

Spotlight

# CONSUMER BEHAVIOUR IN FOOD SYSTEMS

Consumers and Food:  
Considerations for Healthy  
Eating Guidance in Canada

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**ARRELL  
FOOD INSTITUTE**



AT THE UNIVERSITY of GUELPH

**1**

**About Arrell  
Food Institute**

**2**

**Executive  
Summary**

**5**

**Current Context**

History of the Food Guide 7

Follow the Money? 8

**6**

**Spotlight:  
The Reach of  
Influencers**

**9**

**Gaps and  
Opportunities**

Gaps 9

Opportunities 14

**11**

**Spotlight:  
Nutrition Labels  
and Consumer  
Behaviour;  
Spotlight:  
The History of  
the School Food  
Environment**

**17**

**Spotlight:  
Shoku-Iku**

**19**

**Taking Action  
for Consumer  
Behaviour**

Table 1 19

**Acknowledgements 20**

**References 21**

**INNOVATIVE.  
INTERDISCIPLINARY.  
INSIGHTFUL.**

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# **ABOUT ARRELL FOOD INSTITUTE**

The University of Guelph is a world leader in food and agricultural innovation. Arrell Food Institute at the University of Guelph harnesses multidisciplinary expertise, convenes dialogues, and publishes papers on timely and relevant topics.

Food is intrinsic to human, economic, and planetary health; yet, it rarely comes first in conversations about how to meet today's challenges. Arrell Food Institute at the University of Guelph exists to elevate food to improve life. We bring people together to conduct research, train the next generation of food leaders, and shape social, industrial, and governmental decisions, always ensuring food is the central priority.

More information about the Arrell Food Institute can be found at:  
[arrellfoodinstitute.ca](http://arrellfoodinstitute.ca)

**OUR MISSION: ELEVATE FOOD TO IMPROVE LIFE.**

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# EXECUTIVE SUMMARY



Many Canadian consumers are interested in healthy eating and nutrition, but there are real economic and environmental barriers to following the food guide, including cost, accessibility of healthy foods, and busy work schedules. Additionally, tensions exist in how people understand the relationship between food choice and health. Healthy eating can be challenging for consumers to define and difficult to achieve, as our knowledge of health and food changes over time and based on our location, culture and experiences.

Though government publications, such as the Food Guide and Canada's Dietary Guidelines, offer some guidance on healthy eating, food choices are impacted and influenced by availability and affordability of healthy food and other factors such as marketing, experience, and culture.

An interdisciplinary group of academic experts at the University of Guelph used an evidence-based lens to examine the gaps in Canadians' understanding of healthy eating and factors that may influence their ability to follow healthy eating recommendations; they provide an analysis of gaps and opportunities for regulators, policy-makers, marketers, education specialists and other stakeholders interested in improving health and nutrition in Canada.

**Accessibility and Affordability of Nutritious Foods.** Our environment impacts our ability to eat healthily; unhealthy, inexpensive food tends to be more readily available in lower-income neighbourhoods, and healthy foods may be available less often, of poorer quality, or consumers may need to travel long distance to access them. Environmental influences also affect our consumption in restaurants and grocery stores (large portion sizes, visible placement of unhealthy foods, child-targeted marketing), as does family income. A nutritious school food program and incentives that support retailers and restaurants to encourage healthy food choices could support healthier eating.

**Nutrition Education and Knowledge.** Lack of nutrition education is a key challenge to improving healthy eating behaviours. Consumers must have food literacy — that is, they must be able to (1) understand food and nutrition, (2) read labels, (3) prepare appropriate food, and (4) have confidence in their knowledge and abilities. Home economics

classes offer an excellent opportunity to improve food literacy in Canadian students; improved nutrition and menu labelling could also reduce confusion.

**Social and Cultural Factors.** Factors like time, nutritional value, cost and taste influence food decisions; gender, culture and social norms also play a role, and should be considered in future research and policy decisions.

Despite these challenges, we have an opportunity to create change by capitalizing on existing tools and resources. Strategies to encourage healthy eating include:

**Regulatory Environment.** Regulators should use mandates, restrictions, economic incentives, provision of information and environmental defaults — in combination with one another, and according to the evidence base — to encourage healthy eating. Social interventions for low-income households and financial incentives for industry are likely to have significant impacts.

