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Food for Life Report

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UNDER THE MICROSCOPE:
A CLOSER LOOK AT
**CANADA'S
FOOD GUIDE**

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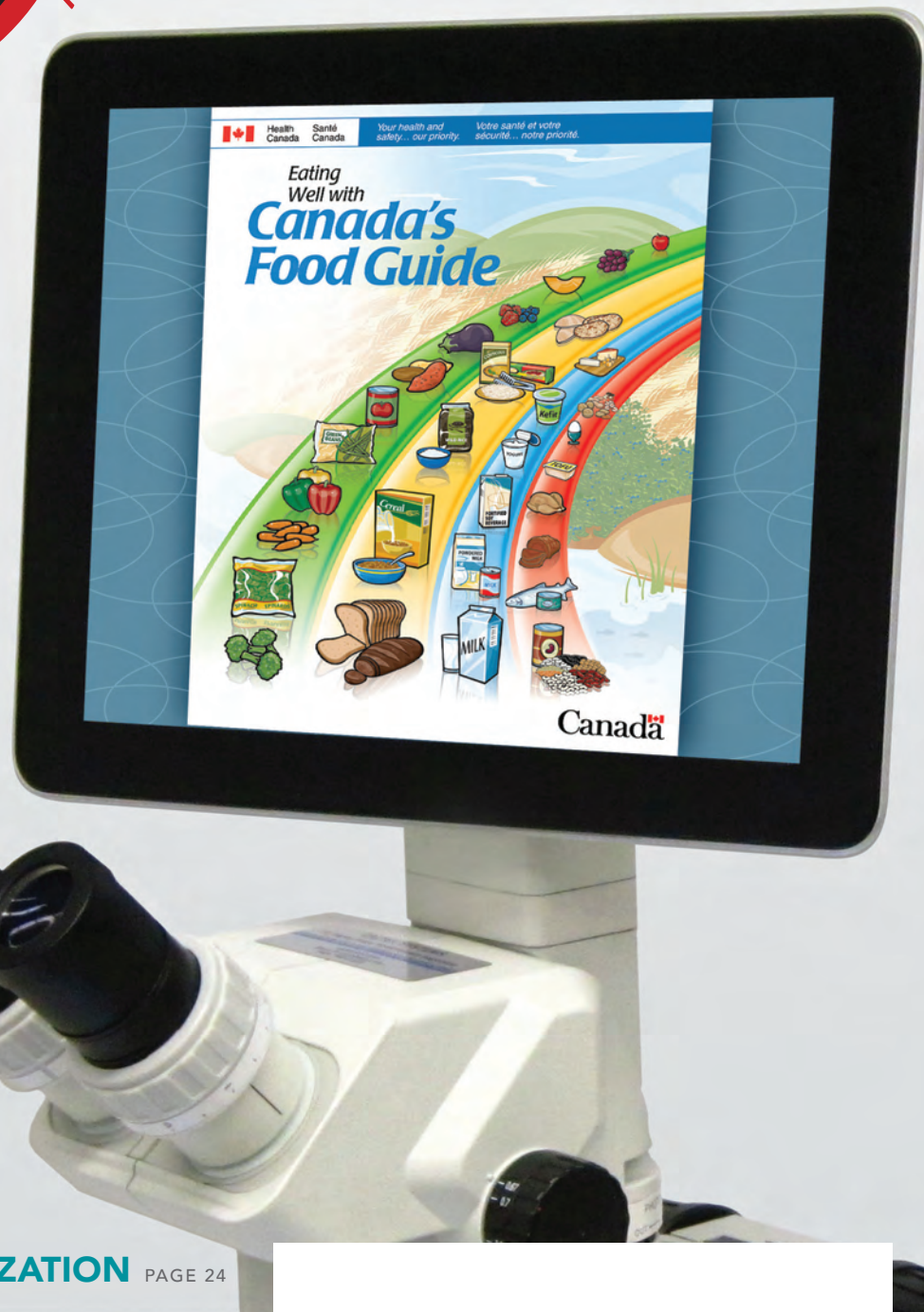
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HEADLINES AND BOTTOM LINES IN CANADA'S FOOD GUIDE



Health Canada is now reforming its decade-old edition of *Canada's Food Guide*. The unheeded advice I offered in 2004-2007 has stood the test of time and seems

likely to make its way into the 2018 version, underscoring a huge lesson about food/health policy-making that a handful of journalists at the *Ottawa Citizen*, CBC, and food blog www.weightymatters.ca also began to press back then: industry influence is a bad idea, not just a public relations problem. Weak food policies based on self-serving advice can increase deaths, disability, healthcare costs, and productivity losses.

