



Nutrition Education and Promotion: The Role of FNS in Helping Low-Income Families Make Healthier Eating and Lifestyle Choices

A Report to Congress

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Introduction

This report responds to the charge in the explanatory statement of Chairman Obey, entered into the Congressional Record February 23, 2009, regarding the request from Congress in the conference report for the Omnibus Appropriations Act, 2009 (Public Law 111–8). The conference report included the following directive:

The Food and Nutrition Service is directed to provide a report to the Committee evaluating the impact that nutrition education is having on preventing obesity and improving the likelihood that eligible low-income people will make healthy food choices within a limited budget. The report shall include: which programs this nutrition education is funded through; how much was provided in fiscal years (FYs) 2007 and 2008 for each program, and a description of all guidance materials and policy documents that were developed with this funding in FYs 2007 and 2008.

The Department of Agriculture (USDA) shares the Committee’s interest in ensuring that nutrition education and promotion funded by the Food and Nutrition Service (FNS) helps participants make healthy food and lifestyle choices. Nutrition assistance programs and the nutrition education that often accompany them, provide millions of Americans with access to healthy, nourishing food, and to the tools, skills and information needed to help them and their families make healthy choices every day.

U.S. Dietary Patterns

Despite the increased public awareness of the vital role that food choices, dietary practices and physical activity have on health, the diets and physical activities of most Americans are not consistent with the recommendations of the *Dietary Guidelines for Americans*. Most Americans eat too of few fruits, vegetables, whole grains, and fat-free or low-fat milk products, while consuming too much of fat, sweetened beverages, and sodium.¹ These trends are seen in the

¹ USDA Center for Nutrition Policy and Promotion. Diet Quality of Low-Income and Higher Income Americans in 2003-04 as Measured by the Healthy Eating Index-2005. Nutrition Insight 42, December 2008.

young and old, and cut across all income levels. All Americans, regardless of income, could benefit from dietary improvements, such as increasing fruits, vegetables, whole grains, and fat free or low-fat milk.²

Obesity Trends

The United States is experiencing an epidemic of obesity among adults and children. More than two-thirds (67 percent) of American adults are either overweight or obese. The rate of adult obesity has grown from 15 percent in 1980 to 34 percent in 2006.⁴ Overweight and obesity trends among children – including young children – are equally alarming. More than 23 million children and adolescents in the United States are obese or overweight.⁵ Problems start at an early age, with 24 percent of children ages two to five already obese or overweight. These rates have more than doubled (from 5 percent to 12 percent) during the past three decades. Obesity rates for children ages 6 to 11 have more than quadrupled (from 4 percent to 17 percent) and more than tripled for adolescents ages 12 to 19 (from 5 percent to 18 percent) during the past four decades.⁶ In addition, obese children and adolescents are more likely to become obese as adults.^{7,8}

Childhood Obesity/Overweight 2003-2006		
Ages	% Obese or Overweight	% Obese
2 to 5	24.4	12.4
6 to 11	33.3	17.0
12 to 19	34.1	17.6
2 to 19	31.9	16.3
Source: Ogden et al., 2008. ³		

Disparities

² USDA Center for Nutrition Policy and Promotion. Diet Quality of Low-Income and Higher Income Americans in 2003-04 as Measured by the Healthy Eating Index-2005. Nutrition Insight 42, December 2008.

³ Ogden C, Carroll M, and Flegal K. High Body Mass Index for Age among US Children and Adolescents, 2003-2006. *Journal of the American Medical Association*, 299(20): 2401-2405, May 2008.

⁴ National Center for Health Statistics. Prevalence of Overweight, Obesity and Extreme Obesity among Adults: United States, Trends 1976-80 through 2005-2006. December 2008.

⁵ Ogden C, Carroll M, and Flegal K. High Body Mass Index for Age among US Children and Adolescents, 2003-2006. *Journal of the American Medical Association*. 299(20): 2401-2405, May 2008.

⁶ Ogden C, Carroll M. and Flegal K. High Body Mass Index for Age among US Children and Adolescents, 2003-2006. *Journal of the American Medical Association*. 299(20): 2401-2405, May 2008; and Ogden C, Flegal K, Carroll M, and Johnson C. Prevalence and Trends in Overweight among US Children and Adolescents, 1999-2000. *Journal of the American Medical Association*, 288(14): 1728-1732, October 2002.

⁷ Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting Obesity in Young Adulthood from Childhood and Parental Obesity. *New England Journal of Medicine*, 37(13):869-873, 1997.

⁸ Serdula MK, Ivery D, Coates RJ, Freedman DS. Williamson DF. Byers T. Do Obese Children Become Obese Adults? A Review of the Literature. *Preventive Medicine*, 22:167-177, 1993.

The burden of obesity is disproportionately borne by some racial and ethnic groups. For example:

- Mexican-American children are more likely to be obese than non-Hispanic white or non-Hispanic black children; 38 percent of Mexican-American children and adolescents ages 2 to 19 are overweight or obese, compared with 35 percent of non-Hispanic black and 31 percent of non-Hispanic white children and adolescents.⁹
- Non-Hispanic black girls are more likely to be obese or overweight than non-Hispanic white or Mexican-American girls. Among non-Hispanic black girls ages 2 to 19, 39 percent are obese or overweight, compared with 35 percent of Mexican-American girls and 29 percent of non-Hispanic white girls.¹⁰

Health Consequences

Obese children and adolescents are at increased risk for diet-related health problems during their youth and as adults. For example, obese children and adolescents are more likely to have risk factors associated with cardiovascular disease (such as high blood pressure, high cholesterol, and Type 2 diabetes) than are other children and adolescents, and these problems often persist during adulthood.¹¹

Nutrition Education

As the relationships among diet, health, and disease prevention have become clearer, nutrition education and the promotion of healthy eating behaviors and lifestyles continue to receive increased attention. In its broadest sense, nutrition education is “any combination of educational strategies designed to facilitate voluntary adoption of food choices and other food- and nutrition-related behaviors conducive to health and well-being; . . . it is delivered through multiple venues and involves activities at the individual, community, and policy levels.”¹² This definition recognizes that many factors influence behavior; successful nutrition education uses a systematic approach and strategies that include a variety of activities to help the target group make behavior changes. This includes facilitating the ability of consumers to take action by collaborating with

⁹ Ogden. *JAMA*, 2008.

