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Evidence review for dietary guidance: Summary of results and implications for Canada's Food Guide

2015



Canada 

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1. INTRODUCTION

The Evidence Review Cycle for Dietary Guidance (ERC) is Health Canada's systematic approach to gathering, assessing, and analyzing data relevant to dietary guidance. This process helps to ensure that guidance from Health Canada on healthy eating, such as Canada's Food Guide, remains scientifically sound, current, relevant, and useful. It also helps to ensure that future decisions related to dietary guidance are based on a systematic and documented approach.

This document summarizes the key results from the *2015 Evidence Review for Dietary Guidance: Technical Report*. The findings are interpreted in relation to *Eating Well with Canada's Food Guide*, a policy and education tool whose purpose is to define and promote healthy eating for Canadians.

While the Technical Report provides a foundation, it does not contain all of the evidence that will be considered as guidance evolves in the future. Other sources of evidence, including consideration of approaches used internationally and stakeholder input, will be part of the guidance development process. Health Canada has also assessed various topicsⁱ, for example food skills in Canada, that were outside of the scope of the 2015 ERC.

To obtain a full electronic copy of the Technical Report please contact publications@hc-sc.gc.ca.

2. BACKGROUND

2.1 Dietary Guidance

Dietary guidance is evidence-based information and advice about making food choices that promote health and reduce the risk of obesity and nutrition-related chronic diseases.

Health Canada has provided national leadership in nutrition policy since the 1930s. It is mandated to develop and promote dietary guidance. This work includes:

- monitoring and reviewing the evidence underpinning guidance
- developing dietary guidance
- supporting others in implementing guidance.

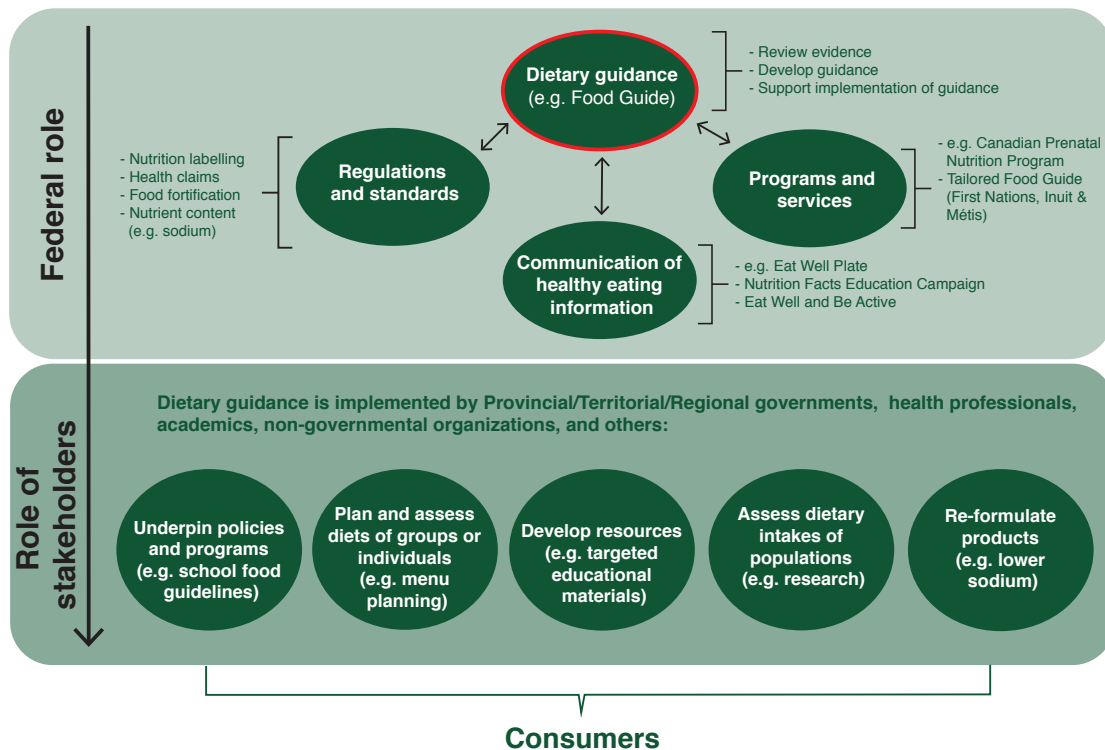
Federal dietary guidance informs nutrition and health education, policies, and programs; supports consistent messaging about healthy eating; and provides a standard for the assessment of dietary intakes of Canadians. Figure 1 illustrates federal and stakeholder roles related to dietary guidance.