**Marketing for Canada's Food Guide.** Marketing science should inform the communication of Canada's Food Guide to consumers to effectively impact healthy eating, and government can more effectively work with industry to implement programs that inform consumers and influence healthy behaviour.

**School Boards and Ministries of Education.** Schools should support healthy eating habits by providing healthy food for students (through a school lunch program), limiting access to unhealthy food and supporting food literacy through the curricula and educational initiatives.

**Food Retailers.** There is an opportunity for a collaborative and cross-sectoral approach from food retailers, who are interested in corporate social responsibility initiatives, to support health and nutrition. Industry can increase the availability and affordability of nutritious foods and replace unhealthy food with healthier food in prominent locations to reduce impulse purchases of unhealthy food.

Regulators, policy-makers, educators and industry all have a key role to play in delivering timely, accurate information and improving healthy eating in Canadian consumers. Income supports such as a guaranteed annual income, improvements to the childhood tax benefit, and increases in the minimum wage are an important element of improving health and nutrition for Canadian consumers.

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//////////////////// **Definitions**

For purposes of clarity, the following definitions are used for this paper:

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**Food and nutrition knowledge**

is the awareness of food types and varieties, including nutrients and the value of food and nutrition to health and well-being.

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**Food skills**

represent the ability to handle and work safely with food, from the store to the plate (shopping, preparing, etc.).

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**Self-efficacy and confidence**

are a person's belief in their food skills ability and nutritional well-being. This includes knowing how and where to find truthful nutritional information and having the motivation or desire to cook and prepare healthy foods.

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**Social and cultural norms**

are those social factors related to food and nutrition, such as income security, spiritual beliefs, and cultural heritage.

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**Food Security**

means having the ability to reliably access sufficient safe, nutritious, and culturally preferred foods to lead a healthy and active lifestyle; a process rather than an outcome.<sup>50, 51</sup>

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# CURRENT CONTEXT

## CANADIAN SOURCES OF HEALTH INFORMATION

Canadians look to a variety of sources for information about healthy eating.<sup>3</sup>

53%	No Sources
19–24%	General Research
16–20%	Family and Friends
11%	Social Media
10%	Cookbook/Magazine
8–9%	Canada's Food Guide
8%	TV/Documentaries
8%	Family Doctor or Health Professional

Consumers use a variety of resources to learn about health, including social media, the internet, farmers, food labels, the Food Guide, and health professionals.<sup>2</sup> Consumers' trusted sources of information about food and health are changing. Younger adults tend to use online sources (rather than health professionals) for their health information, which may show that Canadians are starting to prioritize convenience over trust.<sup>3</sup> While the internet and social media may be convenient, the information provided cannot always be trusted in the same way as information from doctors, registered dietitians, teachers, and researchers.

Health misinformation can spread quickly online; we need easily accessible and convenient access to evidence-based and trusted sources of health information to counter the spread of misinformation. However, simply putting out more information on eating well is not the solution, since this approach can stigmatize those who cannot follow the guidelines for socio-economic reasons.<sup>4</sup> Further complicating the issue, Canadians vary significantly in who they trust to provide health information. What we know about health is constantly changing, which can result in conflicting media reports, causing confusion for consumers trying to provide healthy food for themselves and their families.<sup>4</sup>

Despite the fact that the majority of Canadians are aware of the Food Guide<sup>3</sup> and it is the second most downloaded resource from a government website, Canadians rarely use it as a tool to inform or change their eating habits. The Food Guide tends to place responsibility for healthy food choices on the individual — ignoring collective responsibility and structural barriers that shape people's food options.<sup>4</sup> For example, people living in poverty often cannot afford the fresh foods recommended in the food guide, these foods are often not for sale in the neighborhoods in which they live and they lack the time to cook. This means we have an opportunity to help move the Food Guide recommendations into practice, but this will take significant work from multiple stakeholders.

# THE REACH OF INFLUENCERS

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Social media influencers can have significant sway over consumers' food choices and eating habits.<sup>5</sup> This is true particularly when consumers are seeking advice on weight loss.<sup>6</sup> For example, Beyoncé Knowles announced she lost 20 pounds in 2 weeks using “Master Cleanse.”<sup>7</sup> Other celebrities soon publicly endorsed and shared their attempt at the cleanse. More recently, a study from the University of Guelph and Dalhousie University found that Canadians rely more on social media influencers for nutrition and health advice than on Canada's Food Guide and health organizations combined.<sup>8</sup>

**Concerns about Misinformation:** The rise of social media influencers and the brands they represent has raised concerns about the validity of the products and information that they endorse. A recent study from the University of Glasgow found that 1 in 9 social media influencers deliver misinformation.<sup>9</sup> The scope of misinformation dissemination means that sound, evidence-based information needs to be shared in a way that resonates with consumers.

