

Policy Changes for a Nutrition Education Program in Maine:

Issues and Implications

by Alan Majka, Janet Fairman and Kathryn Yerxa

Food insecurity and preventable chronic disease have profound impacts on quality of life and health care costs in Maine. Many government programs have been developed to address these issues; however, effectiveness has often been limited by restrictive policies and less than optimal coordination. Alan Majka, Janet Fairman and Kathryn Yerxa draw upon research and state and national statistics to elucidate some of these programs, including their efficacy, limitations, potential and threats to their sustainability. The authors note that recent federal rule changes allow for greater impact through implementation of evidence-based strategies, yet at the same time, budget cuts in anti-hunger and preventive health programs threaten to undermine progress. Short-term savings may be outweighed in the long term by decreased academic performance in children and increased health care costs and disability as a result of chronic diseases such as diabetes.

In Maine and nationally, food insecurity and obesity continue to be important health concerns and the focus of policy. An estimated 14.9 percent (averaged from 2010–2012) of Maine households are food insecure, meaning they lack access to enough food for an active, healthy life for all household members. Maine's rate is statistically similar to the national two-year averaged rate of 14.7 percent. Food insecurity rates increased dramatically from 2007 to 2008 and have held steady since (Coleman-Jensen et al. 2013). The estimated national rate increased from 11.1 percent in 2007 to 14.6 percent of households in 2008, the highest prevalence observed since nationally representative food-security surveys were initiated in 1995 (Nord, Andrews and Carlson 2009). Food insecurity and hunger reduce quality of life and health throughout the lifespan. Food insecurity is associated with inadequate intake of key nutrients, reduced health status, chronic disease incidence and risk, diabetes, and declines in school performance and mental health (Holben 2010).

Although families with limited incomes may consume more inexpensive foods of limited nutritional value, research on whether higher rates of food insecurity

correlate with increased risk for obesity has yielded mixed results (Holben 2010). According to U.S. Centers for Disease Control and Prevention (CDC) surveys in which heights and weights were self-reported, the prevalence of overweight and obese adults in Maine has grown from 52 percent in 1995 to 64 percent in 2012. According to CDC data for 2012, Maine ranked 29th in the nation for obesity prevalence, but Maine had the highest obesity rate in the New England region. Excessive body weight is a risk factor for many chronic diseases including type 2 diabetes. Between 1995 and 2010, the prevalence of diagnosed diabetes in Maine adults rose by 117 percent, from 3.5 percent to 7.6 percent (Geiss et al. 2012). When undiagnosed cases of diabetes are included, the Maine Center for Disease Control and Prevention estimates that 11.4 percent of Maine adults had diabetes in 2010. CDC estimates that 11.3 percent of American adults have either diagnosed or undiagnosed diabetes (Geiss et al. 2012).

Food insecurity, obesity, and diabetes continue to be important health issues and policy concerns for Maine and the nation. This paper describes some key state and federal policies and programs, with emphasis

Federal policy has ... created nutrition education programs intended to improve the nutritional choices and health of people with limited financial resources.

on the Supplemental Nutrition Assistance Program (SNAP) and Supplemental Nutrition Assistance Program Education (SNAP-Ed), along with significant policy changes taking place currently. Some of the changes may negatively affect resources to address these health problems, while other policy changes have the potential to increase the effectiveness of interventions. Specifically, we discuss potential impacts and implications of reduced federal funding and policy and rule changes related to program implementation.

This paper draws on recent research and policy, publicly available data, and findings from a recent study conducted by the authors in Maine. Our goal is to illuminate issues related to recent policy changes to inform public-health policymakers and providers and to do so within a more contemporary conceptual framework that considers the need for a combination of multiple intervention approaches to significantly improve public health. That is, we argue for the use of more effective public informational and educational marketing methods in concert with policies and environmental changes that together would more significantly improve nutritional behavior and health.