Federal dietary guidance in Canada has traditionally included both defining healthy eating (in terms of types and amounts of foods and nutrient supplements if needed) and the communication of advice on food choices that are relevant in the Canadian context.

Currently, Health Canada communicates its dietary guidance through a number of well-known policies and guidelines. These include the *Prenatal Nutrition Guidelines*, *Nutrition for Healthy Term Infants*, and *Eating Well with Canada's Food Guide*.

ⁱ Relevant publications from Health Canada can be found at <http://publications.gc.ca/> or <http://canada.ca> and include: A Look at Food Skills in Canada (2015); Working with Grocers to Support Healthy Eating (2013); Measuring the Food Environment in Canada (2013); Healthy Eating After School (2012); Improving Cooking and Food Preparation Skills: A Synthesis of the Evidence to Inform Program and Policy Development (2010); Canadian Journal of Public Health (CJPH) Supplement Supportive Environments for Learning: Healthy Eating and Physical Activity Within Comprehensive School Health (2010); Defining "Healthy" and "Unhealthy" Foods: An International Review (2009); Canadian Community Health Survey, Cycle 2.2, Nutrition (2004) – Income-related household food security in Canada (2007); CJPH Special Supplement Understanding the Forces that Influence Our Eating Habits: What We Know and Need to Know (2005)

Figure 1: Current federal and stakeholder roles in dietary guidance



2.2 Canada’s Food Guide

Canada’s Food Guide is both a policy and an educational tool. It helps people make food choices to meet nutrient needs, improve their health, and reduce their risk of nutrition-related chronic diseases and conditions. It interprets complex nutrition information in a practical way.

Canada’s Food Guide was first released in 1942. It has been revised seven times, with the most recent release in 2007 (*Eating Well with Canada’s Food Guide*). The 2007 version describes the amount and type of food that make up a healthy eating pattern for people age two and older. It provides flexibility for making healthy choices within the various food groups. Advice on fats and oils is included, as is guidance on foods and beverages that should be limited. The guide also provides lifestage-specific guidance. It emphasizes the importance of combining healthy eating and physical activity.

The 2007 Food Guide is a six-page consumer resource. It was launched with a suite of additional resources developed to help interpret and implement the guidance: interactive branded website, a 50-page resource for educators and communicators, tailored guide for First Nations, Inuit, and Métis.

In the years that followed, additional tools that used the Food Guide as a foundation were developed. These included translated versions of the Food Guide, the Eat Well and Be Active Educational Toolkit, the My Food Guide mobile application, and the Eat Well Plate.

2.3 The Evidence Review Cycle for Dietary Guidance

Health Canada developed the Evidence Review Cycle for Dietary Guidance (ERC) in 2012.

The ERC model is described briefly here and in greater detail elsewhere.¹ The steps involved in the ERC are illustrated in the Appendix.

Evidence from three key input areas is examined:

1. The **scientific basis** includes nutrient standards for adequacy and excess, and the relationships between foods and health.
2. The **Canadian context** takes into account characteristics of the Canadian population, current patterns of consumption including eating behaviours, and the environments in which food choices are made.
3. **Use of existing guidance** assesses awareness, understanding, and acceptance of current guidance by intermediaries and consumers.

