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Food Insecurity and Hunger: A Preventable Public Health Problem

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> **"Because the citizens and residents of the United States are its most valuable resource, from a human capital point of view, it is cruel, unwise, and short-sighted to allow food insecurity and hunger to continue to exist at their present levels, especially because they are avoidable."[1]**

Food insecurity and hunger are completely preventable, and yet, they affect millions of men, women and children throughout the United States, in every state, county and city. Although most Americans have access to an adequate supply of nutritious food, far too many do not.

Definitions

Hunger can be defined as, "the uneasy or painful sensation caused by a lack of food. The recurrent or involuntary lack of access to food ... [which] may produce malnutrition over time." Food insecurity can be defined as, "Limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."[2]

Recent History of Hunger in the United States

In the late 1960s, the Field Foundation sent a team of physicians to visit areas of endemic poverty in the United States. They found widespread hunger, including kwashiorkor, a condition usually associated with famine in underdeveloped countries. In response to their report, a bipartisan initiative to eliminate hunger was passed through Congress, including expansion of food stamps, strengthening of school lunch and breakfast programs, the development of the WIC program, and programs for low-income elderly such as congregate dining. An evaluation by the same

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Welcome to this issue of Healthy Generations, my first as Editor. In this issue, we take on the topic of food insecurity and hunger, which can be easily overlooked. While there are many important MCH nutrition issues such as obesity, prenatal nutrition, and dietary prevention of chronic disease, millions of men, women, and children in the United States simply are hungry and lack access to a consistent, adequate source of food. Hunger is often thought of as a concern for the developing world, a condition seen in some far-away African village, not Rochester, Minnesota, or Dickinson, North Dakota or Council Bluffs, Iowa. Unfortunately, as this issue demonstrates, hunger and food insecurity threaten the health and well-being of many of this nation's inhabitants, especially low-income families with children.

This is a health problem which can be eliminated, however. There is, after all, no shortage of food in this country (or, for that matter, globally); the problem is one of access and distribution, of political will and community mobilization. Hopefully, this issue will leave you inspired and ready to act. Our most vulnerable neighbors, clients, and patients are depending on us.

The topic for our next issue is oral health, with a special focus on pregnant women and children. If you have comments, questions, or concerns, please let us know. We like to hear from you!

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foundation ten years later found that these nutrition assistance programs had essentially eliminated hunger in the United States.

However, in the early 1980s, reports began to emerge that food assistance needs and hunger were increasing across the country. Many factors contributed to this, including sharp increases in housing costs, wage stagnation in low-wage jobs, and cutbacks to other social programs. Since that time, food insecurity and hunger have continued in the US.[3]

Prevalence and Consequences of Food Insecurity and Hunger

In 2004, the Department of Agriculture measured food security in the United States and found that 12% of households, or one in eight, were food insecure at some point in the previous year. One third of these households had members who experienced hunger. The rates of both food insecurity and hunger increased slightly from 2003. Certain household characteristics were associated with food insecurity, including the following: households with incomes below the official poverty line (34%); households with children headed by a single woman (33%) or single man (22%); African-American households (24%); Hispanic households (22%); and households with children (18%).[4]

The consequences of food insecurity and hunger are profound. These include a lower quality diet, poorer health status (including colds, infections, headaches and asthma), increased chronic disease and poorer management of chronic disease, and poorer academic performance for children.[5] There are also data suggesting that malnourishment and/or hunger in childhood may predispose adult women for obesity (see related article on page 6).[6]

Data about income, poverty, and food program participation support the assertion that hunger and food insecurity are serious public health problems. In 2004, almost one in eight Americans lived below the official poverty line ($18,850 for a family of four.) Children were more likely to be poor; over one in five children, or 13 million, lived below the poverty line.[7] Many children and adults who are poor are struggling to meet their needs for ample, nutritious food.

Poor quality community food environments also perpetuate hunger and food insecurity. Issues include lack of access to locally grown food, lack of access to nutritious food such as fruits and vegetables, lack of access to affordable food outlets (grocery stores vs. convenience stores), limited connections to social networks, and stigma about receiving food assistance programs.[8]

Ending Food Insecurity and Hunger

There are many feasible solutions to the problem of food insecurity and hunger. These include methods to increase and stabilize income, especially for the most vulnerable households; improving the federal food programs to increase program participation and access; and strengthening community food environments. Examples of income stabilization include continued support for and expansion of the earned income tax credit, along with expanded access to affordable housing, job training opportunities for low-wage workers, improvements in unemployment insurance, and increases in the minimum wage. Elimination of program participation barriers such as cumbersome application and reporting procedures, availability of program forms in languages other than English, and outreach and education efforts can ensure that people receive the food assistance programs for which they are eligible.[9] Efforts to improve community food environments include developing urban gardens and farms in or near low-income neighborhoods; starting community farmers markets; supporting community-supported agriculture projects in rural areas, linking consumers directly with food producers; and subsidies and other market incentives for full-service food stores to locate in underserved areas.[10]

