
Evidence review supporting Canada's food guide

2025 Summary



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Synopsis

Since the release of the current Canada's food guide in January 2019, new evidence from credible scientific bodies continues to support and strengthen the food guide's recommendations. The guidance on nutritious foods to eat regularly and those that undermine healthy eating continues to reflect the best available scientific evidence.

Chronic diseases linked to diet are still a major health concern in Canada. While many people want to eat healthily, their eating decisions are shaped by factors beyond personal preference. Social, cultural, economic, and physical environments play a significant role in shaping people's eating decisions. The overall rising costs of living, including food costs make healthy eating even harder. This is why national guidance on healthy eating, such as Canada's food guide, is important. It provides a foundation for policies, programs, and initiatives that help create supportive food environments across the country.

An assessment of the use and understanding of the food guide found that its flexible approach is well received. The assessment also showed that communicating guidance in different ways has helped a wide range of stakeholders use it. The food guide is widely known, and its online format makes healthy eating information easy to access.

Overall, Canada's food guide is seen as a trustworthy and credible source of healthy eating guidance that is relevant and useful. However, there are opportunities to improve how the guidance is understood and used by specific populations and in certain settings.

Confidence in the food guide comes from its strong evidence base, transparent development process, and practical recommendations. Health Canada will continue to ensure the guide reflects the best available evidence and remains relevant and useful to the public and stakeholders.

Introduction

Health Canada is committed to keeping Canada's food guide up to date and credible. The guide provides healthy eating guidance for people in Canada aged two and older. It includes a suite of resources based on Canada's Dietary Guidelines, designed to communicate healthy eating information in different ways to meet the needs of different audiences. This report summarizes the evidence reviewed since the release of the current food guide in January 2019. It also outlines actions taken to support the guide's use and identifies opportunities to strengthen how the guide is applied across different settings.

Background on Canada's food guide

Canada's dietary guidance, including Canada's food guide, is evidence-based information and advice for healthy eating to help people in Canada meet their nutrition needs, promote health, and prevent diet-related chronic diseases. It also supports consistent messaging about healthy eating and informs nutrition and health education, policies, and programs.¹ In this way, national dietary guidance helps improve the food environment in Canada.

The current version of Canada's food guide,² released in 2019, was developed with the goals of strengthening healthy eating recommendations and communicating guidance in ways that better meet the needs of different users.³ To support this, Health Canada created an online suite of resources tailored for health professionals and policy makers, educators, and the public. The digital-first approach of Canada's food guide allows Health Canada to respond to emerging issues and regularly add new content to support the guide's use.

Evidence and methods behind this report

Health Canada uses the Evidence Review Cycle (ERC) for dietary guidance to ensure the food guide remains scientifically sound, relevant, and useful.¹ The ERC gathers evidence from three key input areas:

- The scientific basis for dietary guidance
- The Canadian context
- How the guidance is used

This report uses evidence from a variety of sources across the three input areas. A summary is provided here, with details about the data sources and methods available in [Appendix A: Details on the evidence and methods used in this report](#).

Evidence about the links between food and health comes from reports by credible scientific bodies. These reports must include a systematic review, and grade the strength of the evidence through engagement with an independent panel of experts. Health Canada also monitors academic research on topics related to dietary guidance.

To understand the healthfulness of diets, how the situation in Canada has changed, and how it might affect people's food decisions, we used nationally representative survey data from Statistics Canada.^{4,5,6,7,8,9,10,11,12} This was supplemented with findings from independent surveys by researchers, as well as market research.^{13,14} While these additional sources are not nationally representative, they offer valuable insights into factors

that may influence people's eating decisionsⁱ. We reviewed research studies and independent surveys to learn how people search for nutrition information and what kinds of information they find.^{13,15,16,17,18}

We also looked at how the current food guide is being used. This includes feedback from health professionals and policy makers about their awareness, use, and understanding of the guide.¹⁹ We also used data from the Canadian Community Health Survey,⁴ and the International Food Policy Study,¹³ which provides insights from the public.

Key findings

This section presents findings from the latest review of evidence, as part of the ongoing ERC for dietary guidance to keep Canada's food guide scientifically sound, relevant, and useful.