¹ Colapinto CK, Ellis A, Faloon-Drew K, Lowell H. Developing an evidence review cycle model for Canadian dietary guidance. *Journal of Nutrition Education and Behavior*. 2016;48:77-83. doi: 10.1016/j.jneb.2015.08.018

It is anticipated that the data gathering and assessment steps will occur on a regular basis, and evidence synthesis and identification of actions will be undertaken and communicated every 5 years. The actions identified may or may not indicate the need for revisions to dietary guidance.

Evaluation of the ERC model will also be important. This will allow Health Canada to strengthen components of the process.

Health Canada carried out its first ERC between 2013 and 2015. This is referred to as the 2015 ERC. The scope of the 2015 ERC was defined using the three key input areas (Figure 2).

The 2015 ERC looked at evidence from 2006 to 2015. Data gathering methods and findings are presented in detail in the *2015 Evidence Review for Dietary Guidance: Technical Report*.

Sources of evidence included:

- U.S. Institute of Medicine Dietary Reference Intakes reports (such as updated Dietary Reference Intakes for calcium and vitamin D)
- High-quality reports on food and health from Federal agencies (such as U.S. Dietary Guidelines Advisory Committee reports) and leading scientific organizations (such as the World Cancer Research Fund)

- Health Canada health claims assessments
- Recent systematic reviews of the research on selected food topics
- Data on the dietary intakes of Canadians (Canadian Community Health Survey 2004, nutrition focus)
- Data on the nutritional status of Canadians (Canadian Health Measures Surveys)
- Reports on the health status of Canadians
- Results of the *Assessment of the Use of Eating Well with Canada's Food Guide*. This included results of the 2012 Canadian Community Health Survey Rapid Response module, which collected responses from 9700 Canadians on their awareness and use of the Food Guide.

Figure 2: Scope of the key input areas for the 2015 Evidence Review Cycle for dietary guidance



3. SUMMARY OF RESULTS FROM THE 2015 EVIDENCE REVIEW

3.1 Canadian Context

Many Canadians need to make different food choices to improve the quality of their diet.

Health Canada used the most recent national survey data available, the 2004 Canadian Community Health Survey (nutrition focus), to assess the food and nutrient intakes of Canadians. The majority of Canadians had low intakes of Vegetables and Fruit; Milk and Alternatives; and whole grains.

About one-third of total calories came from foods higher in fat, sugar, or salt. Inadequate intakes of certain nutrients from food sources were prevalent across many age and sex groups. These included calcium, magnesium, zinc, vitamin C, vitamin A, vitamin D, potassium, and fibre.

The mean intake of either dark green or orange vegetables was less than one Food Guide Serving per day. Whole grain choices made up only 16% of the grain products consumed. Less than half of the food choices in the Milk and Alternatives group were “in line” with Food Guide guidance. Less than 40% of choices in the Meat and Alternatives food group were in line with the guidance.

Adults over 70 years of age and adolescent girls were identified as groups of particular concern, with a high prevalence of inadequate intakes for most nutrients and low intakes from most of the food groups.

3.2 Scientific Basis

The review showed that there have been advancements in the science base on dietary patterns, foods, nutrients, and health.

The 2015 ERC identified 29 reports that examined the relationships between food intake and nutrition-related outcomes of public health concern in Canada. The outcomes of concern were: cardiovascular disease, type 2 diabetes, certain types of cancer, osteoporosis, and obesity.

The 2015 ERC review revealed that many aspects of the scientific basis for the Food Guide are consistent with the latest evidence on diet and health.

For numerous topics, the convincing conclusions re-affirmed Health Canada’s current understanding of food and health relationships. These included conclusions related to:

- Sodium and increased risk of high blood pressure
- Trans fatty acids and increased risk for cardiovascular disease
- Dietary patterns – characterized by higher consumption of vegetables, fruits, whole grains, low-fat dairy, and seafood, lower consumption of red and processed meats, refined grains, and sugar-sweetened foods and beverages – and positive cardiovascular disease outcomes.

