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Poor Nutrition Amidst Plenty

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Good Food For All

A Maine food system should be durable, resilient, sustainable, and most importantly healthy and affordable. All Maine people deserve access to good food, but unfortunately this is not the case. Hunger and food insecurity is on the rise in Maine as are increases in obesity, heart disease, and diabetes, all linked to food choices. Old and young, immigrant and native, rural and urban—Mainers are experiencing a food emergency made graver by the economic recession and rising health costs. Federal, state, and local policies and programs are helping to some extent, but if we are to keep Maine healthy and productive for the long term, re-envisioning and reprioritizing good food and access to it must be the centerpiece. Authors in this section provide the context to this growing food and health crisis. Dora Anne Mills writes about “poor nutrition amidst plenty,” its causes, consequences, and the programs and policies that address it. Gus Schumacher, Michel Nischan and Daniel Bowman Simon provide a history and overview of federal efforts, especially food supplement programs. Donna Yellen, Mark Swann and Elena Schmidt discuss hunger in Maine, focusing on private efforts to alleviate it. Michelle Vasquez Jacobus and Reza Jelali present a case study of challenges to food access among African immigrants in Lewiston, Maine and Kirsten Walter discusses Lewiston’s community food assessment. 

Poor Nutrition Amidst Plenty

By Dora Anne Mills

If malnutrition is like an iceberg, as one authority has suggested, and its greatest mass and greatest danger lie beneath the surface, then it is time for us to look beneath the surface for its hidden signs and causes and to do something about it (Steibiling 1941: 26).

This quote from the U.S. Department of Agriculture (USDA) report on nutrition in the U.S. in the mid-1930s is as appropriate today as it relates to poor nutrition as it was nearly 70 years ago related to malnutrition.

Indeed, it takes looking back several decades to see how poor nutrition has evolved to contribute to the leading causes of illnesses and death today. A century ago, our biggest causes of death in Maine were tuberculosis, pneumonia, diarrhea, and other infectious diseases such as measles and smallpox. By contrast, in recent years nearly three-quarters of Maine people die from four chronic, and for the most part, preventable diseases—cardiovascular disease (heart disease and stroke), cancer, chronic lung disease, and diabetes. Many of these deaths are premature and are preceded by years of illness and disability. All four of these diseases share three factors as major underlying causes: tobacco addiction, physical inactivity, and poor nutrition.

My focus here is on poor nutrition: its causes, consequences, and the programs and policies that can address it. This article draws on and includes some of the material in an article I wrote for *Maine Policy Review* in 2004, with updated figures and other information (Mills 2004). The indicators of poor nutrition since the 2004 article have, if anything, gotten worse. However, as we shall see, there are hopeful developments in policies and practices that may be able to

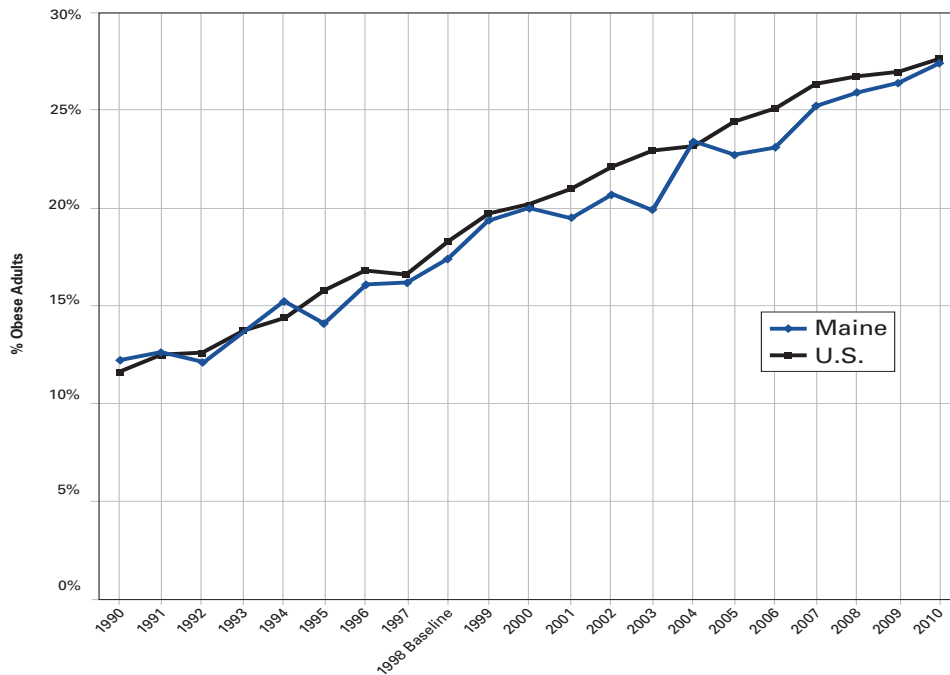
reverse these trends. The breadth of work being done since I wrote my 2004 article is impressive, as many of the examples presented here will attest.

When we contrast the lives of our ancestors here 100 years ago, it is easy to see why we face this epidemic of chronic diseases. One hundred years ago, people labored much of their day on farms, and children walked to and from school. Our tables were graced with locally grown produce. Today, one in five is addicted to tobacco; our communities are built for cars; our primary activity while at work or school is sitting; and our tables are filled with many fatty processed foods and sugary drinks, almost all of which would not be recognized by those living 100 years ago. It is fairly easy, then, to see how the changes over the last century in these three main underlying roots have led to this chronic disease epidemic.

Although this article focuses on poor nutrition, it is important to place this health issue in the overall context of the epidemic of chronic diseases of cardiovascular disease, cancer, chronic lung disease, and diabetes. These diseases are the leading causes of disability, hospitalization, premature death, and account for about three-quarters of all direct health care costs in this country (Maine CDC 2002; DeVol and Bedroussian 2007).

It is only by addressing the underlying causes such as poor nutrition that we can all live longer and healthier lives and our health care costs will become more affordable. With modest improvements in nutrition, and in resulting obesity and obesity-related illness, within 10 years the U.S. could gain \$254 billion in productivity and \$60 billion in avoided health care costs annually. In fact, the Milken Institute's economic analysis on chronic diseases in the U.S. states, "we find

With modest improvements in nutrition, and in resulting obesity and obesity-related illness, within 10 years the U.S. could gain \$254 billion in productivity and \$60 billion in avoided health care costs annually.

FIGURE 1: **Obese Adults, Maine and the United States, 1990–2009**

Source: U.S. CDC, Behavioral Risk Factor Surveillance System, Prevalence and Trends Data, Overweight and Obesity (BMI)

that the single most important way to reduce the burden of disease and reduce costs to society is to reduce obesity⁹ (DeVol and Bedroussian 2007: 22). Addressing poor nutrition and physical inactivity are the two strategies they suggest to reduce obesity.

FROM MALNUTRITION TO POOR NUTRITION

Throughout most of American history, the main nutrition concern has been malnutrition as a consequence of insufficient consumption of nutrients and/or calories. A USDA survey of American families in the mid-1930s showed one-third had poor diets consisting of insufficient amounts of nutrients (such as iron) and calories (Steibiling 1941). In 1955 this improved down to 13 percent (USDA ARS 1955).