Canada's food guide provides credible nutrition information

People are exposed to a wide range of nutrition messages—many of which are conflicting or inaccurate. The internet is a common source of nutrition information,^{13,15,16} but much of what is shared online, including on social media, is of poor quality or misleading.¹⁷ Young people, in particular, are vulnerable to misleading content, especially on video-based social media platforms.¹⁸

In today's fast-paced and often confusing information landscape, Canada's food guide can play a key role in improving the quality of nutrition information available to the public. It is more than just a resource—it provides a foundation for consistent, evidence-based messaging across education, health promotion, policies, and programs. By integrating the food guide into school curricula, public health campaigns, institutional food policies, and community-based programs, governments and organizations help people in Canada receive clear, consistent, and trustworthy guidance on healthy eating. This integration

ⁱ Survey results do not fully represent the population of Canada. While they can show trends, the findings should be interpreted with caution and not applied to the entire population.

supports a coordinated approach to nutrition education and can help counter misinformation.

Many people in Canada want to make healthy eating decisions

Survey data show that many people in Canada want to eat healthily. Common efforts include trying to eat more vegetables and fruits, fibre, and drinking more water; and reducing sugary foods and drinks, salt, saturated fat, and processed foods, such as highly or ultra processed foods.^{13,14}

Despite these intentions, data from adolescents and adults show that eating healthily can be difficult in practice. One indicator for healthy eating is how often people eat vegetables and fruits. Between 2017 and 2021, the average number of times people in Canada aged 12 and older ate vegetables and fruits each day dropped significantly.⁴ This decline was seen even when fruit juice is included and was consistent across sexes, age groups, income levels, education levels, and regions of Canada. More recent data from 2023 suggest this downward trend may have levelled off.^{4,5} The COVID-19 pandemic and changes in how data were collected in 2020 and 2021 may have affected results.^{20,21} More information about these changes is included in [Appendix A: Details on the evidence and methods used in this report](#). As new data become available, we will monitor these trends closely.

Declines in how often vegetables and fruits were eaten each day were also observed among First Nations people living off reserve, and Métis. In contrast, Inuit reported a slight increase in how often they consumed vegetables and fruits during the same period, based on data from the Indigenous Peoples Survey (2017 and 2022), which includes individuals aged 15 years and older.⁶

Sugary drink consumption is another indicator of healthy eating. In 2023, more than one-third of adolescents and adults in Canadaⁱⁱ reported consuming sugary drinks at least once a day, on average.^{4,5}

While many people want to eat healthily, their ability to do so is influenced by many factors beyond personal choice. Social, cultural, commercial, economic, interpersonal, and physical environments, known as the determinants of health, all play a powerful role in shaping people's ability to eat healthily.^{22,23} This highlights the need for continued integration of Canada's food guide in policies and programs to help create supportive environments for healthy eating.

Changing social and economic conditions affect healthy eating decisions

Canada has long recognized that the determinants of health are complex and interconnected. Canada's Dietary Guidelines reflect this understanding.²² They include considerations on issues of public health importance and emphasize the need for collective action to improve access to and availability of healthy foods. This approach is also reflected in food guide resources. For example, the 2024 toolkit for educators helps intermediaries support children in learning about Canada's food guide and provides information for educators, such as ways to talk about access to food and safe drinking water with compassion and awareness.²⁴

Rising living expenses, including the cost of food, and high rates of food insecurity are top concerns for both the public and stakeholders. As of spring 2024, nearly half of people in Canada – including many First Nations people living off reserve, Métis and Inuit – said rising prices were making it harder to afford daily expenses, including food. People with lower incomes were most affected.^{7,8}

Household food insecurity, which refers to the inadequate or insecure access to food due to financial constraint, reached a record high in 2024. It affected 25.5% of people in

ⁱⁱ Data on adolescents (12-17 years) are from the 2023 Canadian Health Survey on Children and Youth (CHSCY), which includes individuals living in Canada's 10 provinces. Data on adults (ages 18 and older) are from the 2023 Canadian Community Health Survey (CCHS), also covering residents of the 10 provinces.