References

1. Position of the American Dietetic Association: Food insecurity and hunger in the United States. J Am Diet Assoc. 2006;106:446-458.
2. American Dietetic Association, 2006.
3. Brown JL, Allen D. Hunger in America. Ann Rev Pub Health. 1988;9:503-26.
4. Nord M. Household food security in the United States, 2004. Department of Agriculture, Economic Research Service, No. 11. Available at: http://www.ers.usda.gov/Publications/err11/
5. Lee JS, Frongillo EA. Nutritional and health consequences are associated with food insecurity among US elderly persons. J Nutr. 2001;131:1503-9. Olson CM. Nutrition and health outcomes associated with food insecurity and hunger. J Nutr. 1999;129:521-24S
6. American Dietetic Association
7. US Census Bureau. Current Population Survey, 2005 Annual Social and Economic Supplement.
8. Winne M. Community food security: Promoting food security and building healthy food systems. Available at: http://www.foodsecurity.org/PerspectivesOnCFS.pdf
9. McNichol L, Springer J. State Policies to Assist Working-Poor Families. Washington, DC: Center on Budget and Policy Priorities, 2004.
10. Winne M. See also Martin K, Rogers B, Cook J, Joseph H. Social capital is associated with decreased risk of hunger. J Soc Sci Med. 2004;58:2645-2654.

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Hunger Solutions Minnesota 2005 Survey: Minnesota Trends

Gillian Lawrence

In 2005, Hunger Solutions Minnesota, a collaborative of statewide hunger relief organizations aimed at ending hunger in Minnesota, commissioned a study of food shelf and on-site (i.e., soup kitchens and shelters) meal program participants. This study has been conducted every five years since 1985 and provides an important overview of the food safety net in the Minnesota. All food shelves and on-site meals programs in the state made self-administered surveys available to their clients in English, Hmong, Lao, Russian, Somali, and Spanish. Surveys were completed by 13,599 individuals. Sixty-nine percent of food shelf recipient respondents were female and 44% of all household members were children. Additionally, compared to the U.S. Census Bureau's state population estimates, American Indians, African-Americans and Latinos were over represented among those who participated in the survey.

The 2004 study found several disturbing trends:

1. Food shelf use increased rapidly between 2000 and 2004; the number of visits climbed 45%, an upward trend since 1985.
2. Despite reliance on food shelves and/or on-site meal programs, people reported hunger and food insecurity at a higher rate than in 2000.
3. Seventy-five percent of adults and one in four children reported cutting back on the size of their meals.
4. Half of adults and 12% of children reported skipping meals due to lack of food.

Also, in contrast to stereotypes, most people using emergency food services listed employment as their primary source of income, while only one-tenth of respondents indicated receiving Minnesota Family Investment Program (MFIP) assistance. Households using emergency food resources—even those with working adults—were found to be struggling financially. On average, 64% of household income was spent on housing and respondents relied heavily on food shelves, on-site meal programs, and free or reduced-price school meals to feed their households. Although 79% of surveyed households were eligible to receive food support (formerly called food stamps), only 35% received this assistance. Half of those not receiving assistance incorrectly believed that they were ineligible. Furthermore, approximately 37% of the households who could be using the WIC program were not.

Hunger Solutions Minnesota will use the results of this survey to advocate locally and nationally on policies that impact hunger and raise public awareness about hunger and poverty. It also will continue to expand the capacity of food shelves to serve their communities by raising additional funds, increasing local capacity to provide and distribute food, and increase advocacy efforts of local level providers.

For more information, visit the Hunger Solutions Minnesota website: http://www.hungersolutions.org/. For a comparable national survey with additional regional data, visit the Hunger in America website: http://www.hungerinamerica.org.

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How Food Secure is Your Community?

The following questions are used with permission from the publication *Food For All? The Status of Hunger in Iowa*, produced by Iowa State University Extension. They offer a starting point for considering food insecurity in a community. The entire publication, a companion video and additional resources are available at http://www.extension.iastate.edu/hunger

- How many households in your community are food insecure?
- What resources are available for people to purchase foods? (retail stores, restaurants, farmers' markets, etc.)
- Do all community members have a way to get to food retail stores, restaurants, cooperatives and CSAs (Community Supported Agriculture farms and gardens)?
- Are a variety of healthy foods available in sufficient quantity and variety?
- Is food competitively priced and affordable to all households?
- What food assistance programs exist in your community?
- Is locally produced food accessible and affordable?
- Does your community promote local food production?
- How do local government, business, and private nonprofit groups work together to address community food issues?

Holes in the Hunger Safety Net

Diane Benjamin, MPH

Federal food assistance programs and the food safety net do not adequately protect many families at high risk for food insecurity and hunger. Beginning with the New Deal and expanding in the late 1960s, the United States developed a food safety net that includes private and public sector programs designed to increase access by low-income people to nutritious, adequate food. There are three major federal programs to address hunger in MCH populations, the Food Support Program, the Special Supplemental Nutrition Program for Women and Children (WIC), and the National School Meals Program. A private patchwork of food shelves and pantries, food banks, congregate meal programs, and various other charitable food distribution programs augments these programs.