FEDERAL POLICY FOR NUTRITION ASSISTANCE AND EDUCATION

The Supplemental Nutrition Assistance Program (SNAP), administered by the U.S. Department of Agriculture (USDA) Food and Nutrition Service (FNS), is the primary means through which food insecurity is addressed in America. To reflect the change from printed paper coupons to electronic benefits transfer cards, and to convey the message that the program is designed to provide temporary partial support, the name of the Food Stamp Program was changed to SNAP in 2008. The legislation that authorizes and provides funding for SNAP is The Food Conservation, and Energy Act of

2008, more widely recognized as the Farm Bill, which is currently up for reauthorization in 2013. In 2010, an estimated 75 percent of eligible Americans participated in the program (Eslami, Leftin and Strayer 2012). In fiscal year 2012, the program provided \$74 million in benefits to more than 46 million people per month (Cunnyngham 2012). This means that as many as one in seven people in the U.S. receive SNAP benefits. State participation rates vary widely, with Maine and Oregon both having the highest estimated participation rate in the nation, with close to 100 percent of eligible residents enrolled in 2010 (Cunnyngham 2012). Average monthly SNAP participation for Maine increased by almost 52 percent from 86,459 in 2008 to 131,153 in 2012 (www.fns.usda.gov/pd/34snapmonthly.htm).

Federal policy has also created nutrition education programs intended to improve the nutritional choices and health of people with limited financial resources. Beginning in 1992, FNS implemented the Food Stamp Nutrition Education Program (FSNE) in seven states. In 1993, Maine was allocated \$38,383 for FSNE. Corresponding with the 2008 name change from Food Stamps to SNAP, the name of the nutrition education program was changed from FSNE to SNAP-Ed. The purpose of SNAP-Ed is to improve the likelihood that SNAP participants and eligible low-income people will make healthy food choices within a limited budget and choose active lifestyles consistent with the current dietary guidelines for Americans and USDA food guidance. The dietary guidelines are revised every five years, with the most recent revision occurring in 2010. Subsequently, changes in the implementation rules for SNAP and SNAP-Ed in April 2013 (Federal Register, vol. 78, no. 66: 20411–20422) put greater emphasis on obesity prevention as a programmatic goal, alongside the goals of improving nutritional knowledge and health. This policy shift reflected the growing concern about rising obesity rates in the U.S.

ROLE OF STATE POLICY IN NUTRITION ASSISTANCE AND EDUCATION

The USDA provides Maine with funds for SNAP, SNAP-Ed and other nutrition-assistance and education programs including the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), Child Nutrition Programs such as school breakfast and school lunch, and the Expanded Food and Nutrition Education Program (EFNEP). To a large

extent, federal policy defines how programs will be implemented at the state level. Maine Department of Health and Human Services (MDHHS) directly manages SNAP implementation through its staff and offices. However, MDHHS awards contracts to other organizations to implement SNAP-Ed and WIC. Maine Department of Education manages Child Nutrition Programs, providing funds to schools and other entities. Federal policy specifically designates EFNEP funds for use by land grant universities' Cooperative Extension programs. In addition to USDA-funded nutrition programs, the CDC provides grants to state government and other organizations in Maine for diverse nutrition and health-related interventions.

The primary source of funding for state programs for nutrition and health is the Fund for a Healthy Maine, which was instituted through tobacco industry settlements for the purpose of funding nutrition and health interventions. However, these resources are vulnerable as state policymakers sometimes consider using the fund for other purposes, such as balancing the state budget. In 2012, the state authorized the use of these funds for obesity-prevention programs beginning in 2014. This signals a shift in state policy, similar to the federal emphasis on obesity prevention through SNAP and SNAP-Ed, which could introduce more attention and interventions to prevent obesity. There have also been attempts to target nutrition and obesity prevention through state legislation targeting public schools, but these have often failed to be enacted. Examples of recent legislative bills that were not enacted include a proposal to require daily physical activity for public school students and a proposal to encourage stronger relationships between food producers in Maine and school food programs for the purpose of increasing fresh, minimally processed, and locally grown food in schools (LD 1160; LD 1431). One reason for the limited success in obtaining state policy initiatives to target nutrition is the constrained state budget. Another reason is the lack of political consensus about how to address nutrition and obesity problems. Further, federal legislation often supersedes state legislative efforts.