Canada's 10 provinces, with moderate and severe food insecurity rising the most. Children, Indigenous communities, and racialized groups such as Black Canadians were more likely to be affected.⁸

Stakeholders have reported that Canada's food guide may not be relevant for people experiencing food insecurity. While they understand that the guide cannot solve this complex and systemic issue on its own, some suggested additional resources could help improve its usefulness. In particular, tools that support applying the guide's recommendations in situations where access to affordable, healthy food is limited may help make the food guide more relevant to a wider range of people in Canada.¹⁹

While Canada's food guide is a key tool used by many organizations to inform their policies and programs and educate their audiences about healthy eating, systemic issues that affect healthy eating, including food insecurity, cannot be solved by the food guide. Canada's Dietary Guidelines acknowledge this, highlighting that many sectors, such as agriculture, environment, education, housing, transportation, the food industry, trade, as well as family and social services, influence access to, and availability of, healthy, culturally acceptable and appropriate foods.²² Recent data on food insecurity demonstrate these considerations remain timely and a critical factor in the ability of people to follow Canada's food guide recommendations.

Canada's food guide remains scientifically sound

Healthy eating plays a key role in overall health and in reducing the risk of diet-related chronic disease. To ensure Canada's food guide reflects the best available evidence, Health Canada regularly reviews reports on the links between food and health from credible scientific bodies. Findings that meet our highest standards are referred to as 'convincing' findings in our ERC. We determine findings to be convincing when they are based on a well-established body of evidence that is unlikely to change in the foreseeable future, even as new scientific evidence emerges.

Diet-related chronic diseases such as cardiovascular disease, type 2 diabetes, and cancer, continue to be prevalent^{25, 26} and amongst the leading causes of death.^{9,27} Income and level of education are factors that influence the prevalence of these diseases. In addition, differences in prevalence can be observed across populations,¹⁰ possibly due to broader systems that shape health. This highlights the importance of dietary guidance that is evidence-based and responsive to the needs of diverse communities.

Since the last evidence review supporting Canada's Dietary Guidelines,²⁸ we found 14 new reports published between December 2018 and June 2025 that met our inclusion

criteria described in [Appendix A: Details on the evidence and methods used in this report](#). Convincing findings from these reports either reaffirm, strengthen, or expand the evidence base that supports Canada's Dietary Guidelines.

For example, additional findings graded as 'convincing' show that dietary patterns generally characterized by higher consumption of vegetables, fruits, legumes, nuts, whole grains, unsaturated fats relative to saturated fats, and fish, and lower intakes of red and processed meat, refined grains and sugar-sweetened foods and beverages, are linked to lower risk of cardiovascular disease. New findings also show that these dietary patterns lower the risk of all-cause mortality and type 2 diabetes.^{29,30} These findings reinforce the recommendations on healthy foods that form the foundation of Canada's food guide.²²

New evidence that meets our criteria for 'convincing' also shows that drinking sugar-sweetened beverages increased the risk of overweight and obesity in children,³¹ further supporting our recommendation that sugary drinks should not be consumed regularly. Additionally, new evidence graded as 'convincing' reaffirms that diets lower in saturated fat, or those that replace saturated fat with unsaturated fats, improve blood lipid levels,^{29,30,32,33} which is also consistent with existing guidance. A full list of findings graded as 'convincing', and the reports reviewed, are included in [Appendix B: Overview of convincing findings referenced in this report](#).

In addition to reviewing credible reports, Health Canada monitors emerging or growing bodies of evidence on various topics and health outcomes related to dietary guidance, to ensure the evidence review underpinning Canada's food guide continues to be relevant. For example, although overall rates of colorectal cancer are declining, early-onset cases are rising.^{26,34} We continue to monitor the evidence related to diet as a potential risk factor. There is also a growing volume of research on ultra-processed food (UPF) intake and health. While no findings currently meet our criteria for 'convincing' evidence linking UPF to adverse health outcomes, we continue to monitor the evidence as it emerges and provide support to advancing research in this area.³⁵

In summary, the latest evidence on the links between food and health confirms that Canada's food guide remains scientifically sound. Health Canada will continue to monitor the evidence to ensure the food guide remains up to date and relevant.