## History of the Food Guide

Canada's Food Guide was originally developed in 1942 and was designed to address the food access barriers people faced during wartimes, including best practices in rationing foods.<sup>10</sup> The goal was to ensure all Canadians were eating enough, eating well, and were able to fully contribute to the war effort. Historically, the recommendations in the Food Guide did not account for cultural differences in food preferences and eating habits between Canadians.

Between 1942 and 2019, the Food Guide was updated sporadically, with updates occurring anywhere between every two and sixteen years. Throughout the history of the guide, academics and health professionals have questioned whether it was robust enough to shape consumer behaviour and shift the diets of Canadians, or whether it served primarily as a knowledge resource to guide school education curriculum, public health campaigns, and institutional food procurement. There are concerns from various groups and organizations about the practicality, affordability, and applicability of the 2019 Food Guide for the diverse population of Canada, including communities of different cultures, ethnicities, socio-economic groups, and family dynamics.

The 2019 Food Guide is more in tune with current research on human nutrition than previous versions of the Food Guide. It encourages more fruit and vegetable consumption and recommends reducing processed foods and high-sugar foods. It is less prescriptive in terms of serving sizes and food groups, and opts for a more wholesome, whole-food diet. The new Food Guide places more emphasis on healthy eating habits, which include improving food skills and knowledge, preparing more food, and eating at home more regularly. Criticisms of the Food Guide in the media include: the foods recommended are not accessible and affordable, the recommendations are not practical to implement, there is a lack of culturally relevant foods, and the overtones about how, where, and with whom to eat are too strong.<sup>11,12</sup>

The Canadian Food Guide is supposed to be one of the most trusted and scientifically based sources of information on healthy eating, yet only 8–9% of Canadians use the guide as a source of information on healthy lifestyles.<sup>3</sup> This means we have an opportunity for the Canadian Food Guide to improve the health of Canadians and reflect on the advice that Canadians receive about healthy eating and healthy lifestyles.

Marketing science can play an important role in ensuring that the Food Guide has a positive impact on consumers. Marketing research seeks to understand how consumers process information, with the intent to influence consumer thinking and purchase decisions. We suggest that the current marketing of the Food Guide could be enhanced to improve healthy eating among Canadians. The Food Guide implies that eating healthy is a choice based on education, requiring significant self-surveillance and self-regulation. However, self-monitoring

is not the only barrier Canadians face when aiming to “eat healthy”— affordability, time, accessibility, knowledge, and social and cultural norms all play a role in consumer behaviour.

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//////////////////// **Evolving Definitions of Healthy Food**

The ways in which concepts such as healthy food, nutritious food, and food literacy are understood is continually changing.

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There is a tendency to make food information look factual, but the reality is that food science is always evolving. Best practices frame guidance as “at this particular time” and “to our current understanding.”

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Social constructions and norms have strong influences on the ways that the public perceives food-related information and guidance. Pressures on consumers come from competing voices and sources of information.

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**Follow the Money?**

Another factor influencing consumer behaviour is how research findings are shared with the public. Although measures are in place to prevent donor bias from influencing research results, the general public may remain skeptical about university research funded by industry or through a mix of government grants and matching industry support. Public discussion on the quality of research and the influence of industry stakeholders can be polarizing and non-factual, further complicating how consumers interpret and understand food science and food guidance.

# GAPS AND OPPORTUNITIES

We examine the various gaps in Canadians' understanding of healthy eating and factors that may influence their ability to follow the healthy eating recommendations set out in the 2019 Food Guide. These include consumer knowledge and education, as well as economic, physical, social and cultural factors that influence how we eat, live and purchase foods.