¹⁰ Ogden. *JAMA*, 2008.

¹¹ Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular Risk Factors and Excess Adiposity among Overweight Children and Adolescents: the Bogalusa Heart Study. *Journal of Pediatrics*. 150(1):12–17.e2, January 2007.

¹² Contento, I. Nutrition Education: Linking Theory, Research and Practice. Sudbury, MA: Jones and Bartlett Publishers, 2007.

partners to promote more supportive environments, policies, and system changes when possible and feasible.¹³

The Federal nutrition assistance programs, administered by FNS, provide an opportunity to reach program participants and eligible persons with science-based, behavior-focused nutrition education and promotion strategies that help them maximize food resources and make food choices that support and promote good health. Nutrition education should be viewed in a broader context that includes other factors that affect food choices and habits. The environments where people work, learn, and play have a fundamental influence on diet and physical activity. On radio, television, billboards, social media, grocery stores, fast food restaurants, and bus stops, consumers encounter multiple messages on what and how much to eat. The resources a person has to spend on food, their access to grocery stores and other places with healthy options, their skills in preparing foods, as well as their background and familiarity with different foods, all affect what is purchased, prepared, and consumed. For example:

- Food marketing to children – both directly in schools as well as through various media outlets like television, the internet, and print – often promotes unhealthy foods and beverages.
- Time and resource constraints and access to affordable, high quality food outlets make it more difficult for some low- income families to purchase, store, and prepare healthy meals.
- The abundance of unhealthy products in many venues including fast food restaurants, shopping malls, workplaces, and corner stores make eating healthfully a challenge.
- The lack of sidewalks and safe places to play in some neighborhoods discourages physical activity.

Effectiveness of Nutrition Education

Critical reviews examining its effectiveness have demonstrated that nutrition education can make a significant contribution to improved dietary practices. Well-designed and effectively implemented nutrition education can motivate those participating to change dietary behaviors and provide them with the knowledge and skills to make healthy food choices in the context of their lifestyles and economic resources.¹⁴

Effective nutrition education and promotion includes multiple components: 1) skill building to facilitate positive behavior change; 2) environmental and policy changes to make the healthy choice the easy choice, and 3) integrated initiatives and social marketing to build community and social support. It helps consumers select and consume healthy and enjoyable foods by improving awareness, skills, and motivation to take action at home, school, and work. It is ongoing, multifaceted, and disseminated through a variety of channels (outlets). It will vary based on target population, and take into consideration knowledge and social, health, and

¹³ Ibid.

¹⁴ Ibid.

environmental influences. Successful interventions will use different approaches for different groups and situations.

Key components that are associated with effective nutrition education and promotion initiatives are highlighted below.

Target specific behaviors or practices: Interventions focused on specific behaviors, like eating more fruits and vegetables, are more likely to be effective than those that focus solely on increasing knowledge about health and nutrition.^{15,16} This interrelationship between knowledge and behavior was highlighted in a study of salad bars in elementary schools. Researchers found that in schools providing six nutrition classes students selected more fruit from the salad bar than students in schools where the salad bar was provided without any nutrition education.¹⁷

Focus on the interests and motivations of targeted population: Research indicates that in developing and implementing interventions, it is important to recognize the motivations of the target audience and to develop appropriate strategies based on those mediators. For elementary school children, preference and availability are primary motivators, meaning that nutrition education efforts should focus on helping children become familiar with and offering opportunities to taste healthy foods. As children become older, and in efforts aimed at adults, other mediators are important, like peer influences, behavioral choices, sense of competence and autonomy, and health outcomes.^{18,19,20,21}

¹⁵ Luepker RV, et al. Outcomes of a Field Trial to Improve Children's Dietary Patterns and Physical Activity. The Child and Adolescent Trial for Cardiovascular Health. CATCH Collaborative Group. *Journal of the American Medical Association*. 1996; 275(10):768–776.

¹⁶ Howerton MW, Bell BS, Dodd KW, Berrigan D, Stolzenberg-Solomon R, Nebeling L. School-Based Nutrition Programs Produced a Moderate Increase in Fruit and Vegetable Consumption: Meta and Pooling Analyses from 7 Studies. *Journal of Nutrition Education and Behavior*. 2007;July-August;39(4):186-196.

¹⁷ Suarez-Balcazar, Y, Redmond L, Kouba J, Hellwig M, Davis R, Martinez LI, and Jones L. Introducing Systems Change in Schools: The Case of School Luncheons and Vending Machines. *American Journal of Community Psychology*. 39(3-4):335-345, 2007.

¹⁸ Reynolds KD, Franklin FA, Binkley D, Raczynski JM, Harrington KF, Kirk KA, Person S. Increasing the Fruit and Vegetable Consumption of Fourth-graders: Results from the High 5 Project. *Preventive Medicine*. 2000; April; 30(4):309-319.