There is a high degree of confidence in Canada's food guide

The current version of Canada's food guide is valued as a trustworthy and credible evidence-based source of national dietary guidance. Health professionals, policy makers, and the public express a high degree of confidence in the food guide.^{13,19} This confidence

is rooted in the guide's use of best available scientific evidence and in the transparent development process, including meaningful stakeholder engagement. During the development of the new food guide, officials from Health Canada's Bureau of Healthy Eating Policy and Promotion (formerly known as the Office of Nutrition Policy and Promotion) did not meet with food and beverage industry representatives.³ The lack of industry influence was found to be a main reason for stakeholder confidence in the guidance.¹⁹ Maintaining trust in Canada's food guide and its recommendations is essential. Continuing to be open and transparent about how we review evidence and develop and communicate dietary guidance will continue to be a key part of our work.

Canada's food guide is well known, with the online format making it easier to access and use

Canada's food guide is Health Canada's most well-known resource and is regularly promoted to support its uptake and continued use. The online format makes it flexible and able to respond to emerging issues, such as how to eat healthily when food costs are rising.

Many adults and adolescents in Canada are aware of the food guide. In 2024, over 75% of adults in Canada's provinces have seen or heard of it, and nearly 60% of those said they used the information.⁴ Similarly in 2023, 84% of adolescents aged 12 to 17 years in the provinces were aware of the guide, with nearly 60% indicating they had used the information.⁵ While awareness and use have remained high since 2016, how people use the guide has shifted. Since 2016, more adults use it to help choose foods and check how well they are eating, while fewer people use it to determine how much to eat.⁴

Health professionals and policy makers who know about the current food guide are also familiar with its resources. Many of them like the online format because it is easy to access and share.¹⁹ However, some users find it hard to locate specific information due to the large volume of content. They suggest that improving website navigation could make the experience more user-friendly.

Health Canada regularly looks at how people search for and use food guide information to support access and use. In 2024, a new search feature was added to the food guide website to help users find content more easily. A new web page about Canada's food guide was also created to promote awareness of available food guide resources.³⁶

Communicating the food guide in different ways helps more people use it

Canada's food guide includes a suite of resources designed for different audiences, including health professionals, policy makers, educators, and the public. Some resources were released in 2019, while others followed later to support different users.

For example, the food guide kitchen, launched in 2022, offers recipes from a variety of cuisines using ingredients that consider cost, availability, and preferences.³⁷ In 2024, a toolkit for educators was released to support teaching healthy eating to children, with a focus on equity, culture, and food traditions.²⁴

One of the main goals of revising the food guide was to make it easier to understand and apply by different audiences.³ The current guide moves away from recommending specific numbers and sizes of servings. Instead, it provides simple, relevant advice through tools like the food guide snapshot, which offers a visual summary of Canada's Dietary Guidelines and healthy eating recommendations.³⁶ Overall, health professionals and policy makers report this approach supports their use of Canada's food guide, particularly when working with the public.¹⁹

The guide also emphasizes “how to eat” – not just what to eat. For example, it encourages cooking and eating with others. Health professionals have reported this guidance is useful for encouraging healthier eating decisions, supporting food skills, and aligning with cultural practices, including those of Indigenous communities.¹⁹

Tools like the food guide snapshot and healthy eating recommendations are the most widely used and are valued for their clear design and simple messages. However, some health professionals say the food guide snapshot can be confusing for people with lower literacy or limited nutrition knowledge.¹⁹

Professional users rely on different resources depending on their roles. Those working directly with the public tend to use resources designed for general audiences. Those involved in policy or program development tend to use more detailed resources, such as Canada's Dietary Guidelines and Applying Canada's Dietary Guidelines.¹⁹ These resources focus on the types of foods that make up healthy eating patterns, explain the dietary shifts needed in Canada, and provide an example of how the healthy foods recommended in the Guidelines could be combined to help meet nutrient needs.³⁸ This approach allows health professionals and policy makers more flexibility to adapt the guidance for different populations. While the guide's flexible design supports a wide range of users, some health professionals and policy makers say they need more detailed

guidance to support food provision, menu planning, and developing policies and standards in regulated settings. They also identified a need for clearer advice on how to help meet nutrient needs, particularly related to calcium and vitamin D.¹⁹

Overall, the food guide's practical and flexible design makes it useful in many settings. Helping users understand the different resources available to them, and strengthening support for their use, can lead to more consistent and effective use of the food guide across Canada. This would be particularly useful for those reporting the need for more detailed guidance. Health Canada will continue to support the food guide's use and make sure it remains relevant and useful to the public and stakeholders.