Both surveys noted the strong association between income and diet, with those living at higher incomes having significantly better diets than those living at lower incomes. Both surveys also noted the common

finding of malnutrition among Blacks, including a large majority of Black families surveyed in the 1930s. The entire emphasis of concern in these survey findings was on insufficient nutrients and calories. Nowhere do the reports mention obesity or overweight as a concern. A 1965 survey, however, showed an increase in the proportion of families with poor diets, from 13 to 21 percent (USDA ARS 1972). This increase was noted to be mainly from a reduction in consumption of fruits and vegetables along with increased consumption of sugary drinks such as soda and punch. It seems these were some early warning signs of the obesity epidemic to come!

CAUSES OF POOR NUTRITION

Although there are many underlying psychosocial, emotional, and genetic factors that may contribute to poor nutrition and resulting overweight or obesity, the main biological

reason is that as individuals and as a society, we are consuming too many calories and not expending enough of them.

As mentioned earlier, over the last century we have exchanged a dinner table with mostly locally grown produce and meats for a table with many mass-produced and processed foods that often have added fats and sugars, and are often much more cheaply and easily available than fresh produce. Instead of being filled with milk and water, our glasses are more likely to be filled with a variety of sweetened beverages, again, often more cheaply available than milk. Data indicate we are consuming more and too many calories. How has the type of calorie consumed changed in recent years? Nearly 90 percent of our increased caloric intake is due to a higher consumption of carbohydrates and fats (Putnam, Allshouse and Kantor 2000).

Although many factors help explain the increasing rates of poor nutrition in the U.S., several have been studied and/or well-documented. One—increasing

portion sizes—is evident both at home and in eating establishments. There is easy availability of inexpensive high-calorie foods; an increasing variety of palatable foods; increasing sizes of food units (such as the larger size of an average cookie, muffin, or bagel); and an increase in the number of meals and calories eaten outside of the home. Soda consumption also appears to be a major contributing factor to poor nutrition, especially among youth.

Over the past 20 years, 1990–2010, obesity rates in Maine have increased by at least 100 percent in every adult age category. In fact, 72 percent of Maine adults ages 55–64 are now self-reported to be overweight or obese, making this now the age group with the highest proportion of overweight or obese (www.cdc.gov/brfss/index.htm). The upward trend in adult obesity is also evident in the United States as a whole (Figure 1).

Like adult obesity rates, youth rates have increased to epidemic proportions. For instance, in just 20 years, the national rate of overweight children doubled, while the rate of overweight teens tripled (Ogden and Carroll 2010). These youth and adult rates are all self-reported, and the true rates are felt to be higher by several percentage points, given that most report their weight as less than actual measured and height as more than actual measured.

Although current Maine data on specific factors associated with overweight youth are limited, national data indicate that children with a high body mass index often share some characteristics: either one or

both parents are overweight or obese; they live in smaller families; they live in poor families; they watch a lot of television; and they consume a high proportion of calories from fat (USDA CNPP 1999). Other data also confirm that children's obesity levels rise as the household income decreases and as head of household education levels decreases (Ogden et al. 2010).

The sidebar presents some of the key nutrition indicators for Maine and the U.S., including obesity rates, consumption of fresh fruits and vegetables, and the role of income, education, and gender.

It is critical to note the high prevalence of food insecurity and the impact of low income on poor nutrition. In 2009, 15 percent of households in the U.S. and in Maine were food-insecure, meaning they did not have sufficient resources to purchase sufficient food.

CURRENT STATUS OF NUTRITION IN MAINE AND THE U.S.

Nationally

- 64 percent of adults are either overweight or obese (36 percent overweight, 27 percent obese); 36 percent are neither overweight nor obese.
- 28 percent of high school students are overweight or obese.

Eat at Least Five Servings of Fruits and Vegetables Daily:

- 21 percent of high school students.
- 23 percent of adults.
- Income matters: 21 percent low income; 25 percent higher income.
- Education matters: 18 percent less than high school diploma; 28 percent college degree
- Gender matters: 19 percent men; 28 percent women.

Maine

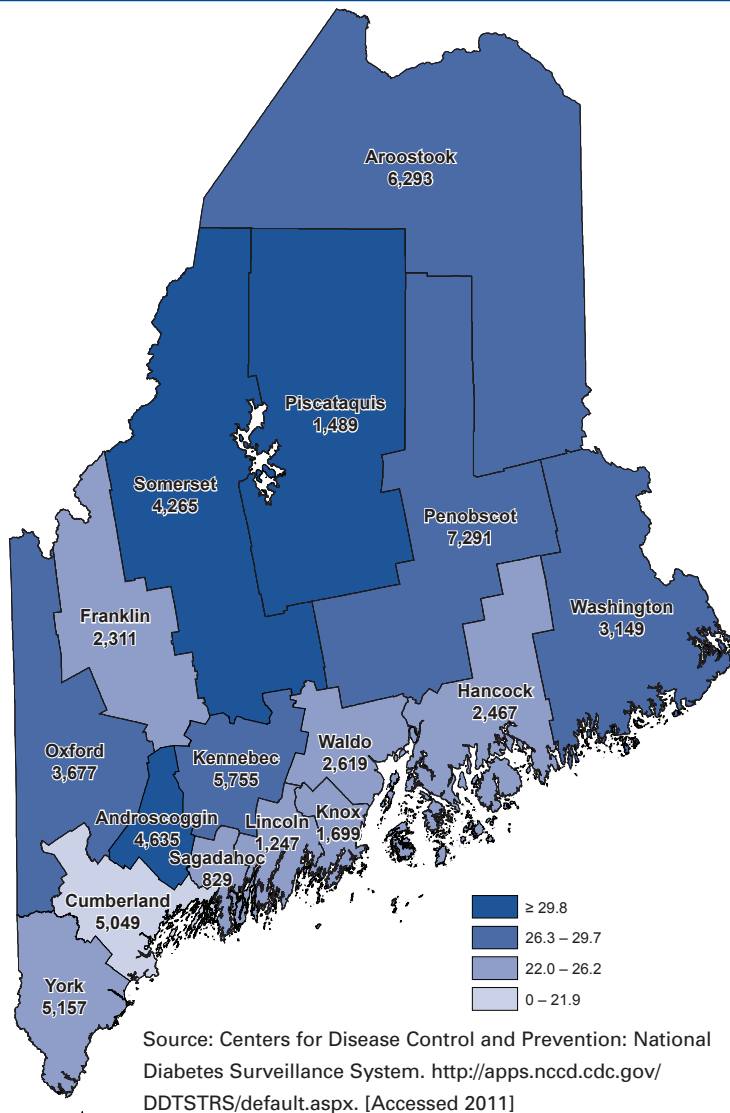
- 64 percent of adults are either overweight or obese (38 percent overweight, 26 percent obese); 36 percent are neither overweight nor obese.
- 28 percent of high school students are overweight or obese.
- Has some of the highest rates in the nation of cancer and respiratory diseases.

Eat at Least Five Servings of Fruits and Vegetables Daily:

- 20 percent of high school students.
- 28 percent of adults.
- Income matters: 22.7 percent low income (<\$15,000 annual income); 31 percent higher income (>\$50,000 income).
- Education matters: 22 percent less than a high school diploma; 35 percent college diploma.
- Gender matters: 21 percent men; 34 percent women.

Sources: Eaton et al. 2008; <http://www.cdc.gov/healthyyouth/>

FIGURE 2: Percentage of Obese Adults in Maine 2008, by County



The USDA finds Maine to have the highest rate of food insecurity in New England (USDA ERS 2011). Sixty years ago this meant that the food insecure were likely at risk for malnutrition and underweight. Today, however, because many inexpensive foods tend to have higher, though not nutritional, calories, people with food insecurity are often at risk for poor nutrition and obesity as well as for malnutrition and underweight. Indeed, as noted in the sidebar, Maine obesity rates for those with low incomes (<\$15,000) are higher at 34

percent, compared with 25 percent for those with higher incomes (>\$50,000).