Further precision may be needed in the guidance on certain topics. More specifically:

- a link between alcohol intake and increased risk of breast, liver, colorectal, and oral cancers
- replacing saturated fat with unsaturated fat. This may help to reduce the risk of cardiovascular disease and type 2 diabetes
- the link between specific whole grains – beta-glucan oat fibre, barley grain products, psyllium – and flaxseed, rather than whole grains in general, and reduced risk of cardiovascular disease
- a link between intake of foods containing dietary fibre and decreased risk of colorectal cancer
- the link between higher intakes of red and processed meat and increased risk of colorectal cancer
- a link between soy protein intake and lowered blood cholesterol
- a link between added sugar intake, in particular sugar-sweetened beverages, and increased risk of obesity and type 2 diabetes

3.3 Use of Existing Guidance

Stakeholders value having a reliable source of evidence-based information they can use as a basis for consistent messages about nutrition.

The assessment of the use of Canada’s Food Guide found that stakeholders identified Health Canada as an authoritative source of recommendations. This in turn allowed the Food Guide to be used as a Canadian standard within and across jurisdictions.

Stakeholders use Canada's Food Guide and integrate its guidance into their professional activities.

High levels of integration of Food Guide dietary guidance into policies, programs, and resources were observed across a broad range of stakeholder groups, including public, private, and not-for-profit organizations, health institutions, the education system, and the food industry. Many of these policies and guidelines have been developed at a provincial or territorial level. Many others have been developed at a regional or organizational level using information and tools developed by the province or territory.

All aspects of dietary guidance were being used to some degree, with no particular area of guidance being consistently avoided or rejected by stakeholders. However, the extent to which dietary guidance was integrated depended on the target audience. For example, for audiences with challenges such as lower numeracy levels or limited food skills, there tended to be more emphasis on integrating guidance on the four food groups and types of foods to choose with less emphasis on serving sizes and number of servings.

Consumers were aware of Canada's Food Guide, based on 2012 data, and found it to be credible. The Food Guide is consulted for information about healthy eating, although not as frequently as other sources.

The 2012 Canadian Community Health Survey (Rapid Response Module) showed strong recognition of the Canada's Food Guide brand, with most Canadians having seen or heard of the Food Guide. The Food Guide was ranked as the fourth most frequent resource consulted for information about healthy eating, behind research on the internet, family or friends, and TV programs about healthy eating. Health professionals such as doctors and dietitians were the fifth most frequent resource consulted.

Stakeholders identified some things that facilitated using Canada's Food Guide with consumers. They also identified challenges consumers have in using and interpreting the guidance.

Facilitators to using the guide identified by stakeholders included:

- the printed Food Guide's overall layout and arrangement
- the inclusion of foods from various ethnic cuisines
- complementary materials such as *My Food Guide* and the tailored guide for First Nations, Inuit and Métis.

Some of the challenges to using the Food Guide with consumers that stakeholders identified, such as literacy, numeracy, and food security, have to do with the broader context in which healthy eating takes place.

Other challenges have to do with helping consumers interpret dietary guidance and apply it to their own decision making. These challenges include:

- understanding the classification of foods
- understanding Food Guide Serving sizes
- translating guidance into meals, snacks, and menus.

Developing alternative formats of the Food Guide, such as mobile applications, was suggested. However, all stakeholder groups identified the need to continue producing a print version of the Food Guide.

There are some challenges to stakeholder confidence in the development of dietary guidance.

Some stakeholders perceived the need to continually update the Food Guide to take into account new scientific evidence or new trends in the food supply. The passage of time caused the Food Guide to be perceived by various groups as being out of date.

Among stakeholders who identified a need for updates to the guidance, the content areas of particular interest were oils and fats, vitamin D, and sodium.

Another reported challenge was that there remains a perception among some groups of consumers and organizations that food industry representatives exerted influence on the development of the recommendations in the Food Guide. This adversely affects the credibility of the guidance from a scientific standpoint in the eyes of these stakeholders.

4. IMPLICATIONS FOR CANADA'S FOOD GUIDE

4.1 Implications for dietary guidance development

Maintaining stakeholder confidence in the credibility of Health Canada's dietary guidance is very important. Some stakeholders perceive the guidance to be out of date or of questionable integrity and are conveying these concerns to others, affecting public confidence. It is therefore important to share the process and evidence that underpins dietary guidance.