The flexible approach of Canada's food guide supports a diverse population

Canada's food guide takes a flexible approach to healthy eating. Compared to past versions, it is less prescriptive and recognizes that there are many ways to combine foods consistent with food guide recommendations to support nutritional needs. This makes it easier to adapt the guidance to Canada's diverse cultures, food traditions, and personal preferences.¹⁹

The online format allows Health Canada to regularly expand information to support use of the guide. For example, the food guide snapshot is available in print and online in more than 30 languages, including over 10 Indigenous languages.

This flexibility remains important as Canada's population continues to change. In 2021, immigrants and permanent residents made up 23% of the population, the highest proportion since Confederation. Compared to 2016, a greater proportion of newcomers are arriving from Asia and Africa, while fewer are coming from Europe.¹¹

Indigenous Peoples are the fastest growing and youngest population in Canada. In 2021, over 1.8 million people (5% of the total population) identified as Indigenous, and more than one in four were under age 25.¹²

Health professionals and policy makers working with ethnocultural communities say the guide's flexible design helps them adapt it to meet local needs.¹⁹ The availability of the food guide snapshot in multiple languages is also seen as a key strength. However, some users say the guide could better reflect cultural diversity in its visuals and supporting materials, such as recipes, to make it more relevant.¹⁹

Many people working directly with First Nations, Inuit and Métis rely on distinct Indigenous-specific resources that reflect traditional foods, cultural practices, and foods in their regions. However, few resources include the current food guide recommendations. As a result, some continue to use the previous version of the food guide for First Nations, Inuit and Métis, specifically for guidance on serving sizes and food groups.¹⁹

Stakeholders highlighted the need for culturally appropriate healthy eating tools for Indigenous communities, noting they should be led by the communities themselves. Some also noted that federal government support for these efforts would be welcomed. They report that lack of time, funding, and staff are common challenges to using Canada's food guide or using it more fully.¹⁹

These findings show the importance of keeping Canada's food guide relevant and inclusive. They also highlight the need to continue developing content that reflects the needs of a diverse population.

Opportunities to strengthen the use of Canada's food guide

Canada's food guide remains scientifically sound, relevant, and useful. However, health professionals and policy makers have identified some challenges when applying it in specific settings.

Health Canada recognizes the key role intermediaries such as health professionals, educators, and policymakers play in using the food guide to shape policies, programs, and education initiatives. Supporting these users to understand the guidance and available resources can help ensure more consistent and effective use across Canada.

To strengthen the guide's use, Health Canada:

- will continue to explore ways to support policy makers applying the guide in institutional settings
- help users find, apply, and understand information
- keep the food guide adaptable and inclusive of diverse cultures, food traditions, and personal preferences

The Government of Canada is working to advance reconciliation and renew the relationship with Indigenous Peoples, including supporting strong and healthy communities. Health Canada and Indigenous Services Canada continue to work with First Nations, Inuit, and Métis partners to support the development of Indigenous-led healthy

eating tools. Health Canada also continues to work with Indigenous partners to recognize and honour the unique cultures, traditions, languages and knowledge of First Nations, Inuit and Métis.

Conclusion

In developing the current version of Canada's food guide, Health Canada aimed to strengthen healthy eating recommendations and communicate guidance in ways that address the needs of different users. Our evidence review since the release of the current food guide shows that these goals have been, and continue to be met.

Canada's food guide remains scientifically sound, and its resources are considered to be relevant and useful by many users. Stakeholders can continue to trust the guide's strong scientific foundation. The guide can continue to be used as a basis of policies, programs, and education in many different settings. It can also be used by different organizations and sectors to make decisions within their sphere of influence to help address the broader factors that impact healthy eating and help reduce health disparities.