At first glance there appear to be large differences in the rates of overweight and obese adults among geographical regions, with lower rates in southern Maine. (See Figure 2, which includes age-adjustment.) However, when these rates are adjusted for income as well as age, these differences are reduced. Therefore, one major factor accounting for geographical differences in obesity is poverty.

HEALTH IMPACT OF POOR NUTRITION

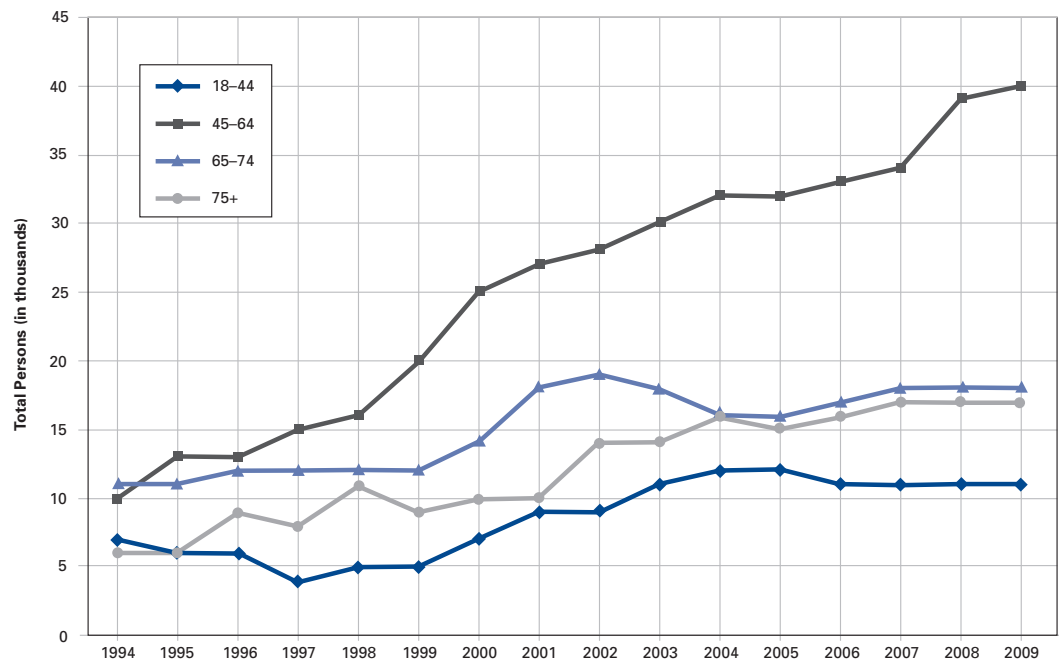
Poor nutrition leading to obesity has quickly become a leading cause of disease, disability, and death in Maine and the U.S. In fact, from 1990 to 2000 physical inactivity and poor nutrition have nearly caught up with tobacco as the leading underlying causes of death in the U.S., causing almost one in five deaths (17 percent), compared with tobacco, which is estimated at 18 percent (Mokdad et al. 2000).

Being overweight or obese is associated with a myriad of diseases, from pregnancy complications to lung problems to heart disease. There is not an organ system that obesity does not affect. The higher one's body mass index, the higher is one's risk for disease, disability, and premature death. Obesity also significantly impairs quality of life (Fontaine and Bartlett 1998). Being overweight or obese is even associated with the risk of death from cancer (Calle et al. 2001).

Indeed, we are seeing increases in many of these diseases concurrent with the unfolding of this overweight/obesity epidemic. For example, the number of people in Maine diagnosed with diabetes has more than doubled during the past 15 years, from an estimated 33,000 in 1994 to more than 87,000 in 2009. The vast majority of these are type 2 diabetes, which is associated with obesity. Figure 3 shows the incidence of type 2 diabetes in Maine, by age group, which shows an alarming quadrupling of the number of people in the 45–64 age group with diabetes from 1994 to 2009.

Poor nutrition, particularly overweight/obesity, not only has a profound impact on overall health, but also is placing a burden on the national health bill—costs we all pay. Here in Maine, it is estimated that we spend about \$1.0 billion in health care dollars to pay for

FIGURE 3: Maine Adults with Diagnosed Diabetes, by Age, 1994–2009 (in thousands)



Source: Centers for Disease Control and Prevention: National Diabetes Surveillance System. <http://apps.nccd.cdc.gov/DDTSTRS/default.aspx>. [Accessed May 29, 2011]

obesity-associated diseases. Adult obesity in Maine is estimated to incur direct costs of at least 11 percent of the state's Medicaid expenditures, or roughly \$150 million per year. This is a conservative estimate when one considers that it relies on 1998–2000 data and that it only analyzes adult obesity, not overweight adults and not youth (who comprise a large proportion of the Medicaid population) (Finkelstein, Fiebelkorn and Wang 2004; Bureau of Health, Maine Department of Human Services 2003 estimates).

OVERALL POLICY CHALLENGES TO POOR NUTRITION

Obesity and poor nutrition are one of the most complex health issues of our time since they are interwoven throughout the fabric of society. Although there is much emphasis on the role of personal responsibility, as with most significant and complex public health issues, the environments in which we live, work, play, and attend school contribute heavily to the problem. Therefore, effective solutions will require a balance of personal along with societal responsibility.

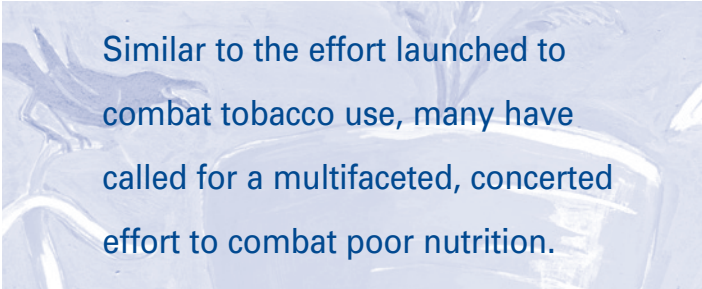
The impact of such societal changes cannot be understated. As leading nutrition experts have stated, “when it comes to obesity, our society’s environment is ‘toxic’” (Nestle and Jacobson 2000: 18). For many, especially those at highest risk, it is nearly impossible to effectively create environments that would support healthy eating and weight loss. For instance, they may have little flexibility and opportunities for eating healthily at their workplace; they may not have the funds to purchase enough fresh fruits and vegetables, especially in the winter; and they may not know how to or have the time to shop for and cook healthy foods.

As we enter the demographic explosion of elders, creating communities that promote healthy aging becomes even more important, especially for a state like Maine, with the oldest median age in the country and with one of the largest proportions of people age 65 and older. For seniors, maintaining a healthy weight and eating well are critical strategies for healthy aging, even if these strategies are started during the elder years.

Thus, there is a wide breadth of social responsibility needed to effectively address poor nutrition. It will take many sectors of society working together to have a substantial impact. For instance, our health care system needs to fully recognize that being overweight or obese is a sign of poor nutrition and a disease to be screened for and treated using similar strategies to those used for cancer and heart disease. Places that serve elders, our workplaces, and our schools need to help to provide easier opportunities for good nutrition. Social norms need to be changed making it more

acceptable to ensure healthy foods are always available at social and group-eating situations.

