**Targeting Environmental Determinants of Healthy Eating through Healthy Public Policy \*\***

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**Summary**

Tackling the burden of diet-related chronic diseases requires targeting determinants of healthy eating through policy that addresses food environments. An ecological framework broadly classifies food environments as **physical** (availability), **economic** (affordability), **sociocultural** (norms and values), and **communication** (information and messaging), all of which are influenced by **policy**. Research has demonstrated associations between food environments and diet-related health outcomes (e.g., lack of access and obesity). While enhancing knowledge, attitudes, and skills can help navigate food environments, simple interventions are insufficient to solve complex problems. Addressing the burden of diet-related chronic diseases requires targeting determinants of healthy eating through policy that addresses the physical, economic, sociocultural, and communication food environments.

**Current realities**

The challenge of improving the nutritional health of the public reflects somewhat paradoxical observations. Food insecurity is high, particularly among low-income, immigrant, and other vulnerable populations, such as remote northern and aboriginal groups. Yet overweight and obesity rates among both children and adults are of significant concern. Despite the proliferation of nutrition information, poor diets — defined as both underconsumption of essential nutrients and overconsumption of energy-dense, nutrient-poor foods — prevail. This has resulted in associated chronic diseases that are burdening health systems. While eating is conventionally viewed as a matter of personal choice, people make food decisions within the context of increasingly complex food environments that shape the availability, affordability, and social acceptability of food and nutrition “choices.”

In an urban context, the **physical** environment includes the number and type of food outlets (e.g., supermarkets, fast food outlets, convenience stores, community gardens). In a rural or remote context, access to the land or water for hunting, fishing, or agriculture are also included. Canadian research of physical food environments includes mapping supermarkets and fast food outlets/convenience stores, which serve as proxies for healthy and unhealthy foods respectively. In urban settings, the availability of fast food outlets far outnumber supermarkets and fast food outlets or convenience stores are half the distance from the average household than a supermarket. While we have very little Canadian data on how this plays out in rural and remote settings, observations suggest that convenience stores proliferate in those areas, making retail access to healthy foods challenging. A location lacking ready access to healthy food is a “food desert,” and will more likely be in rural or remote contexts. While food deserts are uncommon in urban Canada, a proliferation of fast food outlets and convenience stores (“food swamps”) are commonly concentrated in lower income neighborhoods. In terms of impacts on health, the higher the ratio of fast-food restaurants and convenience stores to supermarkets near people's homes, the higher the odds of being obese. Within one kilometer of the average home, there is more than three times the retail shelf space dedicated to energy-dense snack foods than fruits and vegetables. Both diet quality and obesity are associated with these measures.

**Economic** food environments dictate the affordability of food and the current price structure of food favors less-healthy products, which exacerbates food insecurity and unhealthy food consumption patterns. The cost of healthy eating plays an evident role in food insecurity. Assessing the cost of a healthy food basket has been a variable priority for different levels of government for some time, and the comparison to social assistance allowances and minimum wages has clearly demonstrated the role of low income in food insecurity. The institutionalization of food banks, initially designed as a charitable response to an acute need in a recession, is reflective of inadequacies of the welfare system in meeting health needs. Economics also play a role in the obesity epidemic and rising chronic diseases. Billions of dollars are spent in marketing products that contribute little or no nutritional value and comprise a much larger portion of our diets than is optimal for health (e.g., sugar-sweetened beverages [SSBs]).

The **sociocultural** food environment broadly refers to food norms and values, and can include ethnic and religious influences on food choice. However, culture includes the gradual but significant shift in food toward a reliance on highly marketed convenience and packaged fast foods. Canadians have become less skilled in food preparation and more dependent on processed foods, such that more than 60% of Canadians’ energy now comes from processed foods.

The **communication** environment is dominated by commercial marketing over nutrition education, sending powerful and frequent messages to children and adults about what foods are socially acceptable and readily available.

**Scientific opportunities and challenges**

Because the concept of food environments is somewhat nebulous, scientific challenges include defining and describing these concepts further: (i) measuring environments and their impact on consumption behavior and/or health outcomes, and (ii) assessing impacts of interventions designed to improve food environments on multiple outcomes.