Appendix A: Details on the evidence and methods used in this report

This evidence summary draws on a wide range of evidence, with a focus on new findings gathered through the Evidence Review Cycle (ERC) for dietary guidance key input areas:

- The scientific basis
- The Canadian context
- The use of dietary guidance

The evidence reflects developments since the release of the current Canada's food guide in January 2019.

Scientific Basis

To keep Canada's food guide up to date and scientifically sound, Health Canada regularly reviews evidence on how food, nutrients, and dietary patterns affect health.

This evidence summary includes our analysis of scientific reports published between December 2018 and June 2025 that:

- are authored by a credible scientific body with the engagement of an independent panel of experts
- include a systematic review, or review of systematic reviews examining the link between food and health
- examine at least one food, nutrient, or dietary pattern and its link to a diet-related chronic disease or condition that is of public health importance in Canada
- clearly describes the systematic approach used to review the evidence, ensuring the process is comprehensive and can be repeated
- provides an overall evidence grade for how strong the evidence is for individual findings
- are available in French or English

A scientific report is excluded if it was:

- published more than 10 years ago
- sponsored or funded by industry or an organization with a business interest
- repeating findings from another report without adding new evidence
- replaced by a newer report from the same scientific body on the same topic

- focused on outcomes outside the intended scope of the evidence review, such as disease management or food safety

Health Canada also monitors emerging and growing bodies of evidence on topics relevant to dietary guidance in Canada. This includes topics related to our mandate that may be:

- prominent in media
- emerging in research
- of interest internally or to stakeholders

We monitor these by:

- tracking emerging topics of interest
- conducting literature reviews on topics of interest
- subscribing to listservs and journal alerts, and attending conferences
- completing ongoing literature searches with support from Health Canada librarians

Current context in Canada

To describe the current context for healthy eating in Canada, Health Canada reviewed relevant national survey data published between December 2018 and June 2025. This included trends in population health, cultural diversity, and indicators of healthy eating. Where possible, we examined differences across population groups.

We aligned the available data from Statistics Canada with the Canadian context input area of the ERC. This allowed us to assess changes in:

- rates of chronic diseases linked to diet, based on those identified in Food, Nutrients and Health: Interim Evidence Update 2018
- shifts in immigration, permanent resident status, and Indigenous populations, using data from the 2016 and 2021 Census
- cost of living – rises in which affect people's ability to afford daily expenses, including food
- how often people in Canada consume sugary drinks, using data from the Canadian Community Health Survey (CCHS), the Canadian Health Survey on Children and Youth (CHSCY), and the Indigenous Peoples Survey (IPS)
- how often they eat vegetables and fruits based on data from CCHS and CHSCY

Changes in how often people reported eating vegetables and fruits in CCHS may have been influenced by disruptions to data collection in 2020 and 2021. In 2020, response

rates were lower due to the COVID-19 pandemic. In 2021, the timing of data collection changed. Although response targets were met in 2021, these changes may affect comparison across years.

In 2022, the CCHS underwent a major redesign. This included changes to both the survey content and how the data is collected, shifting from telephone and in-person interviews to an online questionnaire. As a result, we are interpreting comparisons between 2021 and 2023 with caution. Ongoing consistent data collection is important for tracking trends over time. Starting in 2023, the CCHS includes only people aged 18 and older. Data for youth aged 12 to 17 are now collected through CHSCY.

Where national data were limited, we used independent surveys and syndicated consumer research to better understand people's intentions to improve their diets. These sources helped complement the intake data.

To understand people's exposure to nutrition information, we reviewed peer-reviewed research and independent surveys. These sources were selected to provide a broader view of the current information environment, especially in digital spaces and among youth.


Use of Canada's food guide

The main data source for this ERC key input area was an assessment of how Canada's food guide is being used. The assessment explored how the guide is understood, applied, and integrated across Canada. Data were collected in 2024 from health professionals and policy makers.

The assessment used a mix of research methods to gather information. This included online surveys, interviews, and group discussions with health professionals and policy makers, as well as reviewing documents, data, and research articles. All information gathered was analyzed and compared to come up with overall assessment findings.