Over 25 million Americans participate in the Food Support Program (formerly known as food stamps.) However, recent estimates suggest that 44% of eligible participants do not receive the program because of difficult enrollment procedures, reluctance to accept government help, and erroneous beliefs about the program. The estimated rates of participation in the Food Support Program vary from below 45% to more than 80% of eligible households, depending on the state.[1] The WIC program serves approximately 8 million pregnant and nursing women, as well as children under the age of 5 and their mothers with a monthly food package. These numbers have increased steadily, but still do not reach all women and children in need; a 2003 study estimated that the participation rates of those in need are 78% for infants, 40% for children, and 71% for pregnant and postpartum women.[2] (For more information on changes in the WIC food package, see related article on page 8.) Almost 30 million children receive free or reduced price school lunches through the National School Lunch Program (with an additional 9 million receiving School Breakfast). But this program does not provide food during school breaks or during the summer months.[3]

The insufficiency of federal food programs is also demonstrated by the large number of people turning to emergency food sources each month. In 2004, over 25 million people accessed emergency food resources provided by America's Second Harvest network of food shelves, food pantries and on-site feeding programs, including more than 9 million children, a number that continues to increase each year.[4] (See related article on page 3.) Although America's Second Harvest is the largest provider of food resources, this figure does not include the many emergency food resources provided by others.

In 2002, the USDA attempted to determine if food assistance programs improved the well-being of low-income families. However, precisely measuring the benefit of participation in these programs is difficult, due to the challenge of controlling for all factors that influence food security and decisions to participate in programs. The USDA found that food support program recipients are more likely to be food insecure than nonrecipients, including those with similar characteristics including income. However, this might be explained by food-insecure households being more likely to participate in the program than food-secure households. Food program participation did reduce child poverty and increase food expenditures, and participation in the WIC program improved participants' nutritional intake.[5]

The Children's Sentinel Nutrition Assessment Program (C-SNAP) describes itself as "a policy-oriented research and advocacy collaboration with a mission of researching advocating and intervening to combat child hunger and promote children's health." The six study sites include Hennepin County Medical Center in Minneapolis, and focus on caregivers of children under age three accessing emergency departments and clinics. Since 1998, over 15,000 caregivers with young children have been sampled.[6] Despite the existence of federal and charitable programs, C-SNAP found that one in five households seen at their urban, inner-city medical centers reported food insecurity, and one in ten children were experiencing food insecurity. More than one in ten infants and toddlers were underweight, indicating under-nutrition and growth problems.[7]

Receiving food support lessened (but did not eliminate) the association between food insecurity and poor health status for children, and was not associated with overweight among children in the C-SNAP study. Children who participated in WIC had better growth outcomes and health compared to children who did not participate.[8]

Immigrants and their children face special challenges. First, by law, immigrant participation in the food support program is somewhat limited. In many cases, adults must have been in the US for at least five years. (As of 2003, children are exempt from this waiting period. Refugees and those granted asylum are also exempt.) Undocumented immigrants are not eligible, although their citizen children can receive benefits. Among C-SNAP study participants at Hennepin County Medical Center, children in immigrant households, primarily Latino, were more often hungry and food insecure, compared to children in non-immigrant households. Immigrant and non-immigrant households did not differ in the rates at which they accessed the WIC program, however. Study investigators believe that the food support application is more difficult to complete than the WIC application and requires more financial information and

documentation, posing a barrier to immigrant families. There are also prevalent community beliefs that food support program benefits will have to be paid back in the future, or will negatively affect an immigrant petition. Finally, even when families have an eligible child or children, the parents may be undocumented and fear of deportation if they enroll their children in a government program.[9]

Additional available data supports the C-SNAP finding that food safety net programs do not reach all low-income children. According to a national survey conducted by the Urban Institute, in 2002, only 5% of low-income families with children under age five receive help from **all** the available government and private food assistance programs. Almost one in five poor children receive **no** nutrition assistance. Children are more likely to receive assistance through WIC and school meals than through food support or emergency food banks. In addition, children with working parents are less likely to receive nutrition assistance, even when income-eligible, than children whose families are not working. Finally, program participation varies greatly by state, suggesting that different state program administration practices, community climates, and the strength of the private food safety network affect program reach.[10]

Expanding Access

Although food assistance programs do not reach some children and families, the potential exists for these programs to serve all eligible participants and to reduce food insecurity and hunger. Covering All Families, a project run by the Children's Defense Fund Minnesota, offers an example of a multifaceted attempt to reduce barriers to program participation through outreach to families, education of direct service providers, and policy advocacy. The project maintains an eligibility screening web tool (http://www.coveringallfamilies.org) to help simplify eligibility assessment within Minnesota for seven assistance programs, including most of the major food assistance programs, as well as health care programs and two tax credits. It also offers promotional materials for service providers, coordinates free tax preparation assistance to encourage receipt of the Earned Income Tax Credit, and collaborates with a companion program that helps families enroll in public health care programs. It also advocates at the state legislature and with state agencies to reduce barriers to program enrollment and increase outreach efforts to eligible families.

References

1. Castner L, Schirm, A. Reaching Those in Need: State Food Stamp Participation Rates in 2003. Mathematica Policy Research, Inc.; November 2005.
2. Ver Ploeg M, Betson D. Estimating Eligibility and Participation for the WIC Program. Final Report. Washington, DC: National Acad emies Press; 2003.
3. US Department of Agriculture, Food and Nutrition Service. Available at: http://www.fns.usda.gov/pd/annual.htm
4. America's Second Harvest Network. Fact sheet. Available at: http://www.hungerinamerica.org/media_center/fact_sheet.htmls
5. Winicki J, Jolliffe D, Gundersen C. How Do Food Assistance Programs Improve the Well-being of Low-Income Families? Washington, DC: USDA, ERS. Food Assistance and Nutrition Research Report Number 26-9; September 2002. For further discussion on study design and challenges in measuring the effect of food support on food security, see: Wilde P and Nord M. The effect of Food Stamps on Food Security: A Panel Data Approach. Review of Agricultural Economics, 27:3; 425-432.
6. Neault N, Cook J. The Safety Net in Action: Protecting the Health and Nutrition of Young American Children. Children's Sentinel Nutrition Assessment Program July 2004. Available at: http://dcc2.bumc.bu.edu/csnapppublic/home.html
7. The Hidden Hunger: Food Insecurity Among Low-Income American Families. C-SNAP Brief, March 2005. Available at: http://dcc2.bumc.bu.edu/csnappublic/National_stats_March05.pdf
8. C-SNAP, 2005.
9. Diana Cutts, MD, Henenpin County Medical Center. Personal communication.
10. Zedlewski S, Rader K. Feeding America's Low-Income Children. The Urban Institute, Series B, No B-65; March 2004.