IMPLEMENTING NUTRITION EDUCATION PROGRAMS IN MAINE

Prior to FSNE, the University of Maine Cooperative Extension (UMaine Extension) had successfully used a paraprofessional education model that consisted of

recruiting local community members and training them to become nutrition educators in targeted regions. The paraprofessional educators teach practical skills such as meal planning, cooking, and getting the best value when purchasing food. For several decades under EFNEP, this has been an effective approach to reaching low-income families. From 1993 until 2012, MDHHS had a cooperative agreement with University of Southern Maine (USM), Muskie School of Public Service, and UMaine Extension to implement SNAP-Ed. As a result, USM founded the Maine Nutrition Network that provided grants, technical assistance, and training to many partner organizations, including schools. UMaine Extension used the funds to expand its paraprofessional education model. A major shift occurred in 2012, when the MDHHS made the decision to put SNAP-Ed out to competitive bid and awarded funding to the University of New England (UNE). Consequently, the Maine Nutrition Network was disbanded and UMaine Extension returned to using only EFNEP funds to provide a paraprofessional-based nutrition education program with fewer staff members reaching a smaller audience.

PROGRAM IMPLEMENTATION ISSUES

In 2012, UMaine Extension and the University of Maine Center for Research and Evaluation (UMaine CRE) conducted a study that included a statewide survey of SNAP participants in Maine, a survey of individuals who had recently completed the UMaine Extension SNAP-Ed program, and a survey of paraprofessional nutrition educators. The surveys explored the levels of awareness about nutrition education programs in Maine, participation and feedback on UMaine Cooperative Extension's nutrition education programs, barriers to participation in these programs, and interest in various nutrition topics and modes of education. In this section, we describe some of the findings from the two surveys of SNAP recipients as they relate to federal and state SNAP-Ed policies. Specifically, the survey findings provide evidence of the problems of low awareness and participation in the SNAP-Ed program for which all SNAP recipients are eligible. We also discuss implications of recent federal rule changes for nutrition education programs. Specifically, we examine implementation issues related to program delivery approaches, targeting choices, and the potential of effective media campaigns.

Program Awareness and Participation Rate for SNAP-Ed

As mentioned earlier, the SNAP participation rate in Maine is very high—estimated at near 100 percent of those who are eligible. Though SNAP alone may not be sufficient to overcome food insecurity, it is a substantial source of support and the majority of people needing this assistance in Maine are participating in the program. By contrast, awareness and participation in the nutrition education program (SNAP-Ed) is low, reducing the potential to change nutritional behavior and health through information and education.

... awareness and participation in the nutrition education program (SNAP-Ed) is low, reducing the potential to change nutritional behavior and health through information and education.

In the 2012 study of SNAP-Ed, we examined public awareness and participation in nutrition education programs in Maine. As part of that study, we conducted a phone survey with 650 randomly selected SNAP recipients across the state of Maine. Many respondents (76 percent of those with children in the household) reported they had participated in WIC education, while few (4 percent of those with children in household) indicated they had participated in any other nutrition education programs in Maine. The higher participation rate in WIC is almost certainly related its integrated program enrollment and education. Although nutrition education is not a requirement for receiving WIC food benefits, it is integrated at the same time and location when applicants are certified. When interpreting the survey results, it is important to consider that only adults were surveyed in the 2012 phone survey, so children and youth who participated in nutrition education programs at school and elsewhere would not have been included. It is also

possible that some respondents may have been exposed to nutrition education without knowing or recalling the particular program source.