The 2015 ERC review revealed that many aspects of the scientific basis for the Food Guide are consistent with the latest evidence on diet and health. However, further precision may be needed in the guidance on certain topics. Examples include being more explicit in certain areas (e.g. replacement of saturated fat by unsaturated fat) and further emphasizing the importance of overall healthy eating patterns. The review also highlighted areas where evidence was not convincing, for example associations between intake of total fat and certain health outcomes (e.g. cardiovascular disease, obesity), and between intake of 100% fruit juice and obesity. While recent advancements in the science base do not represent radical changes, it is essential to take them into account and incorporate them into future updates of dietary guidance.

Health Canada is committed to a transparent approach in the development of dietary guidance to ensure it remains free of any conflict of interest. As part of this transparency, Health Canada will clearly communicate reviews of the evidence, as well as how input from stakeholders is used in policy development.

4.2 Implications for Canada's Food Guide as a policy and educational tool

Canada's Food Guide underpins policies, programs, and initiatives to promote healthy eating throughout the country. Stakeholders are using various aspects of the guidance to meet the needs of audiences in a variety of circumstances. The role that intermediaries play in integrating and disseminating dietary guidance in Canada is essential.

With future updates of dietary guidance, Health Canada will consider how best to support health professionals and other stakeholders as they develop policies and deliver programs that reinforce and complement the Food Guide.

Canada's Food Guide has strong brand recognition. Yet despite high levels of awareness and confidence in Health Canada's dietary guidance among consumers, many Canadians do not follow a healthy pattern of eating. Thus, although the brand is strong, consumers are not following the advice in the Food Guide. This speaks to the importance of creating a food environment that enables Canadians to make healthy choices. It also speaks to the need for guidance that is accessible to consumers and available in ways that meet their needs.

Stakeholders identified several challenges related to consumer understanding and application of guidance that imply the Food Guide could be more useful as an educational tool to promote healthy eating. Addressing these challenges may require adding more detail to policy and educational tools in some cases, while simplifying them in others. One tool may not be meeting the needs of all audiences.

Considering new approaches to communicating guidance, or developing different educational tools more suited to particular audiences, may be what is needed to make Canada's Food Guide more useful and relevant.

It is important to reinforce and leverage the role that intermediaries play in helping consumers apply dietary guidance. Further support to these stakeholders in interpreting dietary guidance for consumers would complement Health Canada's education tools targeted directly at consumers.

5. CONSIDERATIONS FOR NEXT STEPS

The nutrition information environment is complex

The nutrition information environment is crowded, complex, and rapidly evolving. The way Canadians access information has also evolved, with social media, mobile apps, and blogs by opinion leaders being consulted along with more traditional media channels. Health Canada should explore innovative ways of communicating guidance and making it more accessible. There is also renewed interest by some stakeholders in simplified messages and the concept of "dietary guidelines".

There is a need for Health Canada, provincial/territorial governments, and various other stakeholders to work together to maximize the positive impact that dietary guidance can have in Canada

Dietary guidance developed by Health Canada serves as an important policy underpinning, and Health Canada also has a role to play in supporting intermediaries in their efforts to help Canadians apply dietary guidance. Exploring ways to leverage resources and areas of expertise among various stakeholders involved in the promotion of dietary guidance will help to reduce duplication of effort and ensure there is consistency between dietary guidance and consumer tools.

Additional information is needed to further inform dietary guidance development

Certain factors that are important considerations for formulating dietary guidance were not captured in this evidence review, such as eating behaviours. Health Canada has assessed various topics that were outside of the scope of the 2015 ERC, and will continue to investigate these topics in future decision

making for dietary guidance. Further, the scope of future evidence reviews could be broadened to incorporate work on eating behaviours (such as eating out); food security as it relates to food and nutrient intakes; environmentally sustainable diets; and information on the dietary intakes of populations such as First Nations, Inuit, and Métis.