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Food Program Participation in the Upper Midwest

	Total Population	Food Stamp Program*	National School Lunch Program**	Supplemental Nutrition Program for Women, Infants, & Children (WIC)*
Minnesota	4,942,799	259,937	588,846	123,275
Wisconsin	5,328,692	345,748	582,097	112,894
Iowa	2,837,966	206,696	381,495	67,823
North Dakota	607,405	42,204	78,454	14,248
South Dakota	737,573	56,095	102,973	21,580

* average monthly participation
** average daily participation

The Hunger-Obesity Paradox: An Interview with Angie Tagtow

Diane Benjamin, MPH

It's a paradox: obesity and hunger may be associated. There are some reports that women who experience food insecurity and hunger may be more likely to be obese. But how can this be? Isn't obesity caused by overeating, and isn't that incompatible with not having enough to eat?

The issue of hunger and obesity is complex, and this complexity is reflected in research on the issue. The strongest evidence is seen for women. Several studies suggest that women who experience household food insecurity are more likely to be obese.[1] However, the research is still ongoing. At least one study found that an association between concern about enough food and obesity was not significant after controlling for socio-economic factors.[2] There is conflicting evidence on whether hunger and obesity are positively correlated in children; some research has found a correlation, but data from the National Health and Nutrition Examination Survey found that poverty rather than food insecurity was predictive of poor nutrition.[3] In addition, most of the research has been done on women or children; men are often not included. The small amount of literature on food insecure men does not find a positive correlation with obesity; most are identified as normal or underweight.[4] Another gap in the literature is investigating these issues with the elderly. Their weight status and food access has rarely been studied, and they are affected by different social and generational influences than young women with children.

Food insecurity and obesity co-exist in economically vulnerable populations, but it is not yet completely clear that they are causally associated. Future research is needed to study the plausible explanations for an association and to develop effective programs and policies to address both issues.

Angie Tagtow, MS, RD, LD, Regional Nutrition Consultant for the Iowa Department of Public Health, has studied this issue extensively. As a consultant for the Iowa WIC program, and as managing editor of the new *Journal of Hunger and Environmental Nutrition*, she shared some of her thoughts and insights about food insecurity and obesity with *Healthy Generations.*

Tagtow's interest in the issue comes from her work with WIC. One of her responsibilities is to assess food insecurity and hunger among the Iowa WIC population. She has a strong interest in the global food system and how it functions, as well as influences on the food system including economics, industry, agriculture, food processing, and underlying political and public policy decisions. Since one of the hottest topics in public health right now is obesity and childhood overweight, she is interested in exploring these connections.

Tagtow sees an increased interest from the dietetic and public health communities as the overweight/obesity epidemic and changes in the economy collide. "One of the things that practitioners are beginning to understand is that when doing a client health assessment, they need to also assess the environment and surroundings that people live in. For example: Where does she have to go to get groceries? Does she have enough money to buy food? Does she have other expenses such as medication? Where do the kids go to play? We need to assess people's environments in order to do effective interventions."

Tagtow believes that any association between obesity and food insecurity can be connected to the food supply in the United States. "Our food supply is relatively inexpensive, and inexpensive foods have lower nutritional value and are higher in sugar and fat content," notes Tagtow. "At a grocery store, the least expensive packaged foods will most likely include high fructose corn syrup and/or hydrogenated vegetable oil. These come from corn and soy beans, the most highly subsidized commodities, and are directly connected to the Farm Bill passed by Congress." She also notes that the food supply has become corporatized and globalized. Only a handful of companies manage the transport and distribution of commodities, another handful control most food processing, and retail markets are also consolidating, as more and more retailers such as Wal-Mart control the market. The globalization of the food market is quite obvious in an agricultural state like Iowa, where the majority of agricultural products leave the state, and where locally consumed food is imported. "For instance, the average distance that food travels to central Iowa is between 1400 and 1600 miles," says Tagtow. This makes it difficult to improve the quality of locally-available food.

Tagtow emphasized several interventions at the community level that would improve public health and reduce both food insecurity and obesity. They would include increased access to emergency food along with improvements in the nutritional quality and variety of that food; developing stronger local and regional food systems that would provide less processed foods, more fresh foods, and create connections with local producers; and recognition that WIC is an important public health program due to the additional benefits that participants receive such as nutrition education, breastfeeding promotion and support, and referrals to services. She notes that, "The bottom line when it comes to dealing with obesity and food insecurity and hunger is that not one pill is going to cure it all. It really is a multi-factorial dilemma that requires different actions on many different levels, thus making it very complicated. You're talking about public policies at many different levels, building human and social capitol, creating networks, establishing ways to increase food access and decrease food access disparities, identifying vulnerable populations and communities, and then creating specific initiatives."