A major reason for the low adult participation rate in the SNAP-Ed program may be due to the lack of awareness. In the same 2012 phone survey of SNAP recipients, a majority (68 percent) indicated they were not aware of any SNAP-Ed programs in Maine. In fact, 83 percent indicated they had not heard of UMaine Extension's program. When we surveyed the 367 individuals who completed UMaine Extension's nutrition education program during the summer of 2012, 85 individuals responded (23 percent response rate) and indicated they had learned of the free nutrition education program through a wide variety of channels. Few had learned about it when they applied for their SNAP benefits. Despite the fact that MDHHS was the administrator for both SNAP and SNAP-Ed, and UMaine Extension and USM made many efforts to encourage MDHHS promotion of SNAP-Ed with SNAP participants when they visited MDHHS offices, only 2 percent of the survey respondents who had recently completed SNAP-Ed indicated they learned of SNAP-Ed at a MDHHS office where they applied for SNAP benefits. This is in stark contrast to the 100 percent of WIC applicants who are offered nutrition education at the time of application and the consequent high rate of participation in WIC nutrition education described earlier.

Improving Awareness and Participation Rates

A new USDA rule published in the Federal Register in April 2013 amends SNAP-Ed regulations. In the rule, states are "strongly encouraged to coordinate activities and collaborate with community nutrition education and obesity prevention activities such as State Departments of Health and Education implementation of related State and Federally-funded programs" (Federal Register, vol. 78, no. 66: 20416). While past initiatives resulted in some nutrition education at SNAP offices, SNAP-Ed program awareness and participation could be dramatically increased by implementing better coordination between MDHHS's SNAP program and contracted SNAP-Ed agencies. Improved collaboration between MDHHS and its contracted SNAP-Ed implementation agencies could result in nutrition education program awareness and participation rates that are closer to those of the WIC program. Moreover, since 41 percent of surveyed SNAP participants also participated in WIC, SNAP-Ed promotion by the WIC Program would likely be fruitful.

Program Effectiveness

In the survey of individuals who had recently completed their participation in UMaine Extension's SNAP-Ed program, respondents consistently indicated a high level of satisfaction with the program and its impact on their nutrition knowledge and choices. When asked how satisfied they were with UMaine Extension's SNAP-Ed program, 96 percent of the respondents reported they were either "very satisfied" or "satisfied." When asked how useful the program was to them, 92 percent said it was either "very useful" or "useful." All respondents said they would recommend the program to a friend. Respondents also indicated they had learned many useful things about nutrition. For example, 42 percent indicated that learning how to plan nutritious meals was the most useful thing they had learned. In open-ended comments, respondents said they had improved their awareness of nutrition, ability to select and prepare healthy foods, and awareness of ways to maintain a healthy weight. In an analysis of routine program evaluation data, adult participants reported diets averaging approximately 100 fewer calories per day after completing the SNAP-Ed program. This is equivalent to approximately 10 pounds of body weight over the course of a year.

Program Delivery Approaches to Nutrition Education

There are many possible approaches for promoting the goals of healthy food choices and an active lifestyle for those with a limited budget. In the past, federal rules for SNAP and SNAP-ED precluded some of the most promising evidence-based methods in favor of more traditional forms of education. For instance, media campaigns that disseminated information broadly were discouraged because some ineligible groups would receive the messaging. Moreover, efforts to affect nutritional health through policy and environmental contexts were not considered as acceptable SNAP-Ed expenditures.

A growing consensus among health-intervention experts supports the idea of using multiple approaches to address public health problems, based on evidence that simply providing information or education to the targeted individuals is the least effective way to motivate people to change their behavior (Frieden 2010). In recent years the "health impact pyramid" has been used as a conceptual model to illustrate the range of more effective approaches to improving population

health (along the broader base of the pyramid) to less effective approaches (closer to the top of the pyramid). Broadly, there is agreement that the most effective means for changing health behavior and outcomes for the largest number of people is to target the socioeconomic factors that contribute to poverty and nutritional vulnerability. After this, changes in policies and environmental factors are also highly effective. Examples of policies to improve nutritional choice and health include mandatory food labeling to identify artificial trans fat in food, or banning the sale of soda in schools. Examples of changing food, nutrition, and fitness environments include locating healthier foods in more prominent locations in schools, homes, or grocery stores; limiting or banning advertising for soda and candy in schools; making more nutritious ready-to-eat snacks available; and developing public paths and greenways for walking, running, and biking.