## Gaps

### ***Nutrition Education and Knowledge***

A complicated and competing set of conditions influence consumers' eating choices. Lack of adequate nutrition education is a widely recognized challenge in Canada, as effective food literacy education creates healthy communities and healthy individuals. Consumers need to be able to:

1. understand nutrition,
2. read labels,
3. prepare food that is culturally relevant and appropriate, and
4. have the confidence in their abilities to make healthy meals.<sup>13</sup>

These four components of food literacy are interconnected, and research has shown that adolescents believe that food and nutrition knowledge is a very important influence on their eating behaviours.<sup>14</sup> Although increased knowledge about healthy choices does increase consumption of healthy foods,<sup>15, 16</sup> knowledge on its own is not always sufficient to affect changes in behaviour. Self-efficacy, or belief in your own ability to make changes, also plays a role — for example, children with high self-efficacy are more confident that they can translate intentions into behaviours and show eat a higher quality diet as well.<sup>17, 18</sup>

A study conducted by researchers at the University of Guelph examined personal eating habits of undergraduate students before and after a hands-on food course.<sup>19</sup> After the course, students reported improved confidence in preparing different foods and in their food safety knowledge; however, they rated their

own eating habits more poorly. This may be because they were still adjusting to university life, or because as they learned more about healthy eating, their perceptions about the healthiness of their diet also changed. These types of results suggest that while education plays an important role, there are other factors that affect the eating behaviours of young adults.<sup>20</sup>

Home Economics classes are an excellent opportunity for students to learn about food literacy from a young age. According to the International Federation for Home Economics, these classes bridge knowledge from many sectors, including food, health, finances, environment, and consumer understanding.<sup>21</sup> Recently, Canadian schools have experienced a shortage of trained home economics teachers and a decrease in class enrollment.<sup>22</sup> This is partly because programs to train Home Economics teachers and professionals are being down-sized and disappearing. Unfortunately, even as Home Economics is declining in schools, we also see a decline in both food handling skills and financial literacy — which have led to health challenges for individuals and households.<sup>22</sup> For example, parents who believe their cooking skills are low were eight times more likely to report food insecurity.<sup>23</sup> This suggests that we have an actionable opportunity to enhance education around food skills and to improve food literacy.

### ***Accessibility and Affordability of Nutritious Foods***

The influence of the built environment — such as the design of our urban areas, which are built to serve cars rather than pedestrians — on physical activity and healthy eating behaviour is an important issue, with the Centers for Disease Control, Institute of Medicine, and World Health Organization all recognizing changes in built environments as a top priority.<sup>24</sup> Many aspects of built environment barriers to healthy eating are common to both rural and urban areas, including cost of accessible foods and recreation, access to healthy foods, and the “walkability” and “bikeability” of communities.

Nutritious food is not always accessible or affordable. Unhealthy foods tend to be relatively inexpensive compared to healthier options, and lower-income neighbourhoods are often saturated with these less healthy options.<sup>25</sup> For example, restaurants and other ready-to-eat foods are quick and convenient, making them especially appealing to families with limited time and resources. However, these foods tend to be less healthy than home-cooked meals. In addition, differences in foods that are available in different communities may explain some of the racial, ethnic, and socioeconomic disparities in nutrition and health outcomes. Some healthy foods, such as low-fat dairy products and fruits and vegetables, are available less often or are of poorer quality in minority and lower-income areas.<sup>26, 27, 28</sup>

# NUTRITION LABELS & CONSUMER BEHAVIOUR

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Food labels can help consumers make food choices but can be confusing and hard to navigate.

Some consumers may have difficulty interpreting the information on the mandatory “Nutrition Facts” table and ingredient list on food packages. Too much information can overwhelm consumers, or they may not have the background knowledge to process the information provided by the nutrition label.

A multi-disciplinary team from marketing and nutrition science at the University of Guelph\* is currently investigating retail data to better understand the effectiveness of a nutrition labelling system on consumer choice. Findings from this work could lead to improved front-of-package labeling to assist consumer decision-making while food shopping.

Beyond informing consumers, nutrition and menu labelling policies provide incentives for manufacturers and retailers to reformulate their products (e.g., calorie reduction, smaller portions). As a result, improved nutrition labelling systems could inspire consumer trust in retailers.

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# THE HISTORY OF THE SCHOOL FOOD ENVIRONMENT

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Due to a crisis in school funding in the 1990s, school boards turned to new sources of revenue generation, including vending machine agreements and food courts in school cafeterias.<sup>34, 35, 64</sup> As schools are a vital location for teaching children about food and nutrition, the school cafeteria and the food it offers has been a site of nutritional conflict. Some provinces have imposed regulations to restrict the amount of junk food, including soft drinks, that could be sold — despite protests from students, parents, and teachers. The impacts of these regulations are still being determined. In Ontario, cafeteria revenues have declined, but other evidence suggests that the nutritional quality of food being consumed by children has increased.