¹⁹ Liquori T, Koch PD, Contento IR, Castle J. The Cookshop Program: Outcome evaluation of a Nutrition Education Program Linking Lunchroom Food Experiences with Classroom Cooking Experiences. *Journal of Nutrition Education* 1998;30(5):302.

²⁰ Cullen KW, Baranowski T, Owens E, Marsh T, Rittenberry L, de Moor C. Availability, Accessibility, and Preferences for Fruit, 100% Fruit Juice, and Vegetables Influence Children's Dietary Behavior. *Health Education and Behavior* 2003;Oct;30(5):615-626.

²¹ Contento, Isobel. Nutrition Education: Linking Theory, Research and Practice. Sudbury, MA: Jones and Bartlett Publishers, 2007.

Devote sufficient time and intensity: There appears to be a generally positive association between the intensity of the intervention and dietary improvement.²² Interventions with longer durations and more contact hours have been shown to result in more positive outcomes.^{23,24}

Deliver coherent and clearly focused curricula: Similar to the need to target specific behaviors and practices, nutrition education curricula need to focus on specific behaviors that are actionable and are presented in an organized and sequential way.²⁵

Involve multiple components using a social ecological approach: An approach that uses multiple components – like classroom-based strategies, cafeteria interventions, and home and community components to focus on specific positive behaviors – is more likely to result in change.^{26, 27}

Provide professional development to staff: For the school-based setting, professional development for teachers, school food service personnel, and others involved in implementation, is a key component to consider in designing programs and interventions.²⁸

More research is needed to better understand the impact of intensity and duration of nutrition education delivered as part of community-based interventions with general populations.²⁹

²² USDA Food and Nutrition Service, Office of Analysis, Nutrition and Evaluation. Nutrition Education and the Role of Dosage. 2007. http://www.fns.usda.gov/ora/MENU/Published/NutritionEducation/Files/LitReview_Dosage.pdf (Accessed Jan. 15, 2010)

²³ Luepker RV, et al. Outcomes of a Field Trial to Improve Children’s Dietary Patterns and Physical Activity. The Child and Adolescent Trial for Cardiovascular Health. CATCH Collaborative Group. *Journal of the American Medical Association*. 1996; 275(10):768–776.

²⁴ Lefebvre R.C., Olander C., and Levine E. The Impact of Multiple Channel Delivery of Nutrition Messages on Student Knowledge, Motivation, and Behavior: Results from the Team Nutrition Pilot Study. *Social Marketing Quarterly*. 5:90-98, 1999.

²⁵ Contento, I. *Nutrition Education: Linking Theory, Research and Practice*. Sudbury, MA: Jones and Bartlett Publishers, 2007.

²⁶ Luepker RV, et al. Outcomes of a Field Trial to Improve Children’s Dietary Patterns and Physical Activity. The Child and Adolescent Trial for Cardiovascular Health. CATCH Collaborative Group. *Journal of the American Medical Association*. 1996; 275(10):768–776.

²⁷ Lefebvre RC, Olander C, and Levine E. The Impact of Multiple Channel Delivery of Nutrition Messages on Student Knowledge, Motivation, and Behavior: Results from the Team Nutrition Pilot Study. *Social Marketing Quarterly*. 5:90-98, 1999.

²⁸ Ibid

²⁹ USDA Food and Nutrition Service. Nutrition Education and the Role of Dosage. 2007. www.fns.usda.gov/ora/MENU/Published/NutritionEducation/Files/LitReview_Dosage.pdf (Accessed January 15, 2010)

Food and Nutrition Service: Mission and Programs

FNS administers the USDA nutrition assistance programs that currently touch the lives of more than one in four Americans each year. These programs also provide an opportunity to reach program participants and those eligible for benefits, with nutrition education and promotion to help them make healthier food and lifestyle choices. The nutrition education and food benefits provided through these programs support the FNS mission “to increase food security and reduce hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthful diet and nutrition education in a manner that supports American agriculture and inspires public confidence.”³⁰

FNS Nutrition Education

Promoting healthy eating and active lifestyles among those eligible to participate in Federal nutrition assistance programs is an inherent part of the FNS. Nutrition education and promotion efforts go hand-in-hand with program benefits and other activities that make healthy foods more readily accessible and healthier choices easier— either directly through the school meals programs and WIC food packages, or indirectly through Supplemental Nutrition Assistance Program (SNAP) benefits, (SNAP was previously known as the Food Stamp Program) and Farmer Markets.

Nutrition education within the programs support and promote the recommendations of the *Dietary Guidelines for Americans* as well the MyPyramid food guidance. The *Dietary Guidelines*, issued and updated every 5 years, provide information and advice on choosing a nutritious diet for people two years and older. MyPyramid is a food guidance system that translates the nutritional recommendations from the *Dietary Guidelines* into the kinds and amounts of food to eat each day. FNS also provides guidance and resources to State partners that encourage and facilitate use of evidence-based nutrition education strategies and approaches that are effective in assisting low-income families and put these guidelines into practice.

Nutrition education activities of FNS are administered within the framework of the various programs. Consequently, the focus and scope of nutrition education within specific nutrition assistance programs, are framed by program structures and legislative and regulatory requirements. These factors determine the administering agencies in each State and communities, the target populations, food benefits, and service locations.

Table 2: FY 2007 and 2008 Nutrition Education Funding (in millions) by Program		
Program	2007	2008
SNAP-ED	\$268.0	\$314.1
Team Nutrition	10.0	13.3
WIC Nutrition Education	333.8	358.0

³⁰ Leading the Fight against Hunger. www.fns.usda.gov/fns/40th/docs/leading.pdf (Accessed October 31, 2009).