The chief difficulty in targeting a problem through addressing socioeconomic factors or policy or environmental change is mustering the political will and agreement on how precisely to pursue these types of change (Frieden 2010). More palatable change can often be achieved through targeted health interventions and treatments (middle of the pyramid model). However, these approaches are somewhat less effective in changing behavior and health and reach fewer people than the broader approaches. Finally, informational or educational efforts, though easier to implement, are only effective for those who are motivated and receptive.

Based on the input of the CDC, the Institute of Medicine, and stakeholders, the new USDA rule's definition for SNAP-Ed education was recently changed to encourage states to use a broader range of educational strategies that include environmental and policy change. In addition, restrictions on inadvertently reaching ineligible audiences through the use of broad public information and media campaigns were loosened. SNAP-eligible populations must still be the intended audience for media campaigns; however, federal rules will no longer disallow a campaign because it may inadvertently reach those who are ineligible. These federal rule changes hold promise for increasing awareness and participation in nutrition education programs.

Due to federal restrictions previously in place, USM and UMaine Extension focused the majority of efforts on traditional education methods designed to increase nutrition knowledge and skills. This approach assumed

program awareness, availability, and accessibility. It was also based on the premise that interest, motivation, and behavior may change as a result of improved knowledge and skills. As findings from the 2012 statewide survey of SNAP recipients indicated, there was low adult participation in, or even awareness about, any nutrition education programs including SNAP-Ed.

Once adults are aware of nutrition education opportunities and are motivated to take advantage of them, there are many ways in which education and information may be delivered. Adult SNAP participants who responded to our survey indicated “something to read sent through the mail” was by far the most preferred method to receive nutrition information (76 percent of respondents). In this population, Internet videos and reading, email, texting, and social media were selected far less often, even among those who were 18 to 29 years of age (< 1–21 percent selected these forms of information). While some general educational materials have been mailed broadly to all Maine SNAP households, and UMaine Extension offered a mail correspondence course, targeted materials developed through market research to appeal to specific segments of the SNAP population could be sent through the mail. For instance, printed materials designed for families with young children may not be appropriate for older Americans without children in the home. This would be a relatively inexpensive way to reach a larger portion of the eligible audience with effective materials. Mailings could also be used to increase awareness and recruit more participants for classes to develop cooking and shopping skills.

An important targeting issue in the implementation of SNAP-Ed is whether direct education is delivered to children and youth in a school setting, or whether it is targeted towards those who are responsible for food selection and preparation in the home. Schools are often selected because children are a more vulnerable population, and it’s easier to reach students while they are at school than it is to attract parents and caretakers to participate in educational programs. While children consume much of their food and beverages at school, and they have some influence on parents and caretakers, more calories from added sugars are consumed at home rather than away from home (Ervin et al. 2012) and excessive calories from added sugars are primary causes of obesity. Perhaps the new federal SNAP-Ed policies will have greater influence on the

nutritional environment and practices in the home, thereby having a greater impact on child nutrition.

Potential of Media Campaigns to Increase Participation in SNAP-Ed

Given the recent federal rule changes for SNAP-Ed that lift restrictions on reaching ineligible audiences, it is possible to make more use of media campaigns. Media campaigns can increase awareness of the importance of nutrition and motivate people to learn and take action. Once an individual is interested and motivated, a more traditional educational program can be effective in providing the knowledge and skills that a person needs to make positive behavioral changes. An example of this approach is Maine CDC’s highly effective anti-smoking campaign that uses emotion-based television messages to get viewers’ attention and motivate smokers to quit, while at the same time referring them to a tobacco-quit hotline where they may access the tools they need to stop smoking. The new less restrictive SNAP-Ed rule permits and encourages the same level of coordination and sophistication. Overall, the rule changes allow for broad dissemination of nutrition information using communication strategies that have more potential to interest people and motivate them to engage in nutrition education, and subsequently change their eating behaviors.