There are some limitations:

- the survey sample does not fully represent all stakeholder groups
- the qualitative findings reflect the views of participants and may not apply to broader populations
- the findings on how the public uses and understands the food guide are perspectives of health professionals and policy makers



Because public perspectives were not included in the outcome assessment, we also reviewed CCHS data from 2016, 2020, and 2024 to understand public confidence in, and trends in, their use of the food guide.

Additional insights into public use and trust in Canada's food guide were drawn from the International Food Policy Study, covering the years 2018 to 2023.

Appendix B: Overview of convincing findings referenced in this report

This appendix provides details about our evidence review of the links between food and health. The review includes reports released between December 2018 and June 2025. This builds on our previous report, Food, Nutrients and Health: Interim Evidence Update 2018,²⁷ and includes:

- an overview table of findings graded as ‘convincing’ (B1)
- a description of these findings (B2)
- a list of all reports that met the criteria to be reviewed (B3)

These findings are based on reports from credible scientific bodies and reflect evidence that is well established and unlikely to change in the foreseeable future, even as new evidence emerges. Convincing findings may be described in reports as “convincing” or those graded as “high” or “strong”.

B1. Table of convincing findings from this food and health evidence review

The table uses symbols to show the direction of the link between food and health outcomes, including intermediate markers.

- ↓ shows a decreased risk
- ↑ shows an increased risk
- □ shows no effect
- ○ shows no association

No association means there are convincing findings - mainly from observational cohort studies - that the food or nutrient being studied is not linked to the health outcome or risk factor being examined.

No effect means there are convincing findings – mainly from randomized controlled trials (RCTs) - that the food or nutrient being studied does not cause a change in the health outcome or risk factor being examined.

If a cell is blank, it means there were no findings graded as ‘convincing’ for that health outcome. Where ‘dietary patterns’ are listed in the table this is referring to dietary patterns generally characterized by higher consumption of vegetables, fruits, legumes, nuts, whole

grains, unsaturated relative to saturated fats, and fish, and lower intakes of red and processed meat, refined grains, and sugar-sweetened foods and beverages.

Report	All-cause mortality	Cancer	Cardiovascular diseases	Type 2 diabetes	Overweight and obesity	Oral health
CCS, 2021	-	-	dietary patterns ↓	-	-	-
DGAC, 2020	dietary patterns ↓		dietary patterns ↓	-	-	-
DGAC, 2025	-	-	dietary patterns ↓	dietary patterns ↓	-	-
SACN, 2019	-	saturated fat ○	decreased saturated fat ↓ replacement of saturated fat ↓	replacement of saturated fat □ and ↓	replacement of saturated fat □	-
SACN, 2023	-	-	-	-	sugary beverages ↑	free sugars, dental caries ↑

Report	All-cause mortality	Cancer	Cardiovascular diseases	Type 2 diabetes	Overweight and obesity	Oral health
WHO, 2023b	-	-	decreased saturated fat ↓ replacement of saturated fat ↓ decreased trans fat ↓ replacement of trans fat ↓	-	-	-
WHO, 2023c	-	-	-	-	diets lower in total fat ↓	-
WHO, 2023d	-	-	dietary fibre, blood pressure ↓ lower glycemic index, blood pressure □	-	dietary fibre ↓	-

Abbreviations

CCS: Canadian Cardiovascular Society

DGAC: Dietary Guidelines Advisory Committee (United States)

SACN: Scientific Advisory Committee on Nutrition (United Kingdom)

WHO: World Health Organization

B2. Description of convincing findings

This section provides an overview of the findings graded as ‘convincing,’ organized by dietary exposure.