FNS provides funding to State agencies for administration of the nutrition assistance programs including funding for program management, food delivery

WIC Breastfeeding Promotion	104.4	131.7
FDPIR	0.2	1.2
Total	716.4	818.3

systems, eligibility assessments and nutrition education. Table 2 shows expenditures for nutrition education by program, during FY 2007 and 2008 and shows the wide variation in resources for nutrition education between the programs. Table 3 provides an example of the per person nutrition education funding by program based on FY 2008 spending.

Table 3: Nutrition Education Funding Per Participant in FY 2008 by Program			
Program	2008 Funding (Millions)	Participants ¹ (Millions)	Dollars per Year Per Participant ²
SNAP ³	\$314.1	28.4	\$11.1
Team Nutrition	13.3	50.3	0.3
WIC-Nutrition Ed	358.0	8.7	41.1
WIC-Breastfeeding Promotion	131.8	1.5	87.8
FDPIR Nutrition Aides	1.2	0.09	13.8

1 All programs based upon average monthly participation unless otherwise noted here. Team Nutrition participation is based on total school enrollment in the National School Lunch Program (NSLP). WIC Breastfeeding Promotion participants include pregnant and breastfeeding women only.

2. Per participant nutrition education dollars are based on unrounded program funding totals not shown.

3. Includes \$1.99M in SNAP-ED resources used at the Federal level.

While FNS funds a small number of competitive grants, most nutrition education funding is a part of States' overall program budget allocation. The design and implementation of nutrition education occurs largely at the State and local level. FNS provides guidance, policy direction, training, technical assistance and resources to States to aid them in developing education activities that build on the strengths of administering agencies to deliver quality programs.

Supplemental Nutrition Assistance Program (SNAP)

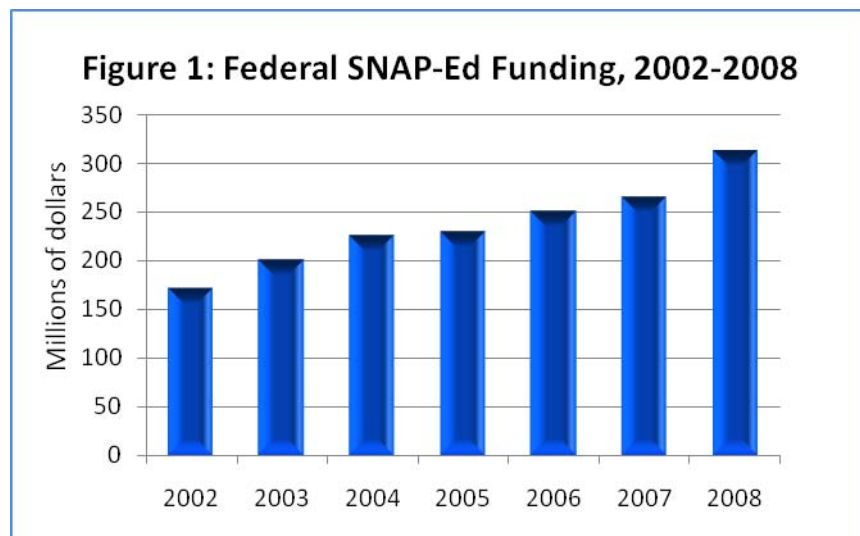
The Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program) is the largest of the nutrition assistance programs and is available to nearly anyone with low- income and few resources. SNAP is the Nation's first line of defense against hunger and the cornerstone of all Federal nutrition assistance programs. It provides benefits to qualified low-income families and individuals of all ages for the purchase of nutritious food. In 2009, 33.7 million people participated in SNAP in an average month at a cost of about \$53.8 billion in annual Federal spending. Nearly half of all participants are children.

SNAP Nutrition Education: SNAP-Ed

State SNAP agencies have the option to provide, as part of their administrative operations, nutrition education for eligible individuals.³¹ The goal of “SNAP-Ed” is to improve the likelihood that persons eligible for SNAP make healthy food choices within a limited budget and choose physically active lifestyles consistent with the *Dietary Guidelines for Americans* and MyPyramid. SNAP-Ed State Plan Guidance encourages States to use effective nutrition education tools and strategies, engage in cross-program collaboration, and focus their efforts on a small set of behavior outcomes. SNAP-Ed is designed with the ultimate goal of promoting good health and preventing or postponing the onset of diet-related chronic diseases by empowering participants to establish healthier eating habits and be more physically active.

State agencies that choose to conduct nutrition education through SNAP must submit a State Plan to FNS for approval. As with other administrative activities, allowable SNAP-Ed expenditures are reimbursed at 50 percent. State agencies deliver SNAP-Ed to eligible persons through contractual agreements with Implementing Agencies (IAs) such as the Cooperative Extension Service, and other State agencies and community health and nutrition providers including universities, networks and State health departments. Approximately 100 organizations, in partnership with SNAP State agencies, provide nutrition education that target low-income audiences in diverse settings.

Funding: Due to the increased concern about diet-related diseases, the financial investment made by both FNS and States in improving the nutrition of low-income Americans through SNAP-Ed has increased significantly. Approved Federal funds for State SNAP-Ed activities rose from \$661,000 in FY 1992 to over \$300 million in FY 2008. The number of State agencies with approved Nutrition Education Plans also increased—from seven in 1992 to 52 in 2008. Figure 1 shows the increase in SNAP-Ed funding over the years. Funding levels represent the Federal commitment for approved State budgets.



³¹ SNAP regulations can be found at 7 CFR 272.2.

