children through improvement of overall diet (Nicklas, Baranowski, Cullen, & Berenson, 2001). Alternatively, the introduction of school lunches has likely contributed to obesity in low-socioeconomic-status children.

While school lunches must meet minimum nutrition requirements, the decisions on specific foods are made by local school food authorities. Many programs and related research address the school lunch “trilemma”: the weighing of meal nutrition, program cost, and student participation. One way school lunch programs are addressing this trilemma while addressing childhood obesity is by turning to local farmers for fresh produce. Farm to school programs consist of a wide variety of programs that include school gardens, nutrition education, and the opportunity to purchase fresh, locally grown farm products for use in the NSLP. These types of programs have been in existence for over 10 years, with current estimates indicating that over 2,000 farm to school programs exist in 40 states (National Farm to School Network, 2009). The benefits of these programs include the availability of fresher produce for meal programs, increased opportunities for hands-on nutrition education in the classroom, and new markets with stable revenues for local farmers.

Studies have shown school lunch participation increases with farm to school program participation and, on average, students eat significantly more servings of fruits and vegetables. Research has shown increased student participation and consumption, which can result in enhanced revenues for school lunch programs (National Farm to School Network, 2009). While past federal legislation has encouraged and supported farm to school programs, such programs have become increasingly popular at the state legislative level.

### Recommendations

Could the implementation of farm to school programs keep the NSLP in line with its original goal and also curb the current childhood obesity epidemic? This brief reviews current evidence on whether policies enacting farm to school programs are a possible piece to solving the childhood obesity epidemic.

#### Analysis of Farm to School Programs

**Effectiveness.** The benefits of farm to school programs include the availability of fresher produce for meal programs, increased opportunities for hands-on nutrition education in the classroom, and new markets with stable revenues for local farmers. Studies have shown school lunch participation increases with farm to school program participation (from a 3 to 16 percent increase). Additionally, farm to school meals result in a higher consumption of fruit and vegetables among students, on average a increase of 0.99 to 1.3 more servings per day (including an increase of consumption at home).

Farm to school programs rely on many to make the programs mediate success. Food service staff can improve kids’ diets by serving appetizing, healthy foods. Parents help programs grow by promoting programs, organizing field trips, and volunteering in classrooms. Teachers can bring the cafeteria into classrooms with lessons on nutrition, agriculture, and the environment. Policymakers can support healthy communities, farms and children with policies that encourage and enable schools to buy local. Farmers will be able to restore a connection to consumers and gain reliable new markets with connections made in schools.

**Efficiency.** Research has shown increased student participation and consumption, which can result in enhanced revenues for school lunch programs. Farm to school programs increase local markets opportunities for farmers and their return in markets. In traditional agriculture markets, farmers receive only 20 cents of every food dollar consumers spend, farm to school programs increase this return to about 60 to 75 cents per procurement dollar. While past federal legislation has encouraged and supported farm to school programs, such programs have become increasingly popular at the state legislative level.

While school lunches must meet minimum nutrition requirements, local school food authorities make the decisions on specific foods. Many programs and related research address the school lunch “trilemma”: the weighing of meal nutrition, program cost, and student participation. One-way school lunch programs are addressing this trilemma and still addressing childhood obesity is by turning to local farmers for fresh produce. Major start up costs

of farm to school programs in the NSLP relate to food preparation. Switching from traditional lunch foods to local fresh food can increase the need and expense of food preparation materials. Operating costs will also increase if more human hours are needed to be hands on in preparation. Start-up and operating costs may be offset if increases in student participation are substantial enough.

Farm to school programs consist of a wide variety of programs that include school gardens, nutrition education, and the opportunity to purchase fresh, locally grown farm products for use in the NSLP. These types of programs have been in existence for over 10 years, with current estimates indicating that over 2,000 farm to school programs exist spread across 40 states (National Farm to School Network, 2009). The diversity of farm to school programs being implemented demonstrates that programs can be generalized and transferred from one site to another with some ease.

Equity. Farm to school programs are one way to address the issue of childhood obesity in a fair manner. If implemented in school districts in a holistic manner, all students will have access to and receive the benefits of the programs. Farm to school programs provide all children with access to local, healthy, and nourishing foods when integrated into the culture of a school. Programs facilitate education about nutrition, food, and agriculture in and out of the classroom. Farmers are able to open up into new markets and have an increased customer base, but there may be a draw back. All farmers may not have equal access to providing to farm to school programs based on production levels, prices, and flexibility in procedures. Overall, farm to school programs are equitable to many stakeholders, especially the children, while developing community support and awareness about local food systems.

### Recommendations for Future Work

As the push for improving children's nutrition comes front and center on the national stage, more research will be needed to examine the true costs and benefits of farm to school programs. Research is needed to measure program impacts on students; teachers; policy; food service costs, revenue, and interest; farmers; parents; and community. It can be difficult to plan farm to school evaluations given the variety of program components and goals. Farm to school programs involve numerous stakeholders and partners asking a diverse range of questions, possibly too many to evaluate with available resources and data. The diversity of farm to school programs makes it difficult to create common evaluation indicators relevant to all programs, making generalizations based on results from a specific program difficult.

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