Similar to the effort launched to combat tobacco use, many have called for a multifaceted, concerted effort to combat poor nutrition. One analysis concluded, “given that such spending [obesity-related] now rivals spending attributable to smoking, it may be increasingly difficult to justify the disparity between the many interventions that have been implemented to reduce smoking rates and the paucity of interventions aimed at reducing obesity rates” (Finkelstein, Fiebelkorn and Wang 2003: 225).



Similar to the effort launched to combat tobacco use, many have called for a multifaceted, concerted effort to combat poor nutrition.

A number of experts are calling for a return to locally produced foods with an emphasis on a plant-based diet. In many ways this is an ideal strategy and a needed win-win for the agricultural economy, our environment, and our health. Researchers from Massachusetts Institute of Technology and Columbia University have proposed a regional approach, called “foodsheds,” much like watershed designations. Each area of the country would have a designated area it would obtain much of its food from, thus reducing transportation and other costs associated with centralized agriculture (Dizikes 2009).

Food Safety

Along with the call for a rebirth of locally grown food, some have also called for a loosening of food and sanitation codes. However, we also want to make sure food is safe, whether it is produced locally or centrally. Food- and water-borne illnesses were a major killer 100 years ago, and still are today, especially in developing countries. More than 200 illnesses are known to be transmitted through food, and every year in the U.S., one in six Americans will get sick and 3,000 will die

from foodborne diseases (www.cdc.gov/foodsafety). The recent severe *E. coli* outbreak centered in Germany is a reminder of how deadly and widespread foodborne illnesses can be, even in modern, Western societies.

The U.S. Food and Drug Administration (FDA) and state food codes have likely saved millions of lives over the years. Advocates for loosening the codes for local agriculture have some valid points, however. Some of these codes were developed with large industries in mind, and there are often several agencies administering different codes to the same business. As a result, much streamlining and improvements for local agriculture can likely be done. However, it is also necessary to make sure public health principles are adhered to. For example, in 2010 a bill was introduced in the Maine legislature to allow baked goods to be sold in farmers’ markets unpackaged and uncovered. Some supporters of the bill scoffed at the idea that flies landing on such baked goods are a health threat. Yet, flies are a well-known transmitter of disease to human beings because of their predilection for landing on excreta and on food and picking up and transmitting harmful microbes from one to the other (Nichols 2005). While many raw foods can be (and should be) washed before eating, thus rinsing off such microbes, baked goods cannot. The bill passed into law, despite concerns about public health that were expressed (Maine Revised Statutes Title 22, Chapter 551, § 2174). This bill seems to be a good example of how a balance should be met, one that fully supports local agriculture for both the economic and health benefits, but one that also does not toss out public health principles that protect us from so many diseases that plagued our ancestors and millions across the world today.

Food Costs

The cost of food is a complex issue that also needs to be addressed if the epidemic of poor nutrition is to be successfully dealt with, especially for those living in poverty. For a consumer, high-calorie foods with less nutritional value often cost less than more nutritional foods. One study found that a dollar buys 1,200 calories of potato chips, 875 calories of soda, and just 250 calories of vegetables or 170 calories of fresh fruit (Townsend et al. 2009). If someone is hungry and only has \$4 in their pocket, in some quick service restaurants they can buy a \$4 salad or four \$1 ham-

burgers. A perusal of a local grocery store's weekly flyer shows a package of hot dogs and a package of rolls can be purchased for \$3. Alternatively, a bag of salad can be purchased for the same amount of money. In general, high-calorie, highly processed foods that offer less nutritional value are often much cheaper per meal than more nutritious foods (Drewnowski 2010). And, the latter often entail more time and effort to prepare, something that stressed families living in poverty often do not have. For instance, chopping and cooking vegetables and cooking beans and rice take more time and effort than boiling hot dogs or eating a meal at a quick service restaurant. The reasons behind these differences in costs of foods are complex and include government policies that subsidize certain agricultural industries such as those that produce corn.

Many people are now promoting the idea of looking at the true costs of the foods we eat. For instance, when one factors in such items as the types of fertilizer (petroleum-based fertilizers are used on many industrial farms), the concentrated animal feeds, handling the massive amounts of animal waste found on industrial farms, the energy required for irrigation and transportation of foods, and the wear and tear on farmland itself, there are overall energy and environmental costs to industrial farming that many say are too high. According to a recent article in *The Washington Post* by Tim Carman (May 10, 2011), at a recent conference on food, many experts agreed that the most urgent issue the food industry must address is climate change, with a focus on reducing the true energy costs of the food they produce. (For further discussion on this topic, see articles by Jemison and Beal and Beal and Jemison, this issue.)

Food Deserts

An issue related to food costs and local agriculture is that of food deserts, i.e., communities that have limited access to healthy foods. Many times these are low-income communities, often with a high proportion of minorities, in which the main food sources are from fast food restaurants or small grocery stores that sell few fresh fruits and vegetables. A number of solutions are possible, such as developing new grocery stores, improving existing ones, and recruiting farmers' markets, but each is associated with costs and the need for community engagement. However, the true costs of

food deserts are high, including disability, disease, and premature death from poor nutrition (PolicyLink n.d.).

Changing the System

On the one hand, our food industry and the various roles it plays in poor nutrition are complex and require seismic overall changes. On the other hand, who would have guessed a few years ago that these issues would produce best sellers? Eric Schlosser (*Fast Food Nation*), Michael Pollan (*The Omnivore's Dilemma*), and the film *Food, Inc.*, are now well-known names and titles. And, fortunately for all of us, a more people involved with the food industry are joining the movement. To make significant changes to the fabric of society, it truly takes many partners. Here in Maine, there are a number of private organizations and public-private partnerships dedicated to improving the health of Maine communities and people through addressing nutrition, including policy approaches. (See sidebar for some examples.)

SPECIFIC POLICY RECOMMENDATIONS TO ADDRESS POOR NUTRITION

Policy interventions at all levels play a critical role in affecting the changes needed to re-integrate health into the fabric of society. The major goal of local, state, and federal policies should be to make it easier for all, especially those at highest risk, to make healthier nutritional choices. These policies should generally entail an expansion of choices, not limitations. Policies can achieve results in several ways, including the following examples:

- Requiring a behavioral change on the part of individuals (e.g., seat belt laws).
- Directly changing the environment (e.g., salt fortified with iodine, water fluoridation, flour fortified with folic acid).
- Requiring a behavioral change that then changes the environment (e.g., public smoking restrictions).
- Requiring organizational policy changes that lead to behavioral changes (e.g., insurance mandates to cover nutritional counseling) (Mensah et al. 2004).

IT TAKES A VILLAGE

University of Maine Cooperative Extension has long-standing programs across Maine that offer education to the public and food producers on such diverse topics as canning foods, gardening, and pest control.

Harvard Pilgrim Health Care Foundation funds a number of health initiatives in Maine and northern New England, with a focus on nutrition.

Let's Go! is a collaborative funded by a variety of partners, including businesses, foundations, United Way, and a major health system. Let's Go! works across many community sectors such as schools, medical practices, and child care programs to promote the adoption of the 5-2-1-0 messages and strategies (five or more fruits and vegetables, two hours or less screen time, one hour or more physical activity, and zero sugary drinks).

Maine Nutrition Network is a collaborative of the University of Southern Maine's Muskie School of Public Service and Maine Department of Health and Human Services. Using USDA Supplement Nutrition Assistance Program (SNAP) funds, they provide interventions and evaluations focusing on nutrition and physical activity, with an emphasis on SNAP recipients.