Tagtow, identifies six explanations for the "Hunger-Obesity Paradox":

Cheap, Energy-Dense Food Supply. Hunger is a result of deprivation that leads to purchasing and consuming cheap, energy-dense foods.[5] Women who are food insecure eat less meat, vegetables, fruit, grains and dairy and increase consumption of high energy "other foods."[6] Female-headed food insecure households with children consume more calories, watch more TV and spend less money on groceries than food secure households.[7]

Food Stamp Cycle. Cyclical patterns of food insecurity and hunger indicate there is more food available in the first three weeks of the month than the last week in food-insecure households. This could lead to a cycle of overeating and fasting which could cause a biological response of weight cycling, and lose the ability to self regulate amounts of food consumed. Consumption at the beginning of the month consists of more variety, "treats" or comfort foods and the end of the month includes less variety and energy-dense foods.[8]

Socioeconomic Experience of Poverty. Hunger and obesity are both social problems that result from poverty. Poverty is a result of changes in family dynamics, social policy, economic conditions, community infrastructure and personal experiences. Changes in family dynamics and resource allocation result in food insecurity.[9]

Poverty and Hunger are Stressors That Lead to Weight Gain. Poverty is the underlying stressor leading to mental health conditions such as disordered eating, depression, and substance use that may result in weight gain. For example, maternal depression may be associated with food insecurity among women with young children.[10]

"Built Environments" Lack Support for Healthy Lifestyles. Communities with higher percentages of African-American residents tend to have fewer available parks and greens spaces, places to play sports, and public pools and beaches. Moving from a high-poverty area (10%) to a low-poverty area (1%) is associated with a 50% increase in overall availability of outdoor places to play and engage in physical activity.[11] There are three times as many supermarkets in wealthy neighborhoods as in poor neighborhoods and four times as many supermarkets in White neighborhoods than in predominantly African American neighborhoods.[12]

Multi-factorial. A comprehensive, multi-factorial approach to addressing hunger and obesity from an assets-based perspective is needed. Human and social capital, interdisciplinary networks, and policy development are the strongest options for addressing food access disparities in vulnerable communities. Food policy councils and local and regional food enterprises offer opportunities for addressing food policy and procurement issues.

References

1. Olson CM. Nutrition and health outcomes associated with food insecurity and hunger. J Nutr. 1999;129:521-24S. and Adams EJ, Grummer-Strawn L, Chavez G. Food insecurity is associated with increased risk of obesity in California women. J Nutr. 2003;133(4):1070-4.
2. Laraia BA, Siega-Riz Am. Evenson KR. Self-reported overweight and obesity are not associated with concern about enough food among adults in New York and Louisiana. Prev Med. 2004;38;175-81.
3. Jyoti DF, Frongillo EA, Jones SJ. Food insecurity affects school children's academic performance, weight gain, and social skills. J Nutr. 2005;135(12) 2831-9. and Bhattacharya J, Currie J, Haider S. Poverty, food insecurity, and nutritional outcomes in children and adults. J Health Econ. 2004;23(4):839-62.
4. Townsend M, Peerson J, Love B., Achterberg, C, Murphy S. Food insecurity is positively related to overweight in women. J of Nutr. 2001;1331(6):1738-1745. McIntyre, L, Glanville, T, Raine KD, Dayle JB, Anderson B, Battaglia N. Do low-income lone mothers compromise their nutrition to feed their children? Can Med Assoc J. 2003;168:686-691.
5. Drewnowski A, Secter S. Poverty and obesity: The role of energy density and energy costs. Am J Clin Nutr. 2004;79:6-16.
6. Tarasuk VS, Beaton GH. Women's dietary intakes in the context of household food insecurity. J Nutr. 1999;129:672-679.
7. Bowman SA, Harris EW. Food security, dietary choices, and television-viewing status of preschool-aged children living in single- parent or two-parent households. Family Econ Nutr Rev. 2003;15(2)29-34.
8. Townsend M.
9. Hamelin A-M, Habich JP, Beaudry M. Food insecurity: Consequences for the household and broader social implications. J Nutr. 1999;129:525S-528S.
10. Casey P, et al. and the Children's Sentinel Nutrition Assessment Program Study Group. Maternal depression, changing public assistance, food security and child health status. Pediatrics. 2004;113(2)298-304.
11. Powell LM, et al. The relationship between physical activity settings and race, ethnicity and socioeconomic status. Evid Based Prev Med. 2004;1(2):135-44.
12. Morland K, Wing S, Diez-Roux A, Poole C. Neighborhood characteristics associated with the location of food stores and food service places. Am J Prev Med. 2002;22:23-39.

WIC Food Packaging May Change

Gillian Lawrence

The Supplemental Nutrition Program for Women, Infants & Children, commonly referred to as WIC, is a federally funded food program aimed at improving the nutritional quality of the diets of pregnant women, breastfeeding mothers, and children under five. According to the United States Department of Agriculture's Food and Nutrition Service, which administers the WIC program, the foods available through WIC are meant to supplement the diets of these populations. The nutrients represented by the WIC food packages, "have been shown to be lacking in the diets of the population WIC serves and are needed to help WIC participants meet their nutritional needs during critical periods of growth and development."[1] Targeted nutrients include protein, calcium, iron, vitamin A, and vitamin C. Although WIC food packages vary somewhat by state and by participants' status and needs, the package generally includes juice, iron-fortified cereal, eggs, cheese, milk, peanut butter, dried beans or peas, iron-fortified infant formula, tuna, and carrots.