Target Population: The authorizing statute and FNS' policy guidance requires SNAP-Education activities to be directed to participants and persons eligible for SNAP.

Policy, Guidance, and Resources: The SNAP-Education Plan Guidance serves as a reference and resource for States in preparing nutrition education plans and includes guiding principles for comprehensive plans (www.nal.usda.gov/fns/Guidance/2009.1SNAP-Education%20Guidance.pdf).

While there are many important nutrition-related issues that impact the SNAP eligible audience, FNS encourages States to magnify the impact of SNAP-Education by focusing their effort on the following behavioral outcomes that have more potential to improve public health:

- Eat fruits and vegetables, whole grains, and fat-free or low-fat milk products every day.
- Be physically active every day as part of a healthy lifestyle.
- Balance caloric intake from food and beverages with calories expended.

The guidance also urges States to use behaviorally focused, science-based nutrition education interventions, projects or social marketing campaigns, and to target educational activities to women and children in participating or eligible SNAP households.

FNS makes a number of consumer tested resources available to States to support implementation of effective nutrition education for program participants and potential eligible individuals. Additional resources that are specific to SNAP-Education include:

- *SNAP-Education Connection:* an online resource center for State and local SNAP-Education agencies that provides information on training and continuing education resources. SNAP-Education Connection facilitates access to education materials developed specifically for SNAP eligibles (www.nap.nal.usda.gov).
- *Recipe Finder Database:* a database of over 600 recipes for use by nutrition educators working with the SNAP eligible population. Educators can search for relevant nutrition topics and audience specific recipes to help SNAP recipients make healthy, low cost food choices. Recipes include information such as cost per serving and per recipe. Nutrient analysis, including trans-fat, is also included for each recipe. In October 2008, the recipe finder had 382,184 hits. This represents a 30 percent increase in web hits from the same month in October 2007.

Evaluation: FNS also works to enhance SNAP-Education evaluation activities, determine the impact of education interventions on target populations, and collect and report data. The agency has developed and disseminated a tool to support credible evaluations of nutrition education, and provides technical guidance on evaluations through workshops delivered at a variety of professional meetings with State SNAP agencies and their nutrition education partners. FNS is also conducting independent and rigorous impact evaluations of a number of particularly promising SNAP-Education projects to develop and demonstrate good SNAP nutrition education and evaluation, to serve as models for future State efforts.

Reporting: The Education and Administrative Reporting System (EARS) will provide uniform data and information about the nutrition education activities of all participating States across the

country, including demographic characteristics of participants receiving nutrition education benefits and information about education strategies and content. Implementation is now underway; States are expected to be in full compliance with EARS in 2010.

Child Nutrition Programs (CN)

Child Nutrition Programs include the National School Lunch Program (NSLP) including afterschool snacks, School Breakfast Program (SBP), Summer Food Service Program, and the Child and Adult Care Food Program. In 2009, NSLP served over 31 million children, and SBP served about 11 million children, on an average school day. Total cost of the CN programs was more than \$15 billion in 2009.

Nutrition Education in Child Nutrition Programs: Team Nutrition

Team Nutrition is an initiative of the USDA FNS to support the Child Nutrition Programs through training and technical assistance for foodservice, nutrition education for children and their caregivers, and school and community support for healthy eating and physical activity. Team Nutrition utilizes a comprehensive network of communication channels to deliver consistent nutrition messages to the school community, including food service initiatives, classroom activities, school-wide events, home activities, community programs and media events and coverage.

Funding: Team Nutrition funding was \$10 million in 2007 and \$13.3 million in 2008. In appropriating Team Nutrition funds, Congress generally specifies how the funds are to be used.

Target Audience: Team Nutrition's goal is to improve children's (including preschool children) lifelong eating and physical activity habits. Resources and materials are specifically designed for children and their caregivers, food service professionals, childcare providers and educators that are affiliated with schools and childcare facilities participating in the Federal Child Nutrition programs.

Policy, Guidance, and Resources: Team Nutrition provides schools and child care facilities across the country with easy access to nutrition education and training materials and policy guidance on the nutritional quality of school meals and improving the overall school nutrition environment. The Team Nutrition Web site (www.fns.usda.gov/tn/) enables schools to model proven approaches through the sharing of school success stories and also provides examples of local wellness policies and related resources. Schools may download electronic copies of training and nutrition education materials as well as order print copies.

During FY 2008, Team Nutrition distributed MyPyramid for Kids materials to educate elementary school age children on the new MyPyramid food guidance system. Middle and high schools received new age-appropriate classroom-based lesson plans and posters addressing the principles of the *Dietary Guidelines for Americans* and MyPyramid. Developed for afterschool programs, Empowering Youth with Nutrition and Physical Activity includes activities and games designed to teach youth how to make smart eating and physical activity choices. Team Nutrition

also assisted with the development and promotion of MyPyramid for Preschoolers (launched in 2008) which reflects age-appropriate foods and physical activities for young children.

To assist schools in implementing the major recommendations of the *Dietary Guidelines for Americans* in school meals, Team Nutrition released a series of ten fact sheets that provide practical tips for updating menus and recipes, ways schools can make gradual changes, and how to foster student acceptance of new menu items such as whole grain foods. Team Nutrition resources also target educators, parents, and community leaders and include a variety of educational resources to motivate and support these groups. Resources include materials for preschoolers, newsletters for parents, posters and lesson plans for secondary school students, and hands-on nutrition activities for parents to use with their school-age children.

Team Nutrition also regularly updates and makes available the Food Buying Guide and Menu Planner on CD-ROM, and maintains the Child Nutrition Database that provides information on the foods and recipes used in the NSLP and the SBP.