In 2004, Health Canada:

- hired a food industry leader to inform its process for revising the 1992 *Guide*,
- appointed food industry lobbyists to its Food Guide Advisory Committee and matched them with a few small-town dietitians and some non-profit group reps with little nutrition science or policy-making expertise, and
- indulged lobby visits from legions of food industry executives.

In 2006, too few health charities protested when Health Canada revealed its (thankfully ill-fated) plans to recommend fewer servings of fruits and vegetables to help curb obesity, and none made a public peep when a cattle rancher presided over a House of Commons study on the *Guide*.

Health Canada didn't release a scientific justification for 1992-2007 *Guide* changes until several months after it was printed. Even then, the rationale was published in a U.S.-based journal that is still owned by the International Life Sciences Institute, a group funded by \$20 million from hundreds of huge food, drug, and agro-chemical companies, such as Campbell Soup, Coca-Cola, Kraft, Mars, McDonald's, Nestlé, Red Bull, and Starbucks. The official reasoning didn't even shed light on the biggest (positive) change in advice in 2007: reducing the recommended number of servings of grains from 5-12 to 3-8.

Despite the red flags, too many non-profit health groups heaped praise on the 2007 edition of *Canada's Food Guide*, even as the Minister of Health and Chief Public Health Officer said it was not designed to be used as a weight-loss or sodium reduction tool, two huge worries then (and now).

This time, things are off to a better start: Health Canada published a meticulous review of nutrition science evidence on its own website early in its consultation, then built firewalls to keep industry at arms length. Kudos!

Proof of the value of these safeguards will be in the 2018 edition and it remains to be seen whether the Minister of Agriculture will install evidence and conflict of interest safeguards to fulfill his mandate from Prime Minister Trudeau to develop a national food policy. Stay tuned.

Bill Jeffery, BA, LLB, Editor



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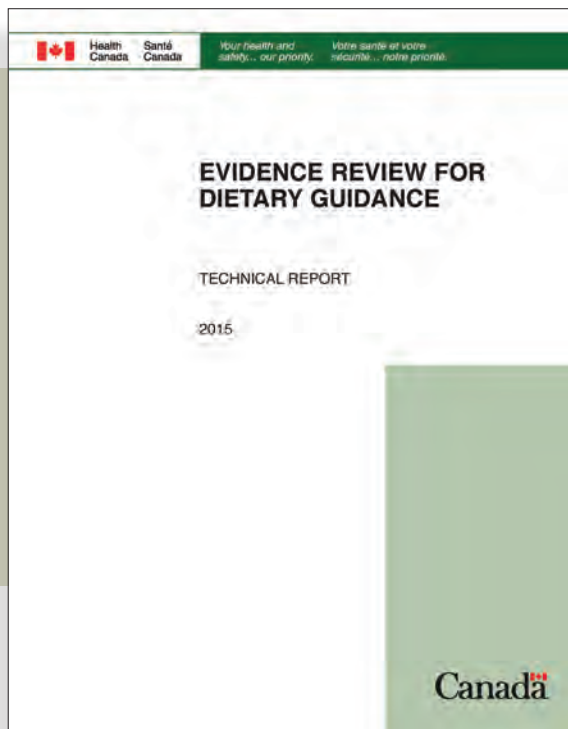
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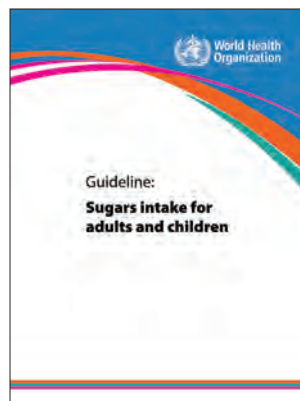
CANADA'S FOOD GUIDE REVISITED: THE FOUNDATION OF EVIDENCE