The WIC package has remained largely unchanged since its creation in 1974. In 2003, the National Academy of Sciences' Institute of Medicine (IOM) was selected to review the WIC food packages and recommend cost-neutral changes based on the current needs of the WIC-eligible population. These changes are currently being considered by the USDA, which will issue final revisions sometime in 2006. The evaluation and recommendations made by the IOM were prompted largely by criticism that the package was no longer meeting the nutritional needs of the population it was serving. The report recognizes the following changes that steered their recommendations:[2]

1. Increased availability of low-cost, energy-dense foods;
2. Decreased time available to prepare foods in the home and increased use of pre-prepared foods that are often of poor nutritional quality;
3. Decreased physical activity due to more sedentary lifestyles;
4. Increased prevalence of overweight and obesity resulting from energy imbalance; and
5. Increased prevalence of chronic diseases such as diabetes, hypertension, cardiovascular disease, and cancer.

Overall, the new recommendations "encourage consumption of fruits and vegetables, emphasize whole grains [and] lower saturated fat, and appeal to diverse populations." For example, infants six to eleven months would still receive 24 oz of iron-fortified infant cereal (whole grain) but "vitamin C-rich juice" is replaced by "baby fruits and vegetables." Breastfeeding mothers and pregnant women would receive less juice, but would additionally receive either a $10 voucher for fresh fruits and vegetables or 280 oz of canned fruits and vegetables. The total amounts of cheese and eggs provided are recommended to be reduced, and milk must be less than 2% milk fat for women and children over two, thus lowering saturated fat in the package. More options, based on individual families' needs (for example, soy milk), are also included in the recommendations.

These recommendations encourage a healthier food package to serve the WIC population. According to the IOM report, "The proposed changes to the WIC food packages hold potential for improving the nutrition and health of the nation's low-income pregnant women, new mothers, infants, and young children. The new packages are well-aligned with current nutrient and food intake recommendations, and they allow considerable flexibility in food selection. Thus, the committee anticipates that the revised food packages will provide greater incentives… to consume the foods prescribed... The changes to the food packages reinforce the *Dietary Guidelines for Americans* and should result in improved diets for WIC participants. In turn, the revised WIC food packages are expected to improve the WIC program's positive contribution to the nation's health."[3]

References

1. United States Department of Agriculture Food and Nutrition Service. Frequently Asked WIC Food Package Questions. Available from: http://www.fns.usda.gov/wic/benefitsandservices/foodpkggenfaqs.HTM#1
2. National Academy of Sciences. WIC Food Packages: Time for a Change [Report Brief] (2005). Available from: http://www.iom.edu/Object.File/Master/28/119/wic%208%20pager—with%20tables.pdf.
3. Committee to Review the WIC Food Packages, Food and Nutrition Board, Institute of Medicine of the National Academies. WIC Food Packages: Time for a Change. Washington, DC: The National Academies Press; 2005.

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Building Food Security in North Minneapolis

Diane Benjamin, MPH

Imagine a community with only one grocery store for 70,000 residents. Fast-food outlets and convenience stores serve as the primary source of food. There are no farmer's markets in the summer. High levels of crime make backyard gardening unsafe. What would be the impact on residents' health?

This is the situation in North Minneapolis. Residents have some of the highest rates of diabetes, high blood pressure, and other diet-related health problems in the state. The average income in the area is also much lower than average and the local food shelf serves over 10,000 clients each year. Many residents rely on public transportation and cannot easily leave their immediate neighborhood to purchase food.

Fortunately, a new organization is committed to changing this. The Northside Food Project envisions a community where residents have ample access to affordable, healthy food and control over their food system. The project grew out of several community events that made an already fragile food system more so. First, two out of three grocery stores in the area closed, leaving the neighborhood tremendously underserved. At about the same time, the local Target store closed its doors. Finally, a shooting at a neighborhood flower shop greatly increased community fear about public safety. Many ideas emerged, including developing a local food co-operative, but neighborhood organizers soon realized that dealing with food insecurity in the north Minneapolis community involved issues of public health, safety, justice, economics, and education. It was about much more than just opening a store; it was about building a movement. The Northside Food Project was created to advance that movement.

Clearly, improved access to affordable, healthy, nutritious food, especially fruits and vegetables, is essential to improving the community's health. Angela Dawson, Director and Food Curator, and Bernadette Longo, University Liaison, explain that food is an issue that affects everyone and access to a reliable source of nutritional food is a right of all people. When the food system is broken and when the primary distribution system for food is gas stations, predatory convenience stores, and fast-food restaurants, this is not food security and not a system that promotes health and well-being.

Currently, the Northside Food Project is working on several projects, including a comprehensive community food assessment, cooking classes conducted with several community partners, expanding a market garden run by young people, and bringing at least one farmer's market into the community this summer. Developing a local food cooperative remains a long-term vision and the organization is looking at a number of different models of healthy food distribution, including backyard gardens and small-scale food production in the neighborhood. What all of these projects have in common is that they put people in the neighborhood at the center of the food system, rather than on the margin. They share a vision of having safe public spaces to sell, purchase and consume food, making food an issue that is discussed in the community and encouraging people to actively make decisions about their food supply. They are part of building a community that encourages community capitol retention, increases wealth and ownership opportunities, and creates small-scale and home-based economic enterprises.