While changing the **physical** food retail mix may pose a long-term challenge, modifying the types of foods offered within existing outlets or organizations holds more immediate promise. Indeed, schools are leading the way in adopting food and nutrition guidelines that promote healthier food environments for children, which is having positive impacts on health and social outcomes. Isolated efforts of municipalities and provincial recreational organizations have led to the adoption of healthy food policies in community contexts and the promotion of healthy corner store initiatives in lower-income neighborhoods. However, there is still significant work to do to create supportive physical food environments that promote food security and diet quality.

The **sociocultural** food environment reflects a culture that undervalues “real” food and intersects with an economic environment in which many processed foods are highly marketed and are “cheap” sources of calories for those on a low income. Efforts are needed to denormalize the culture of convenience with heavily processed, packaged foods.

While information is more readily accessible than ever, conventional means of nutrition guidance such as Canada’s Food Guide to Healthy Eating and nutrition labeling is insufficient to enable consumers to make informed choices in a complex **communication** environment. Government efforts to promote healthy eating (e.g., labeling, dietary guidance, public health campaigns) total less than 1% of what food and beverage companies spend on marketing their products. Corporate marketing, therefore, influences the economic food environment and sends powerful messages about what foods are socially acceptable and readily available.

**Policy issues**

The **political** food environment broadly refers to the rules and laws in place to protect the health of Canadians and must include policy to protect us from the cumulative effects of poor nutritional choices over time. Actionable policy recommendations to promote food security and healthy eating through creating supportive food environments include:

**For the Federal Government**:

* Implement a well-resourced, legislated federal investment in improving healthy eating through ready access to affordable, nutritious food for all Canadians. This would include policies that change the price structure of food, making healthier products more affordable than less-healthy products, which would promote food security and healthy eating. This may require partnerships with food industry, and could be begin with taxes on SSBs (below).
* Initiate excise taxes on SSBs of a minimum of 10%, as they have discouraged consumption of healthier foods while generating significant revenues, to apply to (i) subsidies on fresh fruits and vegetables, (ii) transportation of foods to remote areas, and (iii) health promotion programs such as school food (below). A 5 cent per liter tax on SSBs, accounting for a 10% decrease in consumption, is estimated to generate $1.8 billion per year.
* Implement a universal school food strategy that provides free healthy meals or snacks to every child in school. This would include infrastructure funds to retrofit schools with food preparation facilities.
* Implement a national regulatory system prohibiting all commercial marketing of foods and beverages to children, with exceptions for approved public health campaigns promoting healthy diets. Since government budgets are unlikely to rival those of “Big Food,” restrictions on marketing, especially to children, is a policy option for promoting healthy eating and may help to minimize the stigma associated with families’ inabilities to afford marketed products. Research from Quebec, where marketing to children has been banned since 1980, has shown that children (particularly Francophone children less likely to view media from outside of Quebec) are exposed to less food marketing and purchase/consume less fast foods.

**For Provincial Governments**:

* Implement policies that promote a living minimum wage and a welfare system indexed to adequately cover costs of healthy living. Ongoing monitoring of income adequacy would include costing a nutritious food basket in urban, rural, and remote areas, and comparing to social assistance allowances and minimum wages. Costing and updating contents of the basket must be a mandated role of public health in provincial jurisdictions.
* Develop standard guidelines for the health content of food and beverages procured, served, or sold in public facilities, beginning with schools, health care facilities, recreation facilities, and public buildings. Mandate such guidelines as policy, provide resources and incentives for implementation, and impose penalties for noncompliance.

**For Municipalities**:

* Empower local planning authorities to modify the physical food environment (e.g., food retail mix) through a combination of incentives (e.g., tax shelters, subsidies for food transportation to remote areas, removal of restrictive covenants, and zoning barriers) and constraints (e.g., zoning, bylaws) to influence the location and distribution of food stores, including fast food outlets and suppliers of fresh food, including fruit and vegetables.

**For International Organizations (World Health Organization, Food and Agriculture Organization, United Nations)**:

* Address the root causes, or drivers, of poor diets by instituting a global convention to protect and promote healthy diets (modelled upon the Framework Convention on Tobacco Control) to confront and regulate a globalized economic system, which currently includes a food system that proﬁts from expanding markets and promoting energy-dense products.

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