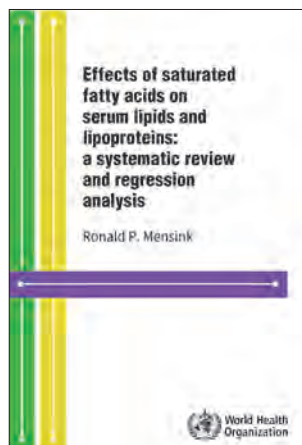
To its great credit, Health Canada's efforts to revamp *Canada's Food Guide* started with a careful review of the evidence, and a concerted effort to keep industry at arm's length.

Here are some of the key sources of evidence.

The **World Health Organization's** 2015 advice on limiting refined ("free sugars") to less than 5 % of calories has been used by the British government to update its dietary guidance to the public and to design an extra tax on sugar-sweetened pop.



The **World Health Organization's** review of evidence recommended keeping saturated fats under 10 % of calories (20 grams in a 2,000 calorie diet) and replacing saturated with polyunsaturated fats.



CANADIAN RISK ACCORDING TO THE GLOBAL BURDEN OF DISEASE PROJECT (http://vizhub.healthdata.org/gbd-compare/)	ESTIMATED DEATHS IN 2015	ESTIMATED LOSS OF DISABILITY-ADJUSTED LIFE YEARS (DALYs) ²
Dietary Risks in 2015	48,867	820,335
Diet low in nuts and seeds	9,937	163,839
Diet low in fruits	9,033	171,702
Diet low in whole grains	8,689	176,491
Diet low in vegetables	8,853	132,897
Diet high in sodium	8,818	134,591
Diet low in seafood omega 3 fatty acid	5,408	77,024
Diet high in processed meats	3,623	85,773
Diet low in polyunsaturated fats	3,499	40,672
Diet high in trans fat (based on old intake level)	3,400	58,590
Diet low in fibre	3,176	46,743
Diet suboptimal in calcium	1,550	26,025
Diet suboptimal in milk	1,229	21,417
Diet high in red meat	605	21,953
Diet high in sugar sweetened beverages (based on double current pop consumption)	354	13,688
Vitamin A deficiency	0	0
Metabolic risks		
High systolic blood pressure	39,153	560,452
High fasting plasma glucose	22,759	544,766
High body mass index	20,244	581,424
Impaired kidney function	11,977	192,439
Low bone mineral density	3,816	78,764
Low physical activity	10,269	179,241
Smoking	46,406	827,720

The Global Burden of Disease Project, at the Seattle-based **Institute for Health Metrics and Evaluation**, calculates the number of deaths and disability-free life years lost due to various aspects of diet for nearly 200 countries based on local food consumption patterns and disease rates, and scientific evidence about the relationship between diet and disease.

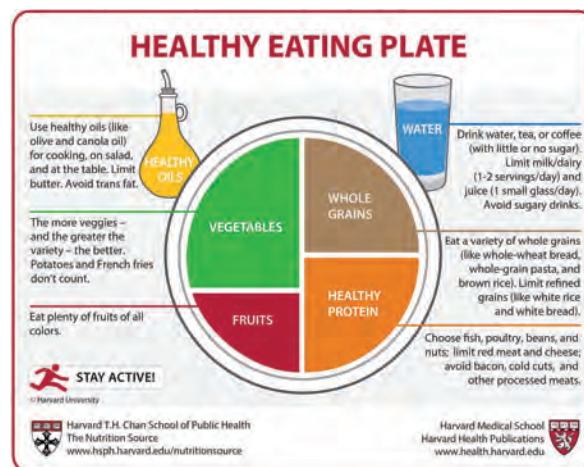


The **World Health Organization's** 2003 report *Diet, Nutrition and the Prevention of Chronic Diseases* was a game-changer. Back then, U.S. government and food industry lobbyists even led efforts to block its publication.