Dietary Patterns

- Dietary patterns generally characterized by higher consumption of vegetables, fruits, legumes, nuts, whole grains, unsaturated relative to saturated fats, and fish, and lower intakes of red and processed meat, refined grains, and sugar-sweetened foods and beverages showed decreased risk of all-cause mortality, type 2 diabetes and cardiovascular disease. (CCS, 2021; DGAC, 2020; DGAC 2025)

Fats

- Diets lower in total fat decreased the risk of overweight and obesity, specifically by decreasing body weight, body mass index (BMI) and waist circumference. (WHO, 2023c)
- Decreased saturated fat intake improved blood lipid levels, specifically total and low-density lipoprotein (LDL) cholesterol levels, but had no effect on triglyceride levels. (SACN, 2019; WHO, 2023b)
- Decreased saturated fat intake showed no association with increased risk of cancer (breast; colorectal; pancreatic; prostate). (SACN, 2019)
- Replacing saturated fat with carbohydrate improved blood lipid levels, specifically total and LDL cholesterol levels, and showed no effect on intermediate markers of type 2 diabetes. (SACN 2019; WHO, 2023b)
- Replacing saturated fat with unsaturated fats improved lipid levels, specifically total and LDL cholesterol levels, but had no effect on triglyceride levels and showed no effect on body weight, body fat percentage or waist circumference. (SACN, 2019; DGAC 2020; WHO 2023b)
- Replacing saturated fat with unsaturated fats showed no effect on some intermediate markers of type 2 diabetes, and a beneficial effect on others. (SACN, 2019)
- Replacing saturated fat with unsaturated fats decreased LDL cholesterol levels in children aged 2 to 19 years. (WHO, 2023b)
- Decreased trans fat intake improved blood lipid levels, specifically LDL cholesterol levels. (WHO, 2023b)
- Replacing trans fat with carbohydrate or unsaturated fats improved blood lipid levels, specifically LDL cholesterol levels. (WHO, 2023b)

- Replacing trans fat with saturated fat worsened blood lipid levels, specifically LDL cholesterol levels. (WHO, 2023b)
- Replacing butter with plant-based oils and spreads with predominantly unsaturated fat decreased LDL cholesterol levels, but did not affect high-density lipoprotein (HDL) or triglyceride levels. (DGAC 2025)

Free Sugars

- Intake of sugar-sweetened beverages increased the risk of overweight and obesity in children aged 1 to 5 years. (SACN, 2023)
- Higher intake of free sugars increased the risk of dental caries in children aged 1 to 5 years. (SACN, 2023)

Fibre

- Higher intake of dietary fibre decreased body weight and blood pressure. (WHO 2023d)

Glycemic index

- Lower glycemic index diets had no effect on blood pressure. (WHO 2023d)

B3. Reports included in this food and health evidence review

This section lists all the reports that met our criteria for the food and health evidence review. However, only the ones with findings graded as ‘convincing’ are shown in sections B1 and B2. The reports that did not include findings graded as ‘convincing’ are also listed here to give a full record of what reports were reviewed.

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OC, 2023: Morin SN, Feldman S, Funnell L, Giangregorio L, Kim S, McDonald-Blumer H, et al. Osteoporosis Canada clinical practice guideline for management of osteoporosis and fracture prevention in Canada: 2023 update [Internet]. CMAJ. 2023 Oct;195(39):E1333-E1348 [cited 2025 Nov 7]. doi:10.1503/cmaj.221647

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USPSTF, 2022: O'Connor EA, Evans CV, Iyler I, Rushkin MC, Thomas RG, Martin A et al. Vitamin and mineral supplements for the primary prevention of cardiovascular disease and cancer: updated evidence report and systematic review for the US Preventive Services Task Force [Internet]. JAMA. 2022 Jun;327(23):2334-2347 [cited 2025 Nov 7]. doi:10.1001/jama.2021.15650

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WHO, 2023a: World Health Organization. Use of non-sugar sweeteners: WHO guideline [Internet]. Geneva: WHO; 2023 [cited 2025 Nov 7]. Available from: <https://www.who.int/publications/i/item/9789240073616>

WHO, 2023b: World Health Organization. Saturated fatty acid and trans-fatty acid intake for adults and children: WHO guideline [Internet]. Geneva: WHO; 2023 [cited 2025 Nov 7]. Available from: <https://www.who.int/publications/i/item/9789240073630>

WHO, 2023c: World Health Organization. Total fat intake for the prevention of unhealthy weight gain in adults and children: WHO guideline [Internet]. Geneva: WHO; 2023 [cited 2025 Nov 7]. Available from: <https://www.who.int/publications/i/item/9789240073654>

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