

## **Aligning Food Security Interventions with Better Nutrition in North America\*\***

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### **Summary**

Food security at a household level is closely linked to poverty, but in North America the link between nutritional indicators and food security is not strong. Programs to improve food security need to be sensitive to societal needs and, where possible, take good nutrition into account to reduce the burden of chronic disease. Changes in the food environment can help reduce food insecurity and improve nutrition in numerous creative ways. Many of these come best from grass roots local initiatives, which, if successful, serve as models for other communities. Farmers' markets, mobile markets, food cooperatives, community gardens, community groups who create pressure to provide fair food prices and those helping to enhance skills on how to buy and prepare healthy foods, all offer partial solutions to the problems of food insecurity and good nutrition. Support for interventions with known nutrition and health benefits (e.g., the Breast Feeding Initiative) or decreasing the marketing of foods and beverages to children, are other ways of improving food security and health. The landscape has changed from one of concern for under-nutrition to one of food quality to prevent chronic disease. Ensuring that only healthy foods are offered in school settings and subsidizing meals where needed is a challenge in terms of acceptance. Large American flagship programs, such as the school lunch program, need to be evaluated for potential improvements related to nutritional and other health outcomes. From small community-led interventions around food to broad policies to change institutional practices, all have potential to improve the food environment for everyone.

### **Current realities**

The 1996 World Food Summit established that "Food security exists when all people at all times have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active, healthy life." Access to healthy food is not always evident, even in industrialized countries, with 14.3% of Americans and 8.3% of Canadians reporting household food insecurity from 2011–'13. Food security is linked to economic prosperity and declined during the 2008–'09 recession. Food insecure households tend to be those with low incomes and education, and single-parent families are at elevated risk. Food deserts (i.e., where food prices are high and choices are limited) and the lack of infrastructure in disadvantaged areas add to these challenges. For example, in remote areas where food is obtained from the wild (e.g., game, fruits, fish) or through small, local production, increase costs (e.g., transportation or expensive storage requirements) pose major barriers to food security and nutrition.

The problem in the United States and Canada regarding access to healthy food is not one of inadequate production or availability, but rather one of distribution. Low-income households are vulnerable to food insecurity and poor health, and distance from healthy, affordable food can compound the problem. Levels of income support and the development of programs to ease food insecurity are political issues in both countries. In Canada, there are no provincial or national school lunch programs and no food support through Supplemental Nutrition Assistance-type programs. The means of supporting families is to provide incomes that are sufficient to care for their needs, although the levels of support are not sufficient in all settings.

### **Scientific opportunities and challenges**

Diets are changing and the transition to increased intake of sugars and processed foods coupled with the loss of traditional foods and exercise is leading to obesity and chronic disease at an alarming rate. Food insecurity is linked to many health problems in a seemingly bi-directional

manner. Food insecurity from temporary or long-term inadequate income causes stress and poor diets leading to chronic disease, while those with health problems, including obesity, are at higher risk for low income and food insecurity. The link between food insecurity, as measured by the Household Food Security Survey module, and dietary intake has been thoroughly studied in Canada and the U.S. using national data. One study compared nutrient intake in the two countries, examining specific nutrients with public health significance. In this case, the dietary intake data showed that the greatest difference between food secure and insecure individuals occurred in Canada and involved the amount of calcium and magnesium consumed. This trend was likely observed due to the higher cost of milk in Canada. No differences were seen between food secure and insecure individuals over the age of nine for vitamins A and C, and folate. There has been little difference in the nutrient profiles of younger children, as they seem to be protected from deficiencies. However, this result may be a reporting bias because mothers may not admit that they are inadequately feeding their children.

In terms of growth, food insecure children grow well in terms of height but tend to be heavier. There does not appear to be any evidence of slower linear growth or low weight-to-height ratios in food insecure children in North America. This link between growth and food insecurity is very different from that observed in other parts of the world, and the nutritional risk for food insecure households in North America includes increased risk of obesity and poorer quality diets in terms of added sugars, fewer fruits and vegetables, and greater risk of inadequate milk intake in Canadian children.