In 2016, the **International Agency for Research on Cancer** released a summary of evidence on cancer and meat. The full report will be published this fall.

The **U.S. Dietary Guidelines for Americans** is updated every five years to ensure consistency with the best available evidence. Only experts and program designers read this technical report, and some of its advice is poorly communicated in tools designed for the general public, doubtless due to intense food industry lobbying.



The Nutrition Department at **Harvard University's School of Public Health** developed an evidence-based *Healthy Eating Plate* that some Canadians use instead of *Canada's Food Guide*. It doesn't mention salt, but heeding its advice to consume unprocessed fruits, vegetables, and proteins would help displace salty foods.

In 2007, the **World Cancer Research Fund International's** review of 7,000 studies on the relationship between diet (and physical activity) and cancer helped clarify the evidence about risky and protective foods. Now, with the help of the world's leading experts, the evidence is continuously updated on the group's website as important new studies are published.

UNDER THE MICROSCOPE: HEALTHY FOOD GUIDES COMPARED

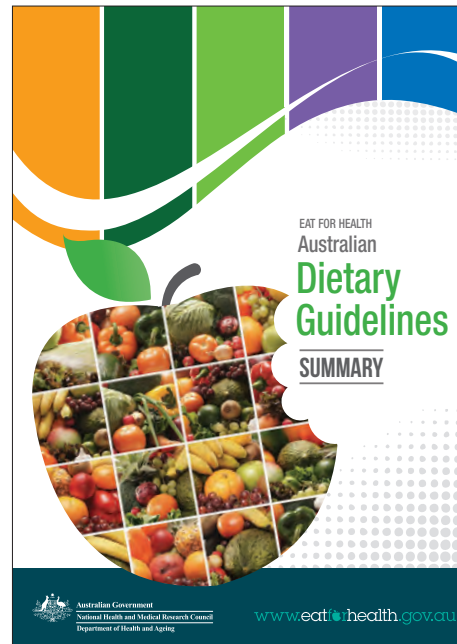
THE NUTRITION ADVICE that governments give to their citizens is remarkably similar worldwide. Witness, for example, the World Health Organization's single set of nutrition guidelines. Conducting the kind of careful scientific review that Health Canada has undertaken is tough for countries with small populations, and low- and middle-income countries without help from the WHO. And governments everywhere feel pressure from multinational and local food industries to more favourably portray their products. Even so, some foreign food guides have features worth emulating, though none is a clear standout exemplar.



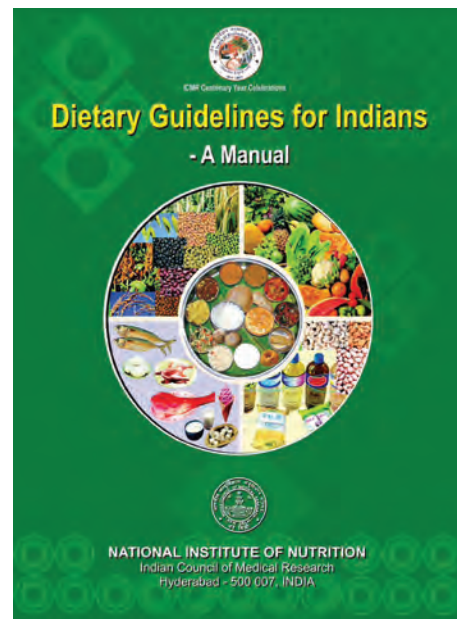
Harvard's Food Pyramid was replaced by its simpler Plate. It puts red meat, white bread, rice, potatoes, refined grain pasta, and butter in the same category as pop and table salt: foods to be consumed rarely.



Fiji: The Food and Health Guidelines for Fiji are actually represented in the graphic form of a pineapple, with the centre dominated by images of fruits and vegetables. Top marks for the key message.