In addition to the resources described above, FNS provides States and local child nutrition operators with tools and resources to further assist in their efforts to promote nutrition education and share best practices and resources. Some of these efforts are described below.

- *Healthy Meals Resource System* (<http://healthymeals.nal.usda.gov/>): an online tool that facilitates the sharing of State and locally developed nutrition education and materials, provides a Directory of Chefs that are willing to volunteer their time to schools, and has staff available to answer State questions about the availability of resources for schools and childcare, including USDA developed materials.
- *Team Nutrition Training Grants*: awarded competitively to State agencies to establish or enhance sustainable infrastructures for implementing Team Nutrition. In FY 2007 and 2008, FNS provided more than \$9 million in training grants to State agencies. Twenty-six States were funded in FY 2007 and twenty-one in FY 2008. The focus of these grants included training foodservice staff on preparing meals consistent with the 2005 *Dietary Guidelines for Americans* and MyPyramid; implementing statewide strategies to help students make healthy choices and be physically active and to encourage parents, teachers/caregivers, foodservice staff and others to serve as role models for students and children in practicing healthy eating and being physically active, both at school, child care facilities, and at home.
- *The National Food Service Management Institute (NFSMI)*: through a cooperative agreement with FNS, the NFSMI offers educational and training opportunities (online and face-to-face) for district school nutrition directors/supervisors, managers, and food service assistants and technicians. Topics include nutrition, wellness policies and incorporating the *Dietary Guidelines for Americans* into meal planning and production. A healthy meals hotline provides technical assistance to school foodservice personnel with questions about menu planning, nutrient requirements, food purchasing, and nutrient analysis.
- *The HealthierUS School Challenge*: a voluntary national certification initiative, implemented under FNS' Team Nutrition, which recognizes schools that have created

healthier school environments by providing nutrition education, nutritious food and beverage choices, physical education and opportunities for physical activity.

- *Local Wellness Policies:* the 2004 CN and WIC Reauthorization Act required school districts participating in the NSLP or other child nutrition programs to adopt and implement a wellness policy by the 2006-07 school year and include goals for nutrition education. FNS provides sample policy language and other related resources on the Team Nutrition Web site. In addition, FNS continued work with three states (California, Iowa, and Pennsylvania) that received Local Wellness Policy Demonstration Grants in 2006. These States are assessing local wellness policy activities in selected school districts, documenting the process used by these school districts and monitoring the effects of the implementation.

Special Supplemental Program for Women, Infants and Children

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides supplemental foods, nutrition education, breastfeeding support, and health care referrals to low-income pregnant, breastfeeding and non-breastfeeding postpartum women, and to infants, and children up to age five who are found to be at nutritional risk. Almost half of all infants and about a quarter of all children ages one to four in the United States participate in the program.

WIC is the third-largest food and nutrition assistance program with Federal expenditures of \$7 billion in FY 2009. WIC is 100 percent federally funded and is administered by FNS and 90 WIC State agencies (including Indian Tribal Organizations). In FY 2009, WIC reached 9.1 million women, infants and children. State agencies receive Nutrition Services and Administration (NSA) funding, which covers the costs of administering the program as well as costs associated with providing key services such as nutrition education and breastfeeding promotion. Federal regulations require that WIC State agencies spend at least a sixth of their NSA expenditures on nutrition education. WIC nutrition education funding for the last three fiscal years for both nutrition education and breastfeeding promotion was \$438 million in 2007, and \$490 million in 2008.

WIC Nutrition Education

Nutrition education is an integral component to the WIC program and is available to all participants (or to the parents or caretakers of infant/child participants). Local WIC agencies are required to offer participants or caretakers at least two nutrition education sessions during each six-month period, although individuals are not required to attend. WIC nutrition education is designed to achieve two broad goals:³²

- Emphasize the relationship between nutrition, physical activity, and health, with special emphasis on the nutritional needs of pregnant, postpartum, and breastfeeding women, infants,

³² USDA Economic Research Service. The WIC Program: Background, Trends, and Economic Issues. April 2009.

and children younger than 5 and awareness about the dangers of using drugs and other harmful substances during pregnancy and while breastfeeding.

- Assist individuals at nutritional risk, improve their health status and achieve a positive change in dietary and physical activity habits, resulting in improved nutritional status and in the prevention of nutrition related problems through optimal use of the supplemental foods and other nutritious foods.

In addition to the nutrition education described above, there are a number of other nutrition education opportunities for WIC participants, including breastfeeding promotion and the WIC Farmers Market Nutrition Program (FMNP). WIC Breastfeeding promotion is an integral component of the WIC program. FNS has made a significant investment to support breastfeeding including guidance, training, and resources and has launched the *Loving Support Makes Breastfeeding Work* campaign which is designed to encourage breastfeeding among WIC participants, promote referrals to WIC for breastfeeding support, increase acceptance and support of breastfeeding, and, provide technical assistance to WIC agency professionals in the promotion of breastfeeding.

FMNP provides eligible WIC participants with coupons, in addition to their regular WIC benefits, that can be used to buy eligible foods from participating farmers, farmers' markets or roadside stands. Nutrition education is provided to FMNP recipients by the State agency, often through an arrangement with the local WIC agency and other program partners, to encourage FMNP recipients to add fresh fruits and vegetables to their diets, as well as educate them on how to select, store, and prepare these foods. For example, Cooperative Extension programs, local chefs, farmers or farmers' markets associations, and various other non-profit or for-profit organizations may provide nutrition education to FMNP recipients.