Maine-Harvard Prevention Research Center is a collaborative of the University of New England, the Harvard School of Public Health, and the Maine Center for Disease Control that focuses on policy and program research related to nutrition, physical activity and obesity.

Health nonprofits, such as Maine's community hospitals, health centers, the American Cancer Society, American Heart Association, American Diabetes Association, and American Lung Association Maine affiliates, all work on nutritional policy at the local and/or state level.

MOFGA, the Maine Organic Farmers and Gardeners Association, has been a driving force in assisting farmers, gardeners, schools, and communities grown and eat organic and locally grown foods.

Healthy Maine Partnerships, a tobacco settlement-funded network of community organizations working to address tobacco addiction, physical inactivity, substance abuse, and poor nutrition in communities across Maine.

Although a number of potential policies have been proposed to address poor nutrition, what follows are examples of some specific policies suggested in the public health and medical literature, along with some examples of how these have been implemented here in Maine.

Food Labeling and Marketing

Several national nutrition experts promote improved food labeling with easy-to-read and interpret information about calorie and fat content on food product packaging and/or on menus and menu boards. These experts point out that as a result of this labeling, consumers can be more aware of what they are purchasing at the point of decision-making, including the "value" of purchasing larger portions when eating away from home. This is especially important since we consume more meals at eating establishments than prior decades (Nestle and Jacobson 2000; U.S. DHHS 2001).

Labeling of chain restaurant menus is being implemented nationally as part of the Affordable Care Act of 2010 (Health Reform) after already being successfully implemented in California, Vermont, New York City, and numerous counties and cities across the country. There are also initiatives underway to make the FDA's required labels on processed foods to be easier to read and interpret.

The Smart Meals for ME initiative, administered by local Healthy Maine Partnerships in the Greater Portland area, is working with non-chain restaurants to provide calorie analysis of food dishes and subsequent calorie information on menus. Such restaurants as Anthony's Italian Kitchen, Pat's Pizza, DeMillo's, Bridgton Hospital, and Sebago Brewing Company are part of this initiative.

Grocery stores such as Hannaford, Whole Foods, Shaws, and many smaller markets have produced a number of health initiatives, such as clustering the ingredients of easy-to-make healthy meals together along with the recipe. Hannaford implemented a food-rating system called "Guiding Star®." The ratings use tags on shelves, with one star representing good nutritional value, two stars better, and three stars the best nutritional value per 100 calories. Items that do not qualify for any stars have less nutritional value than other foods.

School Policies

Maine, like many states, has a strong tradition of local control over its schools. However, many in public health argue that a number of school-related policies regarding nutrition need to be made at the state or federal level, so all children are assured equal access to healthy choices. One option that a number of schools in Maine have chosen to comprehensively address health is to implement a coordinated school health program, which is designed to connect health with education through eight main policy-related strategies:

- Involving youth, parents, and communities.
- Implementing comprehensive school health education K-12.
- Offering school counseling and physical and behavioral health services.
- Ensuring foods and snacks available at school are nutritious.
- Offering worksite health promotion programs for staff.
- Ensuring the physical environment of the school and grounds is safe and healthy.
- Creating and maintaining a positive, healthy, and respectful atmosphere at school.

Some examples of specific school policies suggested through the literature and/or by some of Maine's Coordinated School Health Program schools include:

- Screening children for body mass index with appropriate referrals to health care providers, similar to how vision and hearing are now screened for and how scoliosis screening was conducted for many years.
- Providing guidelines for parents and children on what is appropriate and healthy for lunches and snacks that are brought from home.
- Eliminating a la carte meals and ensuring that all food and beverages served or offered are nutritious, balanced, and portioned appropriately.

- Requiring the curriculum for health education teachers to include nutrition subjects.
- Including nutrition questions on children's educational assessment tests.
- Participating in farm-to-school programs.
- Eliminating private industry advertising in schools (Nestle and Jacobson 2000).

One promising initiative is the Farm to School Program, which started in California in the late 1990s and has now spread to all 50 states, including Maine. Local Healthy Maine Partnerships and Coordinated School Health Programs in Oxford, Washington, and Hancock counties have successfully brought local produce to area schools, thus improving the health of both the children and the economy. Amy Winston in her article in this issue has an extensive discussion on this important program.

The Maine Department of Education, Maine Center for Disease Control and Prevention (CDC)/ Maine Department of Health & Human Services (DHHS), and Maine schools are in the process of implementing screening for body mass index (BMI) (Maine Revised Statutes Title 20-A, Chapter 223, §6455). Several states, such as Arkansas (in 2003) and California have implemented such programs, which generally have two purposes: screening and surveillance. Those with concerning BMIs are referred to their primary-care provider. The nonidentified data are then aggregated at the school, district, and state level for ongoing monitoring of progress in addressing weight issues in the student population as a whole. This feedback can be extremely helpful to communities since it gives them an evaluation and comparison tool. Thus far, there are organizations that promote BMI screening in schools (Institute of Medicine) and others that say there is not yet sufficient evidence for their benefit (U.S. CDC) (Nihiser et al. 2007).

The Maine Department of Education is implementing rules that define nutritional standards for food and beverages sold outside of school meal programs, excluding food that is sold as part of community events outside of school hours. Part of the enabling statute also bans certain types of advertising on school

NUTRITION POLICIES IN MAINE AND U.S. SCHOOLS

Percentage of schools that did not sell less nutritious foods and beverages anywhere outside the school food service program: *46 percent U.S.; 68 percent Maine.*

Percentage of schools that always offered fruits or nonfried vegetables in vending machines and school stores, canteens, or snack bars, and during celebrations when foods and beverages are offered: *13 percent U.S.; 13 percent Maine.*

Percentage of schools that prohibited all forms of advertising and promotion of candy, fast food restaurants, or soft drinks in all locations: *50 percent U.S.; 68 percent Maine.*

Percentage of schools that used at least three different strategies to promote healthy eating: *22 percent U.S.; 26 percent Maine.*

Percentage of schools that taught 14 key nutrition and dietary behavior topics in a required health education course: *64 percent U.S.; 57 percent Maine.*

Percentage of schools in which the lead health education teacher received professional development during the two years before the survey on nutrition and dietary behavior: *44 percent U.S.; 46 percent Maine.*

Source: www.cdc.gov/healthyouth/profiles

properties. A number of schools across the country have changed their policies in terms of what is served in vending machines. Several states and municipalities also have passed or considered policies to remove soda from vending machines, and the Maine Department of Education has promulgated such a rule. The sidebar depicting some nutrition policies in U.S. and Maine schools shows that Maine is ahead of the nation in many of these indicators.

Worksite Policies

Employers in settings that offer food can assure that employees have easy access to nutritional choices. Examples include:

- Ensuring healthy foods are easily available where and when food is served.
- Ensuring vending machines have healthy food and beverage options.
- Allowing onsite Weight Watchers or other such programs.
- Participating in worksite wellness programs such as those recommended by local Healthy Maine Partnerships, hospitals, wellness coalitions, or health insurers.
- Creating incentives for workers to achieve and maintain a healthy weight.
- Ensuring that weight management and nutrition counseling is a member benefit in health insurance contracts.
- Providing protected time for lunch.
- Creating work environments such as breastfeeding rooms that promote and support breastfeeding (since breastfeeding is associated with reduced overweight in children).