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\* This multi-disciplinary research team includes marketing and consumer studies professors Drs. Tirtha Dhar and Tanya Mark, along with human health and nutritional science professor Dr. Alison Duncan.

Research also suggests that more than half of consumers' grocery store purchase decisions are unplanned and made in the store.<sup>25</sup> This leaves consumers vulnerable to subtle environmental influences that promote intake of less healthy foods in places like supermarkets and restaurants. Examples of such environmental influences include:

- Large portion sizes at restaurants, which encourage overeating by changing norms around how much is appropriate to consume.
- Highly visible placement of sugary drinks on supermarket end caps and candy in the check-out aisles, which makes these items salient and increases impulse purchases.
- Child-targeted marketing uses athletes or licensed characters; it can shape taste and snack preferences and form brand loyalty at early ages.

Incentives for industry to encourage healthy choices are misaligned. Many food companies are under immense pressure to maximize profits instead of focusing on consumer health outcomes. Depending on the sector, healthier products can require higher financial investment and be prone to low sales if people don't want to try new products or think they are less tasteful or more expensive. For example, some retailers have points cards, which use algorithms to generate offers and deals based on customers' current shopping habits rather than healthier options, providing no incentive to make dietary changes. Companies could use the data to develop algorithms to encourage consumers to make healthier choices by providing a promotion or other incentive (for example, more points).

Family income and the cost of food also affect healthy food choices.<sup>29, 30</sup> Income is one of a broad range of personal, social, economic, and environmental factors that play a role in individual and population health. These factors, referred to as *Social Determinants of Health*, also include education and literacy, childhood experiences, social supports, and coping skills, access to health services, genetics, and gender.<sup>31</sup> Income and wealth is directly related to an individual's food security, but also relates to housing and work conditions. In Canada, a relatively wealthy country, food insecurity is still fairly prevalent — 12% of Canadian adults reported living in food insecure households between 2007 and 2014. These numbers are much higher in the Territories, with 50.8% of households in Nunavut experiencing food insecurity.

The impacts of food insecurity go beyond the household level and create economic effects such as increased healthcare and mental health costs.<sup>32, 33, 34, 35</sup> As a result, advocates for reducing food insecurity maintain that the most effective solution is to increase income levels; low or declining incomes in combination with the rising cost of living are affecting the ability of Canadians to afford nutritious diets.<sup>36</sup> Unfortunately, many public health campaigns still imply that poor health

is due to inadequate self-care and do not recognize the systematic links between health, poverty and trauma — which can further stigmatize certain marginalized groups.<sup>37, 38</sup>

### ***Social and Cultural Factors***

Other factors also impact a person's ability to eat well and adopt health recommendations. The most frequently reported barriers to healthy eating are time constraints, taste preferences, and monetary costs.<sup>39</sup> Individuals who perceive more barriers to healthy eating have lower motivation, lower levels of self-efficacy, and possibly lower behavioural control required to maintain a healthy diet.<sup>39</sup>

Taste, nutritional value, cost, and time are the top factors that influence food decisions across socioeconomic groups.<sup>40</sup> Canadians are often pressed for time, holding down numerous service jobs, sometimes with split shifts. Additionally, more women have joined the labour force over the past few decades. However, women still tend to be the primary partner responsible for meal preparation and shopping.<sup>40</sup> This may have led to additional time constraints around food preparation, which retailers have addressed through the development of pre-packaged, ready-to-go meals.<sup>41</sup> The Food Guide recommendations require families to spend more time on food preparation, which may not be practical for many Canadians.

The Food Guide places responsibility for healthy food choices on the individual, which does not recognize that individuals may differ in their opportunities and resources to adopt the recommendations.<sup>4</sup> Gender is one key factor that impacts our food choices. The responsibility to buy and prepare nutritious food has long been inherently gendered — women have been primarily responsible for making food purchases, preparation, and cooking at home. Many women take responsibility for purchasing food and meeting their family's nutritional needs, despite also seeing these tasks as stressful and challenging.<sup>42</sup> US women cook meals at home far more frequently than men (70% vs 46%, respectively), and spend more than twice as much time per day cooking.<sup>43</sup> Even the current Food Guide seems more geared towards women than men — many pictures include jewellery and painted nails. This means that it's important to consider how the current Food Guide, with its emphasis on how to eat and not just what to eat, may impact women more than it does men.