Guidance, Messages and Resources: WIC continues to implement its national initiative to improve nutrition services via Revitalizing Quality Nutrition Services (RQNS). The goal of RQNS is to enhance and strengthen the effectiveness of WIC nutrition services in an effort to help participants achieve and maintain optimal nutritional behaviors.³³ RQNS projects and initiatives include:

- *WIC Works Resource System:* an online education and training center for health and nutrition professionals working with WIC participants (www.nal.usda.gov/wicworks/). This site also provides guidance and resources to assist States in educating participants about the new foods offered in the new WIC food packages and promoting healthier choices.
- *Nutrition Services Standards:* These standards define a range of performance practices intended to help State and local WIC agencies self-assess how well they currently deliver a wide range of nutrition services, and the delivery and quality of nutrition services. (They are available through the WIC Works Resource System at: www.nal.usda.gov/wicworks/Topics/WICnutStand.pdf.)

³³ <http://www.fns.usda.gov/wic/benefitsandservices/rqns.HTM>. (Accessed Nov. 10, 2009)

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- *WIC Special Projects Grants*: these grants are awarded to help States develop, implement and evaluate new or innovative methods of service delivery to meet the changing needs of WIC participants. (More information about specific projects is available at www.fns.usda.gov/wic/benefitsandservices/specialprojects.htm)
 - *Value Enhanced Nutritional Assessment (VENA)*: this initiative was developed jointly by FNS and the National WIC Association. The VENA guidance (www.nal.usda.gov/wicworks/Learning_Center/Assessment_VENA.html) provides a process for completing a comprehensive WIC nutrition assessment and an outline of the necessary staff competencies.
 - *My Pyramid for Moms*: in collaboration the USDA's Center for Nutrition Policy and Promotion, FNS provided support for the development of the MyPyramid for Moms website and collateral materials for pregnant and breastfeeding women; these materials are available for the public (www.mypyramid.gov/mypyramidmoms/index.html).
 - *Breastfeeding Peer counseling*: the use of peer counselors adds a critical dimension to a State agency's effort to help women initiate and continue breastfeed, especially in the critical weeks after birth. FNS provides funding for State WIC Programs to implement a research-based peer counseling implementation and management model (FNS' *Loving Support Model*) to design build and sustain peer counseling programs.
 - *Breastfeeding Promotion and Support Training for WIC Staff*: FNS funded the development of a national competency-based breastfeeding training curriculum for all WIC local agency staff: "Using Loving Support to Grow and Glow in WIC: Breastfeeding Training for Local WIC Staff". The intent of this project was to ensure that all staff, professionals as well as paraprofessionals, attain a level of proficiency in the skills required to effectively promote and support breastfeeding in the WIC local agency clinic.

Food Distribution Program on Indian Reservations (FDPIR)

FDPIR provides supplemental foods to low income households living on Indian reservations and in designated areas near reservations, and in approved service areas in Oklahoma. The Indian Tribal Organizations (ITOs) and State agencies that administer FDPIR are required to provide nutrition education to participants; they generally target participants who reside in areas that, for the most part, are not served by SNAP-Ed.

FDPIR nutrition education activities are funded through the program's general administrative funding. However, since 1993, a portion of these funds have been earmarked for FDPIR nutrition education; funding for FY 2007 was \$200,000. In FY 2008, funding increased to \$1.25 million allowing the program to enhance nutrition education, primarily by using these resources to hire and train nutrition education aides.

Guidance, Messages and Resources: In an effort to share resources and connect FDPIR stakeholders, FNS maintains the NutritionTalk Listserv for FDPIR. The listserv plays a role in promoting open communication and exchange of information between tribal communities, USDA, and other agencies and organizations that provide culturally appropriate nutrition education, materials, resources, and health-related services to participants in the FDPIR.

In FY 2008, FNS awarded the first FDPIR Nutrition Education (FDPNE) grant with funding totaling approximately \$1 million. FDPNE was created to enhance the nutrition knowledge of FDPIR participants and to foster positive lifestyle changes for eligible household members, through intensive integrated nutrition education interventions.

In FNS's continuing efforts to enhance the FDPIR food package and better align the package with the *Dietary Guidelines for Americans*, FDPIR has partnered with the National Association of Food Distribution Programs on Indian Reservations. Through this partnership, a work group with representatives from FDPIR programs across the country, Federal partners, nutritionists, and commodity procurement specialists, is focusing on ways to reduce saturated fat, sugar, and sodium in the food package and explore healthier alternatives to some current products.

Commodity Supplemental Nutrition Program (CSFP)

The Commodity Supplemental Nutrition Program (CSFP) provides pregnant women, new mothers, infants, children up to age six, and elderly people with nutritious USDA commodity foods. CSFP has authorization to use administrative funds for nutrition education, and such activities are mandatory. In actual practice, the intensity and content of nutrition education vary widely by locality. Program providers deliver nutrition education to participants by methods that include handouts issued when food packages are picked up, classes, newsletters, and food demonstrations. Additionally, providers rely heavily on FNS commodity food fact sheets that are available for each food offered to participants. The fact sheets provide nutrition, storage, food safety, and recipes for every USDA food.

Cross-Cutting Initiatives and Collaborations

FNS encourages cross-cutting initiatives and collaborations among the nutrition programs, as well as initiatives that include other stakeholders at the Federal, State, and local levels and related organizations and associations. No one program has sufficient resources to provide comprehensive nutrition education services, thus collaborations are essential to leverage resources and capabilities from multiple sources, to increase the effectiveness and cost efficiency of education activities, and to reach families in a variety of settings. FNS communicates to States and local agencies the importance of collaborations through guidance for State plans and grants, and dissemination of policies and resources that reinforce and facilitate such efforts.