IMPLICATIONS OF PROGRAM FUNDING CHANGES

The preceding sections described both positive and negative aspects of state and federal policy changes related to SNAP and SNAP-Ed implementation rules. Another major aspect of nutrition health policy centers on decisions about funding for these programs. As described earlier in this paper, the participation rate in SNAP rose significantly in 2007 and has remained fairly steady. There is ample evidence that hunger and poor nutritional health continue to be widespread health concerns in Maine and nationally. Similarly, participation in nutrition education programs through SNAP-Ed in Maine has increased dramatically since its inception. Despite the continued high need for these programs, significant reductions in funding have been proposed for SNAP and adopted in law for SNAP-Ed.

Congressional debate over the reauthorization of SNAP in 2013 has resulted in initial proposals to cut

between \$1.4 and \$40 billion from the program over a 10-year period. The funding reduction of \$40 billion would reduce the average monthly benefit that a family of four would receive by approximately \$36, or almost \$400 per year (Dean and Rosenbaum 2013). The current monthly SNAP supplement is considerably less than most households spend per week for groceries.

The funding cuts to SNAP would severely reduce resources for seniors and families to obtain food, leading to increased food insecurity and hunger and greater reliance on foods of minimal nutritional value. In 2011, 83 percent of SNAP benefits went to households with a child, elderly, or disabled person. One assessment of the potential impact of the proposed SNAP funding cuts estimated that five million people could lose their eligibility for SNAP, and that increased levels of poverty and hunger could result in an increase in health problems for adults and children (Health Impact Project 2013). According to the recent assessment, the health consequences could include increased rates of obesity, heart disease, high blood pressure, and diabetes for adults and an increase in various physical and mental health problems and rates of hospitalization for children. Poor nutritional health among young children could produce more problems with developmental health and learning deficits (Rausch 2013). The financial consequences of increased health problems among low-income populations would also have a negative impact on state and federal health expenditures.

In addition to the increased health problems and health care costs, increased levels of hunger could also have negative implications for adult work performance and productivity along with learning and academic performance for youth. Students who attend school hungry and with poor nutritional health have trouble concentrating and learning and perform lower on educational assessments (Bogden, Brizius and Walker 2012; Health Impact Project 2013; Rausch 2013).

Nutrition education funding has also been targeted for funding cuts. The American Taxpayer Relief Act of 2012 (H.R. 8) reduced the funding available for SNAP-Ed to Maine in fiscal year 2013 by almost 28 percent (from \$5,599,956 to \$4,050,729).

This substantial reduction in funding has resulted in fewer resources, staff, and services to support nutrition education and diabetes prevention programs in Maine. The resulting impact can only be negative for the eligible low-income families and seniors who want to learn how

to obtain nutritionally sound meals, adopt a healthier lifestyle, and reduce their risk of diabetes. Again, there are potential negative health impacts from reduced SNAP-Ed funding including reduced nutritional health, increased incidence of diabetes, and decreased performance at work and school.

While there may be short-term fiscal savings from the funding reductions proposed for SNAP and adopted for SNAP-Ed, these savings may be overshadowed by higher costs over the long term for health care, disability, and reduced learning achievement. For example, the

[The] substantial reduction in [federal] funding has resulted in fewer resources, staff, and services to support nutrition education and diabetes prevention programs in Maine.

long-term economic cost of treating obesity in adults will be greater if the incidence of childhood obesity is not reduced (Gabe 2012). Economic costs of medical care and reduced worker productivity associated with the epidemic of overweight and obese conditions has been estimated at \$2.5 billion for Maine (Chenoweth Associates 2006) and nearly \$300 billion for the U.S. and Canada (Behan et al. 2010).