Further, dietary-based recommendations and food guides are not always aligned with cultural food preferences and practices. Food is a critical way to maintain our connection to home and signify our ethnic identity among community members who are spread across the globe.<sup>44</sup> While the recommendations do consider culture's role in maintaining a healthy diet, the visuals and recipes often fall short in incorporating these effectively. For example, the Food Guide could have incorporated traditional Indigenous foods (e.g., game meat, corn soup, wild

blueberries) or foods that would be recognizable to newcomers to Canada (e.g., plantains or cassava for Central American families) to help more communities recognize their own diverse histories and cultures within the recommendations.

Food is also a social activity — most eating takes place with others. The updated Food Guide talks about the importance of eating more at home and with others, but family meals may not be practical for some families, including single parents and working-class parents, who may be working long hours, shift work, or multiple jobs.

Eating together influences food choices both positively and negatively; research has shown that who we eat with plays a role in what we eat and how much we eat.<sup>45</sup> When eating at home, consumers have more control over portion sizes and experience fewer social pressures. When eating in a group, social norms may influence food choices; consumers model their consumption after the amounts that others eat and make food choices based on what they believe will be perceived favourably by others.

## Opportunities

There are many audiences and stakeholders who need to be involved to support healthier eating. To create change, we can start by capitalizing on existing tools and resources and encouraging food companies to shift marketing campaigns. The following four key strategies should be incorporated into future program and policy development to support the health of consumers.

### ***Regulatory Environment***

The personal, social, and economic barriers to eating healthy demonstrate how food environments can affect consumers' ability to make responsible food choices that reflect their long-term health goals. Improved policies can play an important role in better aligning people's food choices with their ability and desire to live healthy lives.<sup>46</sup>

Regulatory policies that accelerate healthy eating outcomes generally fall into six broad categories:<sup>25</sup>

- **Mandates** make a particular action required by law.
- **Restrictions** prohibit sales of unhealthy substances (e.g., prohibiting alcohol sales to minors).
- **Economic incentives** align taxes and prices with health outcomes. Economic incentives can work in two ways — taxes (to discourage behaviours) and subsidies (to encourage behaviours).

- **Increase restrictions on advertising and promoting to children** limit or restrict unhealthy products or behaviours. For example, regulation of tobacco advertising dictates bland packaging and the presence of warning labels to discourage use.
- **Provision of information** provides education on healthy or unhealthy behaviours to either encourage or discourage use.
- **Environmental defaults** make it easier for individuals to avoid less-healthy options. For example, changing the default side dish at restaurants from French fries to salad.

Healthy food policies should not consider these broad categories alone, and whenever possible, should consult the evidence base to determine how to most effectively use each strategy. For example, research in the UK has shown that reducing or banning advertisements alone has a weak effect on improving diets; likewise, improved nutritional labelling needs consumers to properly interpret and apply the information in order to effectively inform their choices.<sup>47</sup>

The research is clear — education and food skills are an important incentive for healthy eating, but to see significant change, we need social interventions for low-income households.<sup>18, 48</sup> These interventions can include an increase in the minimum wage to a living wage, a guaranteed annual income, and improvements to the child tax benefit program.

A cohesive regulatory environment could offer financial incentives, supporting industry to make changes to improve health and sustainability. Policies and regulations could promote healthy eating as part of our food environment and food supply chain, including by increasing access to foods recommended in the Food Guide, improved incentives for consumers to buy these foods, and/or favourable positioning for healthier products. In addition, a school lunch program that increases accessibility and exposure to healthy foods could improve health outcomes.

Healthy food policies should not be considered in isolation of other healthy lifestyle factors. Strategies for improving diets and overall health outcomes should consider the many other factors that affect a healthy lifestyle — such as the built environment and things that influence physical activity (e.g., bike lanes, recreational facilities, and the planning of neighbourhoods).<sup>46</sup>

### ***Marketing for Canada's Food Guide***

Initiatives that target the market may more effectively improve diets than traditional interventions such as nutritional labels.<sup>47</sup> Advertising is so successful in shaping behaviour that many countries have imposed strict limitations on the advertising of products to children — especially those that are high in sugar, fat, or sodium.<sup>25</sup> More than 60 countries around the world currently have some regulations on

food and beverage television advertising to children. Other policies that limit food marketing to children include curbing advertising and marketing of less healthful foods and beverages in schools and removing toys in children's fast food meals.