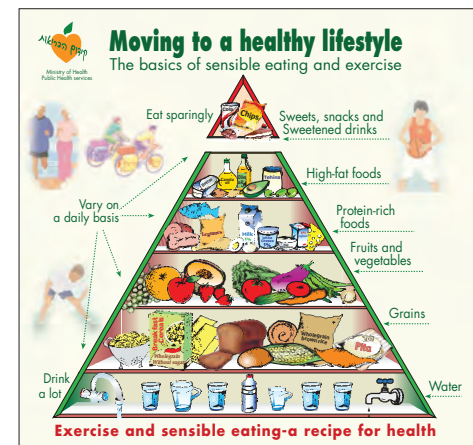
Australia: The front cover of the Australian Dietary Guidelines depicts pictures of mostly fruits and vegetables inside an apple graphic, though few members of the public would read this technical report.



The Dietary Guidelines in India promote pulses, legumes and beans in two of four food groups: "Cereals, millets and pulses" and "Oils & fats and nuts & oilseeds" while Canada's Food Guide gives them barely a footnote in one.



Vietnam's pyramid, revised every five years, recommends amounts of food in kilograms per month. It also advises Vietnamese people to "Drink adequate boiled water every day," advice which should—but shouldn't have to—be echoed in versions of Canada's Food Guide distributed in many First Nations communities here.



Israel: The Healthy Eating Pyramid for Israel promotes water as the biggest food group (implying advice to drink as much as 2 litres per day), promotes 1% milk, and repeatedly emphasizes whole grains.



The Food-Based Dietary Guidelines for South Africa promote beans and legumes as an entire food group and highlight the importance of drinking water above all.



The Dietary Guidelines for Brazil champion home cooking in a country where prepared foods are almost universally less nutritious.

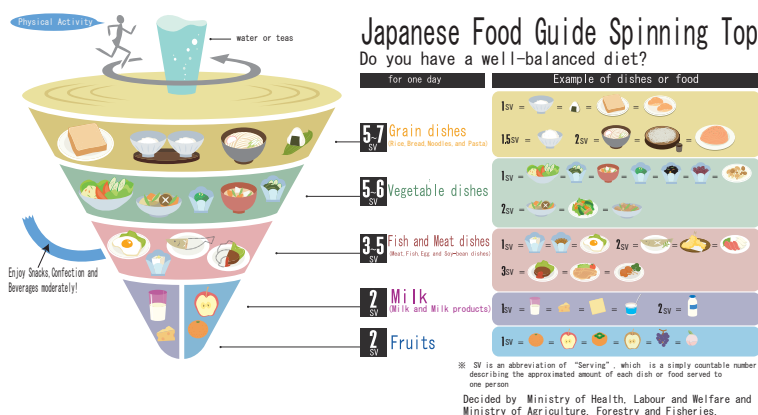
A special note about the Brazilian Food Guide.

SINCE 2014, some Canadian media commentators and the Senate Standing Committee on Social Affairs, Science and Technology have promoted the *Brazilian Dietary Guidelines* enough to warrant a closer look. The 128-page *Dietary Guidelines for the Brazilian Population* distills its advice into “10 steps to healthy diets.” It wisely counsels Brazilians to “Be wary of food advertising and marketing” (#10), use fats, salt, and sugar in small amounts when preparing food at home (#2), share cooking skills (#7), and enjoy the social benefits of communal eating (#5 and #8)—all solid ideas.

But the corpus of its guidance is based on the assumption (the Brazilian government calls it “the golden rule”) that foods prepared at home are healthful and that all multi-ingredient foods produced in manufacturing plants are not (#1, #3, #4, #6, and #9), reflecting the situation of a developing economy where commercially available processed foods are almost universally of low nutritional value and undermine traditional foods.

Brazilian-based definitions of “processed foods” when applied to the Canadian food supply, for instance, classify dry whole grain pasta, whole grain breakfast cereal, and canned fruits and vegetables as foods to be avoided, but promote the consumption of white rice, white flour (with the wheat germ removed), fresh pasta made from refined flour, fruit juice, fresh and dried red meat, and whole fat milk. That is bad advice for Canadians that could lead to a diet that is completely inconsistent with the best available nutrition science. (Brazilian advice to dine at buffet restaurants that charge per weight of food is not really actionable in Canada and, in any case, counsels consuming less of all kinds of food, vegetables and dessert alike.)