Some examples in Maine include:¹

- Madison Paper Industries routinely provided coffee and doughnuts to attendees at company meetings and training. The mill's wellness committee worked with those organizing meeting logistics to ensure that all such gatherings would offer fresh fruit, water, and 100 percent juice, in addition to coffee and doughnuts.
- Maine Machine Products Company (MMP Co.) in South Paris at the request of their wellness committee worked with their vending-machine vendor and obtained a cold vending machine on site with a wide variety of healthy (and some not-so-healthy) choices. Within a year, the proportion of employees reporting they consume at least five servings of fruits and vegetables increased from 29 percent to 43 percent, and there was a 300 percent increase (from 22 percent to 82 percent) of

employees who felt that MMP Co. offered opportunities for healthy eating.

- Bath Iron Works in Bath implemented a similar successful vending-machine policy as MMP Co. They provide healthy options in a variety of nonrefrigerated and cold vending machines offering snacks along with beverage-vending machines. They also added colored stickers next to the healthy food and beverage items.
- Barber Foods, a Portland-based company that produces poultry-based convenience foods, found a high prevalence of cardiovascular disease among its 750 employees, many of whom are immigrants from more than 50 different countries. The wellness team decided to offer quarterly health screenings, including cholesterol, with appropriate referrals to employees' primary care providers or risk reduction resources. Within a year, per member per month medical charges for heart and other circulatory diseases for Barber Food employees was reduced by one-third, from \$15 to \$10. With a large number of employees, this cost savings is significant.

Besides these examples, there are hundreds of other success stories from across Maine of employers engaging in worksite health that include addressing poor nutrition from a policy and direct-care perspective. Maine is fortunate to have a number of statewide organizations working on assisting businesses in these endeavors. They include the Wellness Council of Maine, the Maine Health Management Coalition, Lifeline Workplace Wellness Program, and the Healthy Maine Partnerships. Others exist at the local level.

Policies Focused on Vulnerable Populations

Several government-funded programs in Maine provide food or funds to help those who are low income and eligible (see sidebar). Together, they serve about one in four Americans. Articles in this issue by Schumacher, Nischan and Simon and by Yellen, Swann and Schmidt discuss these programs and their importance in Maine in some detail.

These food-supplement programs primarily began in an era when insufficient calories and malnutrition were the major concerns. As a result of the obesity epidemic, most have made some significant policy changes to improve their ability to address nutritional needs. Some examples include:

- Over the last three years, WIC changed the choices of foods provided from decades of offering eggs, whole milk, and cheese, to offering fresh fruits and vegetables and whole grains.
- In many areas of the country, including Maine, people with WIC can use their benefits at farmers' markets.
- TEFAP, CSFP, NSLP, and NSBP have updated their nutritional standards. However, this has not been without controversy. For instance, USDA's recent (January 2011) proposed updates of the NSLP and NSBP nutritional standards include a weekly limit of one cup for potatoes, a healthy vegetable (especially when cooked in a healthy manner and not fried) that is a major Maine crop.
- SNAP has a more robust nutrition-education component for their recipients, though it does not dictate any nutritional standards.

Although nutrition has been on the radar screen of a number of federal agencies for years, over the past several years, there has been a sharp rise in both coordination of efforts and awareness that all agencies have a role to play. The First Lady's "Let's Move" campaign and other cross-sectional federal initiatives likely have energized some of this work.

A number of programs in Maine are involved with these programs since they provide an opportunity to work with people vulnerable to poor nutrition and food insecurity and to leverage government resources. One example is the Veggie Prescription and Double Dollars programs. The former consists of health care providers providing "prescriptions" for vegetables, which include a \$10 voucher for a local farmers' market. The latter is a matching program, doubling the

SOME EXAMPLES OF MAJOR GOVERNMENT-FUNDED FOOD PROGRAMS

TEFAP (The Emergency Food Assistance Program)

Provides food for emergency food organizations (EFOs), such as food banks and soup kitchens.

Funded by USDA and administered in Maine by Maine Department of Agriculture.

SNAP (Supplemental Nutrition Assistance Program)

Formerly known as “food stamps.”

Provides a food supplement card for purchasing food items to eligible clients. About half of the recipients are children.

Funded by USDA and administered in Maine by Maine DHHS.

Maine Senior FarmShare Program

Provides low-income seniors 60 and older \$50 worth of produce at a farmers’ market each year.

Funded by USDA, administered by Maine Department of Agriculture.

WIC (Women Infants and Children)

Provides food and nutrition education to low-income pregnant women and families with infants and young children. Serves about 49 percent of infants born in the U.S.

Funded by USDA, administered in Maine by Maine CDC in DHHS.

CSFP, Child and Adult Care Food Program

Provides cash reimbursements to child and adult care providers using USDA standards.

Funded by USDA and administered in Maine by Maine DHHS.

NSLP and NSBP, National School Lunch and Breakfast Programs

Provide cash assistance or food commodities to schools for lunch, breakfast, and after school snacks.

Funded primarily by USDA (with some state and local school system contributions).

<http://www.maine.gov/education/sfs/nsbp.htm>

value of SNAP or WIC benefits when used at farmers’ markets. Both of these have involved the support of many, including the Wholesome Wave Foundation, the Harvard Pilgrim Health Care Foundation, and local health care hospitals and physicians.

Healthy Portland and Healthy Casco Bay, both Healthy Maine Partnerships (HMPs), are working with food pantries in the area to address barriers to healthy eating for their clients. The HMPs have provided mini-grants to food pantries. Some examples include providing classes in healthy cooking for food pantry clients, nutrition education materials, or focus groups to determine issues in common.

Price Policies

Some nutrition experts point out that taxation policies can make healthy foods more affordable and relatively unhealthy foods less affordable. Pricing policies can have an effect by themselves of boosting consumption of healthier foods. For instance, lowering by half the prices of fruits and vegetables in high school vending machines and cafeterias has been shown to double their sales (French et al. 1997). One such study concluded that “reducing prices on healthful foods is a public health strategy that should be implemented through policy initiatives and industry collaborations” (French 2003: 841). Another analysis suggests that “the government could adopt policies to decrease the prices of more healthful foods and increase the prices of foods high in energy” (Nestle and Jacobson 2000: 21).

Some have suggested that taxes be levied on soft drinks (often the syrup is taxed) or candy and on other foods high in calories, fat, or sugar to help fund programs that will in turn address obesity, therefore augmenting any effect of price increases alone. Suggestions of such programs have included those focused on boosting consumption of healthier foods such as those produced by local farmers; health programs to help prevent and treat obesity; and programs to help preserve family farms (Nestle and Jacobson 2000).

Policies That Affect Health Care

State and federal policies can have a significant impact on the way the health care system addresses nutrition. Government can exert leverage over the health care system via several means, including through regulatory authorities (e.g., certificate of need approvals, facility and professional licensing, and regulations over the insurance industry); the

creation of financial incentives (e.g., Medicaid and Medicare reimbursement levels); and provision of government funding for public health programs and medical research. A number of experts have suggested that government use these tools to address nutrition. Some examples include insurance mandates for nutrition and physical activity counseling and regulatory and/or financial incentives for the health care system to implement effective systems (such as the patient-centered medical home model) to address nutrition and related chronic diseases (Nestle and Jacobson 2000).

A significant step was taken at the federal level in July 2004 when Medicare announced that it will classify obesity as an illness, thus paving the way for improved reimbursements by this major insurer. The Affordable Care Act of 2010 has several policy provisions that will have a substantial impact on nutrition as addressed by the health system. Some examples include mandating insurance reimbursements for preventive services; funding prevention to communities, with a focus on obesity and chronic diseases; and supporting patient-centered medical home pilots.