One positive policy change that occurred through the new SNAP-Ed rules is the elimination of the requirement for states to commit matching funds to obtain federal funding. The amount of SNAP-Ed funds UMaine Extension could accept in the past was limited by the amount of non-federal matching funds that could be raised. The recent rule change reduces the burden to states in their application for federal funding and could result in increased federal funding to states and increased numbers of people served by nutrition education programs.

CONSIDERATIONS FOR POLICY

In this paper we have described state and federal policies that target food insecurity, nutrition knowledge,

and obesity. Some of the recent policy decisions may negatively affect the ability to serve those in most need of nutrition assistance and education in Maine. The reductions in federal funding that have been proposed for SNAP and that have been approved for SNAP-Ed have the potential for increasing food insecurity, hunger, and both short-term and long-term negative health impacts and costs, along with having other negative effects on productivity and academic performance.

Other policy changes, such as changes in the federal SNAP-Ed implementation rules, provide more reason for optimism. The federal rule changes have eliminated the need for state matching funds to receive federal funding for SNAP-Ed, making it easier for states to use allocated federal funding for this program. The rule changes also encourage increased levels of cooperation and coordination among state agencies and service providers, which could improve program recognition, participation, and impact. Further, the federal rule changes give states more flexibility in how they use SNAP-Ed funds to address nutrition education. Finally, the new rules urge states to move away from a heavy reliance on information dissemination and traditional education alone that may reach a small percentage of those in need, to a more comprehensive and multi-level approach that includes policy change and transformation of food and fitness environments to effect more significant improvement in nutritional and fitness outcomes for a larger segment of the population.

While the federal SNAP-Ed rule changes provide greater flexibility to states, much will depend on how state policymakers use this opportunity to develop and implement more effective approaches to address nutritional health. Some effective models used in other programs could improve SNAP-Ed awareness, participation, and impact. The WIC program uses a model that coordinates both program benefits and education components at the time and place of initial enrollment. Maine and other states could use a similar, coordinated approach for SNAP-Ed. Additionally, effective public messaging has been used in anti-smoking campaigns to change public attitudes about smoking and to motivate change in behavior through emotional appeals. States could use marketing research to identify messaging strategies that have the greatest potential to encourage better nutritional and physical activity behaviors and increase participation in nutrition education programs. Further, states can use more sophisticated technology and marketing tools to get their messages out to the broader

public. States could also improve program visibility and public awareness by developing more uniform branding and marketing for SNAP-Ed across the states.

Maine and other states can now make use of a broader range of policy tools and approaches to address the problems of hunger, poor nutrition, and obesity. SNAP-Ed funds may be used to encourage local policies to improve access to healthful foods in schools, workplaces, and other community sites that serve SNAP-eligible populations. Efforts to improve the food and fitness environments can also be pursued at multiple levels. Traditional methods for evaluating the success of the SNAP-Ed program have focused on tracking the number of people served rather than measuring positive impacts on nutritional health and fitness. A better approach, however, would be for states to collect data to more closely monitor the effectiveness in attaining program goals. This would allow states to continually reassess how effective their strategies are and to improve the policy tools they are using.

We encourage policymakers to support continued funding of SNAP, SNAP-Ed, and other programs designed to reduce food insecurity while improving nutritional quality of diets, and consequently, health and academic performance. Short-term savings resulting from funding cuts will likely be far less than long-term costs associated with chronic disease and lowered academic achievement. Furthermore, we suggest that policymakers encourage program managers to take full advantage of recent federal rule changes that allow for greater impact through implementation of evidence-based strategies. 

REFERENCES

- Behan, Donald, Samuel Cox, Yijia Lin, Jeffrey Pai, Hal Pedersen and Ming Yi. 2010. *Obesity and Its Relation to Mortality and Morbidity Costs*. Society of Actuaries, Schaumburg, IL.
- Bogden, James, Martine Brizius and Elizabeth Walker. 2012. *Fit, Healthy, and Ready to Learn: A School Health Policy Guide*. National Association of School Boards of Education, Arlington, VA.
- Chenoweth and Associates, Inc. 2006. *A Lifestyle We Can't Afford: How Physical Inactivity and Excess Weight are Costing Maine Billions of Dollars*. Chenoweth and Associates, New Bern, NC.