The University of Minnesota is involved in several ways. The Center for Urban and Regional Affairs is providing financial support for a student to conduct the food assessment. The Office of Public Engagement has also provided financial support for a graduate student to conduct asset mapping and Longo, a University faculty member, is a founding member of the coalition. Many challenges exist to create a truly equal and dynamic partnership between the community and the University, but the project is committed to keeping neighborhood residents at the forefront of research and decision making.

Thanks to Angela Dawson and Bernadette Longo of the Northside Food Project for providing information for this article. For more information about the Northside Food Project, see http://www.northsidefoodproject.org

Selected Federal Food Programs

Program	Who it serves	Description
Food Stamp Program	Aimed at households that are most in need; most households have children, elderly members, or disabled members.	Monthly benefits are provided to eligible households which can be used to purchase food via the electronic benefit transfer systems (EBT) (similar to a bank debit card.)
National School Lunch Program (NSLP)	Children in public or private schools and or Residential Child Care Institutions; eligibility for free or reduced lunch rates is determined primarily by household income.	School boards apply to their state education agency to institute the program; NSLP provides per meal cash reimbursements to schools to provide nutritious meals to the students. NSLP provides school children with one-third or more of their Recommended Dietary Allowance (RDA) for key nutrients.
School Breakfast Program (SBP)	Children in public or private schools and or Residential Child Care Institutions; eligibility for free or reduced breakfast rates is determined primarily by household income.	SBP provides per meal cash reimbursements to schools and institutions that provide free and reduced price breakfasts to eligible children; these meals provide one-fourth or more of the daily recommended levels for key nutrients that children need.
Supplemental Nutrition Program for Women, Infants and Children (WIC)	Women who are pregnant, breastfeeding, or postpartum, and infants and children under five.	A monthly WIC food package is a prescribed combination of targeted foods for the purpose of improving the nutritional quality of participants' diets. The supplemental foods provided by WIC are supposed to address special dietary needs of program participants.

Source: http://www.frac.org/html/federal_food_programs/federal_index.html

Interested in making a difference?

Consider a Master's in Public Health (MPH) Degree in Maternal and Child Health (MCH)

Cara Ibrahim completed the Master of Public Health (MPH) program in MCH this spring. This fall, she will begin the dual-degree program in Health Journalism at the School of Public Health. She is also the recipient of the prestigious Higher Education Consortium for Urban Affairs (HECUA) Otto Bremer Fellowship, one of the first School of Public Health students to be so honored.

Ms. Ibrahim brought a wealth of MCH experience to the program and continued her professional development while a student at the University. She got her start in public health working on a lead poisoning prevention program in the Phillips neighborhood of Minneapolis, volunteered at the Hennepin County Medical Center newborn intensive care unit, and served as an outreach worker with the Healthy Start program. During her time at the University, she worked as a Research Assistant in the Division of Epidemiology and Community Health, in a CURA-supported position with the Hope Community housing project in Minneapolis, and as a teaching assistant in African American studies. She is currently working with the University of Minnesota Extension 4-H Youth Development on several different projects, including one that addresses community food security and food systems in South Minneapolis.

Ms. Ibrahim is enthusiastic about the MCH program at the University of Minnesota. She says, "It's the best program in the School of Public Health! The curriculum encourages students to think about real life issues and prepares them with a skill set to address them." Ibrahim hopes to use her MCH training to continue to bridge community and academic knowledge as a way to produce concrete solutions to the long-standing health disparities in the United States.

What is the Maternal and Child Health Program? An MPH training program promoting and preserving the health of families, women, children, and adolescents. It is in the Division of Epidemiology and Community Health in the School of Public Health at the University of Minnesota.

Who are the faculty? The MCH faculty is multidisciplinary (e.g., epidemiology, medicine, nursing, psychology, sociology, nutrition) and focuses on children with chronic health conditions; reproductive health and family planning; pregnancy outcomes; social inequities in health; women's health; infectious diseases; substance use; and child, adolescent, family, and community health promotion, risk reduction, and resiliency.

Who should apply? People who care about vulnerable populations and want careers in program planning and development, evaluation, surveillance, assessment, teaching, or research. The program offers a special emphasis on MCH epidemiology for interested students.

For further information about the MCH Program, call 612-626-8802 or 1-800-774-8636; e-mail gradstudies@epi.umn.edu; or visit http://www.sph.umn.edu/students/studentsservices/applicants/majors/motherandchild/

New MCH Online Degree Program Now Available!

The Maternal and Child Health (MCH) Program at the University of Minnesota announces a distance-learning Masters of Public Health Degree for advanced public health professionals. This program will allow working professionals to attain an MPH primarily through web-based coursework with minimal on-campus course requirements. The coursework focuses on the principles of social justice and ensuring the health of vulnerable populations. Graduates will develop expertise in the development of evidence-based advocacy, rigorous public health assessment, accessible and appropriate health education, and effective and innovative programs that promote health and well-being.

The MCH Program at the University of Minnesota is one of the top programs of its kind in the US, with nationally respected faculty. For further information, go to: http://www.epi.umn.edu/mch.

MCH Faculty Win Teaching Awards

Congratulations to two MCH faculty members for recent teaching awards!