Updated data on the food and nutrient intakes of Canadians will soon be available

The 2015 Canadian Community Health Survey (CCHS) -Nutrition has gathered information on usual dietary intake, height and weight, and data on certain health conditions. The results of this survey, when available, will also allow an evaluation of how the diets of Canadians have changed since the 2004 CCHS survey.

An updated (2015) version of the Canadian Nutrient File, a database which lists the nutrient values in Canadian foods, is available and provides a more up-to-date representation of the foods in the Canadian marketplace.

Food choices are not simply a matter of personal choice

Many factors influence the food choices individuals make. The interpersonal, social, economic and physical environments all play a powerful role in shaping the capacity to make healthy eating choices. Dietary guidance is just one part of a comprehensive approach to support healthy eating. Empowering individuals and creating supportive environments by addressing the broader determinants of healthy eating is required.

6. CONCLUSIONS

Nutrition-related chronic diseases and conditions continue to be issues of public health concern in Canada. The food and nutrient intakes of Canadians indicate that for many, different food choices are required to improve the quality of their diet. Dietary guidance can make an important contribution to nutritional health, but must be used and implemented by Canadians in order to do so. The findings of the 2015 ERC review have brought to light important implications that need to be considered in future updates to guidance. Health Canada strives to provide credible and relevant tools appropriate for defining and promoting healthy eating in Canada.

The Food Guide is used in many ways, from policy development and program design through to individual nutritional assessment and counselling. Findings from the use of dietary guidance indicate that the existing all-in-one policy and education tool is not meeting the needs of all users. There are stakeholders who want more detailed information. At the same time, some stakeholders, like consumers, want more simple information.

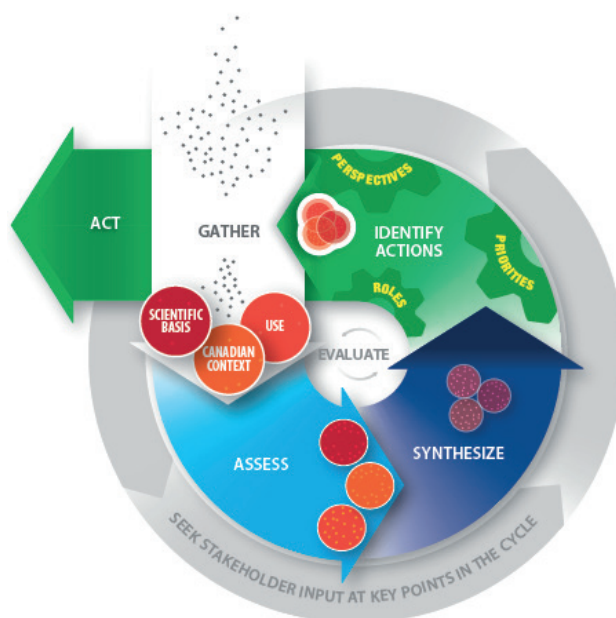
There is a continued need for Federal guidance on nutrition and healthy eating to provide a consistent basis for the diverse range of policies, programs, and resources developed by stakeholders. There is also a clear need for educational tools

that can support consumers in applying dietary guidance on an individual level. Developing distinct tools to support the various uses of Canada's Food Guide would likely help to address some of the challenges identified with using the existing Food Guide.

Going forward, it will be important to explore what various users want and need in terms of dietary guidance tools as well as who is best placed to develop those tools. Supporting and leveraging the expertise of stakeholders should lead to having more relevant resources for policymakers, health professionals, nutrition educators, and consumers that complement, rather than compete with, each other.

Appendix

Evidence Review Cycle for Dietary Guidance



STEP	DESCRIPTION
Gather	Gather data for each key input area (Scientific basis; Canadian context; Use).
Assess	Assess evidence from each area. Identify relevant findings. Gather more data through further analyses, as needed.
Synthesize	Synthesize relevant findings from each key input area.
Identify actions	Identify areas of focus and issues of concern. Identify options for action. Consider roles, perspectives, and priorities.
Act	Implement actions. Communicate process and results.