Coleman-Jensen, Alisha, Mark Nord and Anita Singh. 2013. Household Food Security in the United States in 2012. Economic Research Report No. 155. Economic Research Service, U.S. Department of Agriculture, Alexandria, VA. www.ers.usda.gov/publications/err-economic-research-report/err155.aspx [Accessed Sept. 18, 2013]

Cunnyngham, Arene. 2012. Reaching Those in Need: State Supplemental Nutrition Program Participation Rates in 2010. Mathematica Policy Research, Washington, DC.

Dean, Stacy, and Dottie Rosenbaum. 2013. SNAP Benefits Will Be Cut for All Participants in November. Center on Budget and Policy Priorities, Washington, DC. www.cbpp.org/cms/index.cfm?fa=view&id=3899 [Accessed October 18, 2013]

Ervin, R. Bethene, Brian Kit, Margaret Carroll and Cynthia Ogden. 2012. Consumption of Added Sugar among U.S. Children and Adolescents, 2005–2008. NCHS Data Brief No. 87. National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Washington, DC. www.fns.usda.gov/pd/15SNAPpartPP.htm [Accessed September 18, 2013]

Eslami, Esa, Joshua Leftin and Mark Strayer. 2012. Supplemental Nutrition Assistance Program Participation Rates: Fiscal Year 2010. Food and Nutrition Service, USDA, Alexandria, VA.

Frieden, Thomas. 2010. "A Framework for Public Health Action: The Health Impact Pyramid." *American Journal of Public Health* 100(4): 590–595.

Gabe, Todd. 2012. Medical Costs of Childhood Obesity in Maine. School of Economics Staff Paper 603, University of Maine, Orono.

Geiss, Linda, Yanfeng Li, Karen Kirtland, Lawrence Barker, Nilka Burrows and Edward Gregg. 2012. "Increasing Prevalence of Diagnosed Diabetes: United States and Puerto Rico, 1995–2010." *Morbidity and Mortality Weekly Report* 61(45): 918–921.

Health Impact Project. 2013. Health Impact Assessment of Proposed Changes to the Supplemental Nutrition Assistance Program. Robert Wood Johnson Foundation and Pew Charitable Trusts, Washington, DC. www.healthimpactproject.org/resources/body/Health-Impact-Project-Farm-Bill-SNAP-white-paper-07-30-13.pdf [Accessed September 30, 2013]

Holben, David H. 2010. "Position of the American Dietetic Association: Food Insecurity in the United States." *Journal of the American Dietetic Association* 110(9): 1368–1377.

Nord, Mark, Margaret Andrews and Steven Carlson. 2009. Household Food Security in the United States, 2008. Economic Research Report No. 83. Economic Research Service, U.S. Department of Agriculture, Washington, DC.

Rausch, Rita. 2013. "Nutrition and Academic Performance in School-Age Children: The Relation to Obesity and Food Insufficiency." *Journal of Nutrition and Food Science* 3(2): 190. doi:10.4172/2155-9600.1000190



Alan Majka is an associate extension professor at the University of Maine Cooperative Extension. He is a registered dietitian who has worked throughout his career to address chronic disease prevention and care, as well as food insecurity, particularly in underserved populations including Native Americans in Maine and migrant farmworkers in Florida.



Janet Fairman is an associate research professor in the Center for Research and Evaluation, University of Maine. She has a master's degree in public policy and a doctorate in educational policy. Her expertise includes research design, program evaluation, and education research.



Kate Yerxa is a registered dietitian and assistant extension professor at the University of Maine Cooperative Extension. She works on childhood obesity prevention and community nutrition education with the goal of chronic disease prevention. Her research focuses on quality of life of participants and paraprofessionals in Expanded Food and Nutrition Education Program (EFNEP).