With this in mind, marketing science may offer insights into how the Food Guide could more effectively inform consumer choices. Health Canada is already using some marketing techniques to support the implementation of Canada's Healthy Eating Strategy. The strategy includes reducing marketing ads for non-nutritious foods to children, improving healthy eating information on food packaging, protecting vulnerable populations, improving the nutritional quality of food, and supporting increased access to and availability of nutritious foods across Canada.<sup>49</sup>

84% of Canadians are aware of the Food Guide but fail to use it to make dietary choices. This tells us there is significant room for improvement. Health Canada did not engage with industry in the development of the 2019 Food Guide to avoid the perception of bias; however, there is now a disconnect, as industry is not positioned to act on the messaging and recommendations from the Guide. Health Canada could work with industry to improve the adoption of the Food Guide recommendations through campaigns and programs, such as:

- front-of-package labelling to engage and inform consumers.
- development of rewards programs and discounts that align with the Food Guide.
- encouragement of impulse buying of foods that meet Food Guide recommendations through merchandising.
- development of food trials to create awareness of delicious healthy foods.

In each case, Health Canada and industry could measure the impact of each strategy, to determine which effectively engages consumers.

### ***School Boards and Ministries of Education***

School-based education is an important component of children's exposure to healthy food and eating habits.<sup>40</sup> Experiences with food in the school environment have been proven to affect children's diets and weight.<sup>50, 51, 52</sup> Given that children spend more time at school than they do in the home, it is important that food literacy is embedded within the curriculum. Designing schools to support healthy eating habits requires policies at both the federal and local levels. This may include school nutrition standards and limitation of competitive foods, as well as access and exposure to healthy foods through a school lunch program.

In 2010, Health Canada released a report synthesizing the research on cooking and food preparation skills. One of the key findings was that parents or guardians are powerful nutrition and food skills educators and have a great impact on children's development of food behaviours.<sup>40</sup> The report calls for parental involvement in the development of nutrition and cooking skills education initiatives

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# SHOKU-IKU

## A LEADING JAPANESE CHILDHOOD FOOD AND NUTRITION EDUCATION PROGRAM

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Early childhood nutrition is an essential component of child development.<sup>53</sup> A number of countries around the world, including Japan, Brazil, and Italy, provide nutritious food for youth through school food programs.<sup>54</sup> Japan is often referenced as a leader in childhood nutrition and food literacy because of its school food program called *Shoku-iku* — “food and nutrition education.”<sup>55, 56</sup> Japan prioritizes student access to food by subsidizing a portion of their meal. If this price is beyond parent or guardian budgets, there are opportunities for further subsidization through programs that offer reduced or free rates.<sup>57</sup> *Shoku-iku* has a participation rate of 99% of elementary students and 85% of junior high students. Japan’s approach to school lunches emphasizes that time spent cooking and eating together is another opportunity for teaching and learning. Students actively engage in food preparation and clean up, teaching them responsibility and how to contribute to household tasks.<sup>58</sup>

**Government Regulation:** Government regulation and monitoring of *Shoku-iku* is minimal. The government sets nutritional guidelines, but the day-to-day decisions on the ingredients and preparation of food is the responsibility of schools themselves.<sup>55</sup> This autonomy results in diversified food experiences for youth. For example, some schools have featured cuisines from around the world, including India, Italy, and Mexico.<sup>55</sup> The government has the authority to audit a school’s delivery of *Shoku-iku* if standards are not met, but there are very few recorded cases of poor meal quality or cooking standards.<sup>57</sup>

**Impact on National Childhood Nutrition:** The *Shoku-iku* program has many positive impacts on national childhood nutrition, particularly in closing the socio-economic divide between children’s intake of vegetables and fruits. Children who more commonly face food insecurity, including those from low-income households, can rely on *Shoku-iku* to receive comparable fruit and vegetable intake to children from higher income households.<sup>59</sup> This demonstrates how school food programs can play a critical role in improving access to nutritious food for children and teaching valuable skills in food preparation.

to improve health outcomes. Given the focus on food literacy in Canada's Food Guide, there is a timely opportunity to revive the field of home economics in schools. In its current state, the Guide lacks actionable opportunities for improved education in this area. Policy makers should support curricula that address practical food skills and the associated shortage of home economics-skilled teachers in middle and high school settings.<sup>22</sup> In fact, it is possible to incorporate whole food-cycle literacy education from kindergarten to grade 12.