Resources: FNS works with cross-program teams and a variety of partners to develop nutrition education initiatives and to jointly develop resources for use across the various programs. Resources that have been disseminated are briefly described:

- *Core Nutrition Messages:* a set of 16 “Core Audience-Tested Nutrition Messages” and supporting content contained in the publication titled, *Maximizing the Message: Helping Moms and Kids Make Healthier Food Choices*. Messages are designed to assist mothers and children in making specific diet-related changes. Target audiences include low-income moms and preschool and elementary school age kids. The publication includes an implementation guide that assists nutrition educators in using a set of nutrition messages and supporting content for interventions conducted in a variety of settings.
- *Loving Support Breastfeeding Campaign:* a WIC breastfeeding promotion campaign implemented at the State agency level that includes materials and resources to encourage WIC participants to initiate and continue breastfeeding; increase referrals to WIC for breastfeeding support; increase general public acceptance and support of breastfeeding; and provide technical assistance to WIC State and local agency professionals in the promotion of breastfeeding.
- *The Loving Your Family, Feeding Their Future:* education materials targeting mothers with children ages 2-18 years who may be either English or Spanish speakers; materials communicate messages in the 2005 *Dietary Guidelines for Americans* and MyPyramid in a user-friendly, easy-to-read format.
- *Eat Smart, Live Strong:* An intervention designed to improve fruit and vegetables consumption and physical activity among low-income 60-74 years olds participating in or eligible for FNS nutrition assistance programs.
- *Eat Smart. Play Hard:* resources and tools for children and caregivers that reinforce healthy eating and lifestyle behaviors that are consistent with the *Dietary Guidelines for Americans* and the MyPyramid Food Guidance System.
- *The Ad Council Healthy Campaign:* an FNS partnership with the Walt Disney Studios Home Entertainment and the Ad Council that provides FNS the use of popular Disney characters to remind parents that healthy lifestyle habits are essential for a child’s mind and body. This campaign is in English and Spanish and it provides information through radio, television, print and outdoor public service advertising.

Information Sharing and Reporting: In addition to these resources and materials, FNS continues to develop better ways to gather and share information related to education activities and to improve the planning, management, and outcomes of nutrition education activities through studies, reporting systems, and demonstration projects. For example, FNS is working with the Center for Nutrition Policy and Promotion (CNPP) through their evidence-based library initiative to compile research on model programs and strategies of target audiences participating in nutrition assistance programs. FNS also works with other agencies within USDA, including the Economic Research Service, Cooperative Extension Service, and the Agricultural Marketing

Service to ensure that education and promotion activities build upon the important research and science-based efforts of these agencies.

Leadership and Liaisons: FNS supports and serves in leadership and liaison roles for a number of external organizations including working with Department of Health and Human Services on the *Dietary Guidelines for Americans* and Healthy People 2020 Objectives, participating in the National Physical Activity Plan, the National More Matters–fruit and vegetable promotion partnership, the Partnership for Food Safety Education, local wellness policy workgroup, Action for Healthy Kids steering committee, and others. FNS also works with a variety of professional organizations such as the American Dietetic Association, School Nutrition Association, Society for Nutrition Education, National WIC Association, and other non-profit organizations.

Expanded and New Technologies: Over the past several years, FNS has strengthened and expanded online resources systems for the major nutrition assistance programs. Through the SNAP-Ed Connection, Healthy Meals Resource System, Team Nutrition online library, the WIC Works Resources System, and FDPIR NutritionTalk, FNS is able to highlight all relevant materials, resources, and best practices for broader dissemination; post current events, upcoming meetings, and the latest research findings; and better connect federal, regional, state and local program experts, researchers, providers, educators, and care givers across the country.

State-Wide Coordination: FNS encourages States to implement a State Nutrition Action Plan process to facilitate coordination and collaboration on nutrition education and promotion efforts among FNS Programs within the State. This process encourages each program in each State to work together to identify one common nutrition goal and to plan and implement an action plan to accomplish the goal. This effort has been in place for about seven years. As of 2007, 48 States had formulated a State Nutrition Action Plan. Under the leadership of CNPP, the State Nutrition Action Plan process is being updated, enhanced, and renamed the State Nutrition Action Coalition to reduce confusion with the Supplemental Nutrition Assistance Program – SNAP which was formerly called the Food Stamp Program. More details can be found at www.fns.usda.gov/oane/SNAP/SNAP.htm.

Summary and Conclusion

High obesity rates among children and adults coupled with inadequate dietary practices highlight the need to continue nutrition education efforts that promote healthy behaviors through nutrition assistance programs. Nutrition education implemented through nutrition assistance programs are but one of many factors that influence behaviors related to healthy lifestyles. These efforts must be evaluated in a broader context that includes the array of other factors that impact food choices and habits. The choices people make are influenced by where they live, learn, and play as well as the resources available to select and prepare a nutritious diet, and to be physically active.

Ensuring continued collaboration among the stakeholders involved in various programs, as well as coordination of nutrition education efforts across programs, will continue to be a priority within the agency. Such collaborations and coordination are essential components to help

leverage resources, enhance effectiveness and cost efficiency, and expand the reach of educational efforts to a variety of settings.

FNS is committed to ensuring that program benefits – school meals, WIC vouchers, and SNAP benefits – go hand-in-hand with effective, evidence-based nutrition education and will continue to promote approaches that are consistent with the Agency’s mission and program goals. Such efforts should also complement and build on the efforts within the agency, across programs and across the Federal government, as well as the other positive efforts taking place outside of the agency. The Nation’s investment in nutrition education is important to further improve diets and promote health among low-income Americans.