Wendy Hellerstedt, MPH, PhD, Associate Professor and MCH Center Director in the School of Public Health, was a recipient of the Award for Outstanding Contributions to Graduate and Professional Education. This is the highest teaching award the University bestows. Recipients are recognized for their contributions to postbaccalaureate, graduate, and professional education through excellence in instruction; involvement of students in research, scholarship, and professional programs; and advising and mentoring students.

Charles Oberg, MD, MPH, Associate Professor and Chair of the MCH Major, was a 2006 co-recipient of the Leonard M. Schuman Excellence in Teaching Award. This award is given each year to a School of Public Health faculty member for outstanding teaching achievements.

Mapping Food Insecurity

Diane Benjamin, MPH

Black Hawk County, in Northeastern Iowa, is the site of an innovative community collaboration to understand food security in the county. With a small grant from the Iowa Department of Health, a coalition of local food and nutrition agencies, the county public health department, the school district, and the University of Northern Iowa established the Black Hawk County Food Security Study Group. The partners decided to use Geographic Information System (GIS) technology to map the food security resources and needs in their county in order to improve understanding of where services are provided and what gaps remain.

The first phase of the project takes program data from coalition members and maps Black Hawk County services, creating a profile of the food safety net in the county. The maps revealed where service locations were concentrated, and which areas of the county lacked services. They also served to debunk a community perception that the west side of Waterloo, the county seat, was more affluent than the rest of the city and did not need hunger assistance. The maps have been a powerful tool to use with policy makers, funders and the community. In addition, the project partners found the collaboration so helpful that they have formed a Food Security Alliance to continue their work.

Challenges to the project included integrating data from diverse sources, dealing with address data that were not "cleaned" and ready for use, and encouraging all the cooperating agencies to share their data. The next phase of the project will combine demographic data about target populations with the service data already collected. In the final phase, the group will make recommendations for solutions to gaps in services.

Special thanks to Lisa Swanson, Black Hawk County Health Department, and Cathy Simmons, Operation Threshold, for their assistance with this article.

Web-Based Resources on Food Security

American Dietetic Association's Hunger and Environmental Nutrition Dietary Practice Group. http://www.hendpg.com Examines the interdependence of food and water security, health, agriculture, and the environment. Contains list of readings and newsletter articles related to subjects such as sustainable agriculture, genetically modified food, and international hunger issues.

America¹s Second Harvest. http://www.secondharvest.org America's food bank network aimed at eliminating hunger in the US Includes information on the food bank network, hunger statistics in the US, and news articles related to hunger.

Bread for the World. http://www.bread.org A faith-based organization that seeks justice for hungry people through research and education on hunger and development. Includes national and global hunger facts, reports, legislative updates, and action alerts.

C-SNAP: Children's Sentinel Nutrition Assessment Program. http://dcc2.bumc.bu.edu/csnappublic/home.html Network of child health professionals conducting research in six urban medical centers to inform policy decisions that protect children from hunger and poor health. Includes links to journal articles, reports, policy briefs, and fact sheets on child nutrition and hunger.

Community Food Security Coalition (CFSC). http://www.foodsecurity.org Focuses on building sustainable, local and regional food systems that ensure access to affordable, nutritious, and culturally appropriate food. Provides information about CFSC's advocacy, education, networking, and programs.

Economic Research Service, Food and Nutrition Service, United States Department of Agriculture (USDA). http://www.ers.usda.gov/Browse/FoodNutritionAssistance Main USDA page that links to more information about the Federal Food programs and related news.

Food Research and Action Center (FRAC). http://www.frac.org Conducts research, monitors national events, and serves as a clearing-house for national information about hunger in the US weekly news digests on food issues also available.

National WIC Association. http://www.nwica.org Works on behalf of the WIC Program to gain bipartisan support in the US Congress, Federal Administration, and other groups that affect WIC policy decisions. Available resources include publications, education, and information about WIC-related legislation.

CONFERENCE

Save these dates for upcoming Twin Cities' conferences ...

UPCOMING EVENTS

July 26-28, 2006: *The 2006 National Maternal Nutrition Intensive Course at the University of Minnesota.* Brochure: http://www.publichealthplanet.org/mni

July 31- August 2, 2006: *Summer Institute in Adolescent Health — Engaging Youth in Health Promotion: Educating in New Directions.* Co-sponsored by the University of Minnesota Center for Adolescent Nursing, Healthy Youth Development Prevention Research Center, MOAPPP, and the Minnesota Department of Education. Contact: Mike Edie, medie@umn.edu.

Sept. 11, 2006: *Third Annual Women's Health Research Conference*, University of Minnesota, McNamara Alumni Center. More information and online registration at: http://www.womenshealth.umn.edu or call 612-626-1125.

Sept. 16, 2006: *Pediatric Environmental Health Toolkit Training: Clinical Applications for the Busy Pediatric and Family Practice.* Co-sponsored by the US Environmental Protection Agency, Greater Boston Physicians for Social Responsibility, Institute for Agriculture and Trade Policy, and the University of Minnesota Center for Leadership Education in Maternal and Child Health. For more information or to register contact: kschuler@iatp.org.

Sept.14, 2006, 1:00 pm - 3:00 pm: *Healthy Generations* Videoconference on food insecurity and hunger. More details and registration will be available at: http://www.epi.umn.edu/mch.

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