The growing problem of obesity and its impact on chronic disease is of utmost concern, and all programs addressing food insecurity must address this issue so as to not inadvertently contribute to the problem (e.g., offering high-calorie foods or extra snacks, not being able to access local produce through the Supplemental Nutrition Assistance Program [SNAP], low nutritional value for “food bank” foods). While much of the food security research linking nutritional indicators (e.g., obesity) uses cross-sectional data, better studies are needed to understand how to effectively decrease food insecurity and help encourage healthier diets. There are serious methodological challenges in measuring the success of different interventions. Program participants may be very different to nonparticipants in ways that are difficult to measure. Good quantitative and qualitative research studies are needed to better understand the problems of food insecurity from the participants’ point of view. As an example in a recent study, among low-income participants the most commonly cited barrier to the consumption of fruits and vegetables after cost was lack of skills in preparation and preservation of these foods.

Remote areas of Canada and the U.S. have additional challenges in terms of food provision and reliance on traditional food sources. Among indigenous populations, many live far from well-stocked grocery shelves and markets. Consequently, food prices are high because of transportation costs. Traditional ways of obtaining foods also have numerous constraints (e.g., fuel costs for hunting), which is challenging for many communities experiencing high unemployment rates. Obesity rates are very high and diabetes is a major health concern. There is no one solution for the high level of food insecurity in these communities, as there are important differences in culture, traditional food systems, and geography across the many communities that require consideration. Local solutions are needed to appropriately answer the needs of community members. The rapid transition from traditional ways of eating to more market driven foods presents important challenges to food security and nutrition in indigenous communities.

In addition to having sufficient resources to purchase foods and access to healthy foods for purchase, an element of education is necessary to improve nutrition knowledge and food skills in many settings. Pressure to eat in certain ways starts early in life with advertising of nonnutritious, but highly profitable foods. The World Health Organization (WHO) suggests a ban on advertising

to children who are too young to understand the advertising. Consuming highly processed foods persists because of prevailing consumer perceptions (e.g., it is time-consuming to prepare foods, consuming processed foods results in less waste). Many food preparation skills have been lost so there is a reliance on ready-to-eat foods. Sugar drinks are ubiquitous and are blamed for current nutrition problems given their low price and accessibility. In many instances, the consumer is subject to a higher price for a healthier food choice without any clear rationale (e.g., whole wheat products are often more costly than refined grains).

### **Policy issues**

Food security is related to income, and increases in direct financial support (e.g., higher minimum wage) do lead to improvements in food security, although not all food insecure households are in the lowest-income range. Solving problems of food security will not automatically lead to better nutrition and reduced chronic disease. There is great potential to focus on adjustments that include this aspect of preventive health in programs aimed at reducing food insecurity. In North America, food security is only very weakly related to undernutrition, but has an impact on diet quality and obesity. Nutritional evaluations of the implementation of programs to reduce the burden of food insecurity are essential. External evaluations through longitudinal studies are important tools to help improve programs or to potentially abandon unsustainable solutions for improving food security. Changes in the food environment must include the following:

- In more remote areas where food insecurity is highest, encourage sustainable local interventions developed by communities to address food insecurity (e.g., community freezers for local game, community gardens, greenhouse installations, fishing cooperatives) through funding from federal governments to address food security.
- In urban areas, local governments can provide spaces for produce markets and community gardens to reduce food costs and promote better nutrition through education around food production, conservation and preparation. Municipal planning committees need nutrition expertise to address issues of food security.
- Grocers Associations and food producers must be sensitized to the issues of offering healthier foods at noninflated prices (e.g., whole grain vs. refined; lower sodium choices) to help reduce socioeconomic inequities in health.

State (provincial) and national governments can use policies to encourage a number of beneficial actions to improve food security and nutritional health of the population by:

- encouraging the WHO recommended The Baby Friendly Initiative in more hospitals to increase breastfeeding and decrease infections.
- limiting the marketing of food and nonalcoholic beverages to children in the spirit of reducing the demand for unhealthy food choices. This currently is done in Quebec, Canada)
- tying subsidies for school meals programs to the offering of healthy food choices in all settings or disallow serving unhealthy foods in schools where subsidies are not available.

### **References**

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