### ***Food Retailers***

Corporate Social Responsibility (CSR) has become an important aspect for company growth due, in part, to the increasing demand from consumers to see positive impacts from the services and products they are purchasing. Industry has shown that CSR can take many forms including, improving the environmental impact of production, enhancing the positive impacts of products and services on consumers, and addressing the social responsibility companies have to their employees and those impacted by their operations.<sup>60</sup>

Supermarkets and other food retailers have been described as having unprecedented power in the global food system.<sup>61</sup> The supermarket chain Walmart, for example, has been ranked as the 10th largest economy, surpassing entire countries, like Australia, which ranks 12th.<sup>62</sup> With such economic power, there is an opportunity for food retailers to enhance relationships between corporations and society for the betterment of public health. Food retailers have long engaged in CSR initiatives to give back to the communities in which they operate. The worlds' largest retailers often prioritize corporate social responsibility strategies such as: donating surplus food to charity, reducing food waste, sourcing sustainably, growing the number of store-brand foods to support governance of food safety.<sup>63</sup> Despite such CSR commitments, there is little to no action to support health and nutrition. CSR strategies have also been criticized as a means for food retailers to shift responsibility for healthy food selection to consumers. Research suggests that to support health and nutrition, food retailers could:<sup>63</sup>

- remove unhealthy confectionary, snacks, and sweetened beverages from prominent in-store locations;
- increase availability of minimally processed nutritious foods; and
- introduce initiatives to make nutritious foods more affordable and help consumers select healthy and sustainable options.

Although widely used, CSR strategies are voluntary. In order to include health and nutrition approaches in CSR strategies across Canadian food retailers, a collaborative and cross-sectoral approach — that engages directly with consumers, health-care practitioners, retailers, and others — is required.

TABLE 1

# TAKING ACTION FOR CONSUMER BEHAVIOUR

A number of audiences and stakeholders should be involved in supporting a healthy eating environment for Canadians. We suggest the following action items for consideration for the development of future programs and policy:

Group	Action Item
Regulators and Policymakers	1 Ensure policies aimed at improving diets are evidence-based and multi-faceted to include consideration for the many factors that play into a healthy lifestyle.
Marketing	1 Use the science of marketing to improve awareness of and consumption of nutritious foods.
Education	<ol style="list-style-type: none"> <li>1 Support the revival of the home economics field and embed food literacy education into the curriculum of school-aged children</li> <li>2 Increase access and exposure to healthy foods in schools through healthy school lunch programming</li> </ol>
Corporate Social Responsibility	1 Encourage retailers and food manufacturers to incorporate health and nutritional metrics into corporate social sustainability strategies.

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## Workshop Summary

This discussion paper is part of a series of papers being produced by Arrell Food Institute and the Research Innovation Office at the University of Guelph. Under the scientific direction of Tanya Mark (U of Guelph) and Catherine Carstairs (U of Guelph), this discussion paper was written and researched by Wilton Consulting Group (<https://www.wiltongroup.ca>), following a series of workshops with invited experts.

Workshop discussion focussed on the following questions:

- What problem is the Food Guide trying to solve, and how do the marketer and consumer lenses differ on this?
- How should the Food Guide meaningfully connect with all consumers?
- How inclusive are the recommendations of Canada's cultural diversity and gender roles with food? How will marketers respond?
- How can marketing science be leveraged to influence consumers to make healthier choices?

## Participants

Attendees of the two workshops, who helped form and edit the discussion paper, consisted of academics, technical experts, government, and industry. We wish to thank all participants for their insight: Gwen Chapman (U of Guelph), Tirtha Dhar (U of Guelph), Barb Dillingham (OMAFRA), Alison Duncan (U of Guelph), David Ma (U of Guelph), Dana McCauley (U of Guelph), Lisa Needham (WDGPH Nutritionist), Jeff O'Donnell (OMAFRA), Paula Brauer (U of Guelph), Jess Haines (U of Guelph), Simon Simogyi (U of Guelph), Hannah Tait Neufeld (U of Guelph), Jennifer McWhirter, Lisa Ashton (U of Guelph) and Alice Raine (U of Guelph).

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