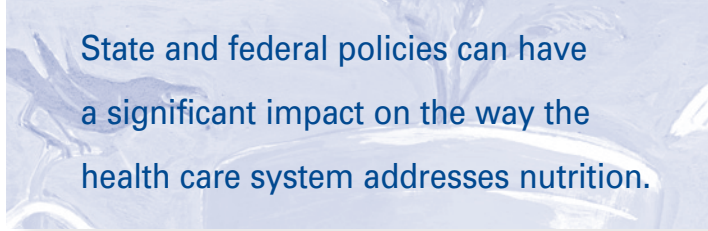
The health care system itself often implements its own policies by changing its current medical standards of care. These standards of care are critical to addressing poor nutrition since they act as a catalyst for much broader change. For instance, they can result in obesity being addressed more effectively in the health care setting. And second, they often put pressure on government and societal policy changes. For example, there is a movement in Maine and nationally to start treating BMI as a vital sign. In other words, whenever a patient interacts the medical system, his or her BMI would be measured and noted in the medical record, much as weights are taken today.

Maine's tribal health departments have collaborated to hire a tribal liaison who helps to coordinate nutritional and other preventive health initiatives, including policy initiatives within tribal communities. Many of these are communicated through the *Maine Intertribal Health Newsletter*, which in turn builds support for additional progress.

Limit Marketing to Children

A number of experts have called for limitations on food advertising and marketing to children. For instance, a study on the effects of fast foods on children concluded that “measures to limit marketing of fast food to children may be warranted” (Bowman et al. 2004: 117). An editorial in the same issue of the journal stated:

The nation's children deserve protection from damaging forces. There are early signs of bold action among policymakers to decrease exposure of children to the toxic food and physical-inactivity environment. On the horizon are actions such as removing fast food, snack food, and soft drinks from schools, curbing food advertising directed at children, and enhancing opportunities for physical activity (Brownwell 2004: 132).



State and federal policies can have a significant impact on the way the health care system addresses nutrition.

The American Public Health Association also issued a policy statement in 2004 calling for legislation to ban food advertising to children from schools and children's television (APHA 2004). After three years' of work, a task force of the American Psychological Association released its findings in 2004, along with a call for new policies to ban advertisements to children less than eight years of age, especially of harmful or unhealthful products (Wilcox et al. 2004). They cited such evidence as:

- The growth in advertising to children to more than \$12 billion annually with comparatively few dollars spent on public health campaigns on such topics as nutrition (only \$1 million was spent nationally on the 5-A-Day Campaign at the time to promote fresh fruits and vegetables to the adult and youth populations).

- The inability of young children under eight to understand the persuasive intent of advertising, such as to distinguish advertising from program content and to recognize the bias in advertisements.
- The fact that advertisements to children work to influence their purchasing preferences as well as those of their parents.
- The high percentages of advertisements aimed at children that feature non-nutritious foods and the association of these products with obesity.

While some have called for broad-based bans on advertising to children, others have recommended that advertising of high-calorie low-nutrient foods be the focus of restrictions or that broadcasters provide equal time for messages promoting healthy eating and physical activity (Nestle and Jacobson 2000).

Poor nutrition is built into the fabric of society, from the food industry to the health care system to schools and workplaces.

Promoters of such bans often note that Sweden, Norway, Canada, Australia, and Great Britain already regulate, to some degree, advertisements aimed at children. Sweden's strictest multimedia advertising bans apply to children under 12 years of age, while less strict bans apply to those under 16. Several leading proponents of these types of restrictions feel that without them, children's and parents' food choices are defined and limited by the food industry's marketing. In the words of the Swedish government, "children have the rights to safe zones" (Jacobsson 2002).

According to an article by William Neuman in the April 28, 2011, edition of *The New York Times*, the Federal Trade Commission recently released proposed new guidelines developed at the request of Congress that would strongly encourage the food industry to

reassess how they produce and market their child-focused products. The draft guidelines would be voluntary, and would require food products marketed to children meet certain nutritional guidelines.

CONCLUSION - BACK TO THE FUTURE


Over the last 100 years our society has moved from lacking sufficient calories and nutrients to being bombarded by high-calorie lower-nutritional foods and beverages. Poor nutrition is built into the fabric of society, from the food industry to the health care system to schools and workplaces. As a result, the cards are stacked against us to make healthy choices. For some communities, especially those with high poverty rates or a high proportion of minorities, the cards are stacked even higher against making healthy choices. When it comes to nutrition, one's zip code is often more important than one's genetic code.

A policy approach is necessary to rebuild health into society. Yes, we need lifestyle changes, and we all need to take more responsibility for making healthier choices. But for the two-thirds to three-quarters of American who are obese or overweight, personal responsibility alone will not work. We also need to make community-style changes, and policies at the local, state, and national levels are critical to make these changes. Additionally, those policy changes need to focus especially on those populations and communities that face disparities. We all will benefit if the most vulnerable among us are well served.

This review of possible policies suggested by the public health and medical literature, along with some examples from Maine, will serve, I hope, as a catalyst for continuing discussions about how to effectively address this most critical epidemic of poor nutrition and the chronic diseases resulting from it. It will benefit all of us if policies that are appropriate for Maine continue to be implemented. All of us will have easier access to healthy choices where we live, play, work, and attend school. Indeed, health will be designed into the fabric of our communities, and we will all have improved opportunities to live longer and healthier lives.

The summary from a 1941 report on nutrition in America rings true today as it was then:

STRONG and alert nations are built by strong and alert people. Strong and alert people are built by abundant and well-balanced diets. No nation achieves total strength unless all of its citizens are well fed. To be well fed means more than filling the stomach with foods that appease hunger. It is more than getting the food that barely protects the body from disease due directly to poor diet. It is having each day the kind of food that will promote abounding health and vitality.

Our Nation's goal is that everyone shall have a diet adequate in every respect for good nutrition... 'Nutritional diseases,' says an eminent authority of the United States Public Health Service, 'in all probability constitute our greatest medical problem, not from the point of view of deaths, but from the point of view of disability and economic loss' (Steibiling 1941: 26). 

ENDNOTE

1. More information about the examples listed in this section can be found on the following web sites: www.maine.gov/dhhs/boh/hmp/mcvhp/resource_library.html; and www.healthymainepartnerships.org/goodwork-resource-kit.aspx#1

REFERENCES

- American Public Health Association (APHA). 2004. Emerging Public Health Issues Become New Policies for Association. APHA, Washington, DC. <http://www.medscape.com/viewarticle/468793> [Accessed June 12, 2011]
- Beal, Amanda and John M. Jemison Jr. 2011. "Resource, Environment and Energy Considerations for Maine Food Security in 2050 and Beyond." *Maine Policy Review* 20(1): 172–183.
- Bowman, Shanthy A., Steven L. Gortmaker, Cara B. Ebbeling, Mark S. Pereira and David S. Ludwig. 2004. "Effects of Fast-Food Consumption on Energy Intake and Diet Quality Among Children in a National Household Survey." *Pediatrics* 113: 112–117.
- Brownell, Kelly D. 2004. "Fast Food and Obesity in Children." *Pediatrics* 113: 132.
- Calle, E.E., C. Rodriguez, K. Walker-Thurmond and M. Thun. 2003. "Overweight, Obesity, and Mortality from Cancer in a Prospectively Studied Cohort of U.S. Adults." *New England Journal of Medicine* 348(17): 1625–1638.
- DeVol, Ross and Armen Bedroussian. 2007. *An Unhealthy America: The Economic Burden of Chronic Disease*. Milken Institute, San Diego, CA.
- Dizikes, Peter. 2009. "Good Food Nation." *MIT News* (November 10). <http://web.mit.edu/newsoffice/2009/foodshed.html> [Accessed June 11, 2012]
- Drewnowski, Adam. 2010. "The Cost of US Foods as Related to Their Nutritive Value." *American Journal of Clinical Nutrition* 92: 1181–1188.
- Eaton, Danice K., Laura Kann, Steve Kinchen, Shari Shanklin, James Ross, Joseph Hawkins, William A. Harris, Richard Lowry, Tim McManus, David Chyen, Connie Lim, Nancy D. Brener and Howell Wechsler. 2008. "Youth Risk Behavior Surveillance—United States, 2007." *Morbidity and Mortality Weekly Reports* 57: 1–131.
- Finkelstein Eric A, Ian C. Fiebelkorn and Guijing Wang. 2003. "National Medical Spending Attributable to Overweight and Obesity: How Much, and Who's Paying?" *Health Affairs* W3: 219–226.
- Finkelstein, Eric A., Ian C. Fiebelkorn and Guijing Wang. 2004. "State-Level Estimates of Annual Medical Expenditures Attributable to Obesity." *Obesity Research* 12(4): 18–24.
- Fontaine, Kevin R. and Susan J. Bartlett. 1998. "Estimating Health-related Quality of Life in Obese Individuals." *Disease Management & Health Outcomes* 3(2): 61–70.
- French, Simone A. 2003. "Pricing Effects on Food Choices." *Journal of Nutrition* 133: 841–843.

- French, S.A., M. Story, R.W. Jeffrey, P. Snyder, M. Eisenberg, A. Sidebottom and D. Murray. 1997. "Pricing Strategy to Promote Fruit and Vegetable Purchase in High School Cafeterias." *Journal of the American Dietetic Association* 97: 1008–1010.
- Jacobsson, Ingrid. 2002. Advertising Ban and Children: "Children Have the Right to Safe Zones." Swedish Institute.
- Jemison, John M. Jr. and Amanda Beal. 2011. "Historical Perspectives on Resource Use in Food Systems." *Maine Policy Review* 20(1): 163–171.
- Maine Center for Disease Control and Prevention (CDC). 2002. Healthy Maine 2010. Maine Public Health Data Reports, Maine Department of Health and Human Services, Augusta. http://www.maine.gov/dhhs/boh/phdata/healthy_maine.htm [Accessed June 12, 2011]
- Mensah, George A., Richard A. Goodman, Stephanie Zaza, Anthony D. Moulton, Paula L. Kocher, William H. Dietz, Terry F. Pechacek and James S. Marks. 2004. "Law as a Tool for Preventing Chronic Diseases: Expanding the Range of Effective Public Health Strategies." *Preventing Chronic Disease* 1(1): 1–8. http://www.cdc.gov/pcd/issues/2004/jan/03_0033.htm [Accessed June 12, 2011]
- Mills, Dora Anne. "Obesity in Maine: A Policy Approach." *Maine Policy Review* 13(1): 28–47.
- Mokdad, Ali H., James L. Marks, Donna F. Stroup and Julie L. Gerberding. 2004. Actual Causes of Death in the United States, 2000. *Journal of the American Medical Association* 291: 1238–1245.
- Nestle, Marion and Michael F. Jacobson. 2000. "Halting the Obesity Epidemic: A Public Health Policy Approach." *Public Health Reports* 115: 12–24.
- Nichols, Gordon L. 2005. "Fly Transmission of Campylobacter." *Emerging Infectious Diseases* 11(3): 361–264.
- Nihiser, A.J., S.M. Lee, H. Wechsler, M. McKenna, E. Odom, C. Reinold, D. Thompson and L. Grummer-Strawn. 2007. "Body Mass Index Measurement in Schools." *Journal of School Health* 77: 651–671.
- Ogden, Cynthia and Margaret Carroll. 2010. Prevalence of Overweight Among Children and Adolescents: United States, Trends 1963–1965 Through 2007–2008. National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, MD. http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.pdf [Accessed June 12, 2011]
- Ogden, Cynthia L., Molly M. Lamb, Margaret D. Carroll and Katherine M. Flegal. 2010. Obesity and Socioeconomic Status in Children and Adolescents: United States, 2005–2008. National Center for Health Statistics Data Brief No. 51.
- PolicyLink. n.d. A Healthy Food Financing Initiative. PolicyLink, Oakland, CA. http://www.policy-link.org/atf/cf/%7B97c6d565-bb43-406d-a6d5-eca3bbf35af0%7D/HFFI_ADVOCACY2_SIGN%20UP%20FOR%20UPDATES.PDF [Accessed June 12, 2011]
- Putnam, Judy, Jane Allshouse and Linda Scott Kantor. 2000. "Per Capita Food Supply Trends: Progress Toward Dietary Guidelines." *Food Review* 25(3): 2–14.
- Schumacher, Gus, Michel Nischan and Daniel Bowman Simon. 2011. "Healthy Food Access and Affordability; 'We Can Pay the Farmer or We Can Pay the Hospital.'" *Maine Policy Review* 20(1): 124–139.
- Steibiling, Hazel K. 1941. Are We Well Fed?: A Report on the Diets of Families in the U.S. U.S. Department of Agriculture Misc. Publication 430.
- Townsend, Marilyn S., Grant J. Aaron, Pablo Monsivais, Nancy L. Keim and Adam Drewnowski. 2009. "Less-Energy-Dense Diets of Low-Income Women in California Are Associated with Higher Energy-Adjusted Diet Costs." *American Journal of Clinical Nutrition* 89: 1220–1226.
- U.S. Department of Agriculture, Agricultural Research Service (USDA ARS). 1955. Food Consumption of Households in the United States. Report No. 1. USDA ARS, Washington, DC.
- U.S. Department of Agriculture, Agricultural Research Service (USDA ARS) 1972. Food Consumption of Households in the United States: Seasons and Year 1965-1966. Report No. 12. USDA ARS, Washington, DC.

U.S. Department of Agriculture, Center for Nutrition Policy and Promotion (USDA CNPP). 1999. "Profile of Overweight Children." Nutrition Insights No. 13. <http://www.cnpp.usda.gov/Publications/NutritionInsights/insight13.pdf> [Accessed June 11, 2011]

U.S. Department of Agriculture, Economic Research Service (USDA ERS). 2011. Food Security in the United States: Key Statistics and Graphics. USDA, ERS, Washington, DC. http://www.ers.usda.gov/Briefing/FoodSecurity/stats_graphs.htm [Accessed June 11, 2011]

U.S. Department of Health and Human Services (U.S. DHHS). 2001. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. Rockville: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General. <http://www.surgeongeneral.gov/topics/obesity/calltoaction/CalltoAction.pdf> [Accessed June 12, 2011]

Wilcox, Brian L., Dale Kunkel, Joanne Cantor, Peter Dowrick, Susan Linn and Edward Palmer. 2004. Report of the APA Task Force on Advertising and Children." American Psychological Association, Washington, DC. <http://www.apa.org/pi/families/resources/advertising-children.pdf> [Accessed June 12, 2011]

Winston, Amy. 2011. "Farm to School." Maine Policy Review 20(1): 233–235.

Yellen, Donna, Mark Swann and Elena Schmidt. 2011. "Hunger in Maine." Maine Policy Review 20(1): 140–150.



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