For Canada, advice to avoid any packaged food with two or more ingredients, and all canned products (and to eat everything else) is a needlessly imprecise and often misleading oversimplification.



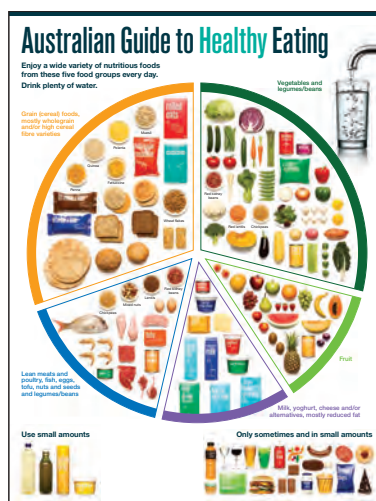
The Japanese Food Guide Spinning Top, like an inverted pyramid, indicates that foods at the top and depicted by a larger size should be consumed in larger amounts (a regular pyramid is ambiguous on that point). But, separating and placing vegetables near the top and fruit near the bottom adds confusion, visually.



The Finnish healthy eating tools marry sound science with artful design. Hip art may help promote dissemination and adherence.

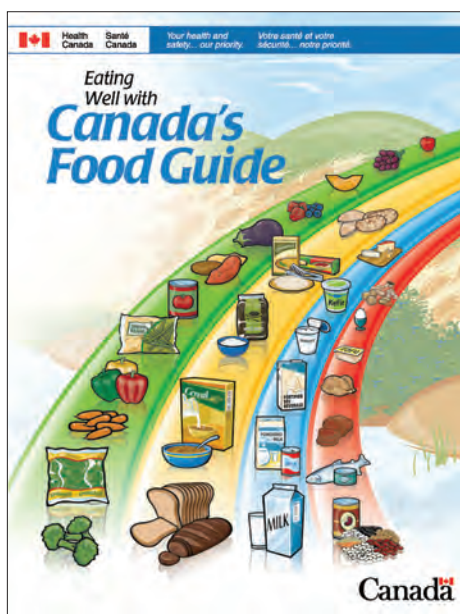


The Seychelles guidance actually specifies a target of eight glasses of water per day, approximately two litres.



Australian advice acknowledges foods to avoid, but could better visually and quantitatively convey how often eating “rarely” means.

12 EVIDENCE-BASED FIXES FOR CANADA'S FOOD GUIDE



HERE are some evidence-based steps to improve *Canada's Food Guide*.

1. Change the category name from "Grains" to "Whole Grains." Simply insert the word "Whole" at the beginning of the food category name. Also, ditch pictures of white bread, refined grain pasta, and white rice. (Importantly, also limit the use of claims on labels and in advertising for "whole wheat" products made using wheat from which up to 70 % of the germ—the nutritious part—can be removed.) **Rationale:** Whole grains have important health benefits. Refined grains do not. Current advice implies that 1.5 to 4 servings of refined grains is recommended (up to half of 3-8 servings).

2. Change the category name "Meat and Alternatives" to "Beans, Nuts, Seafood, Poultry, and Alternatives." Remove red meat images, and add a precautionary statement: "Limit consumption of red meat—e.g., beef, pork, lamb, etc. to under three 2 oz/75 g servings per week, recognizing that restaurant servings are sometimes 2-5 times as big as a *Food Guide* serving." **Rationale:** Beans, nuts, and seafood have protective effects.

The World Cancer Research Fund recommends consuming less than 500 grams per week (that is less than one serving per day), though unlike for legumes and seafood, red meat does not have a protective effect against cancer or heart disease. The Canadian Cancer Society recommends consuming no more than three servings per week. South Africa's and India's guidance already stress healthier plant-based proteins.

3. Put milk alternatives into nutritional context. Cheese is typically high in saturated fat and sodium, and other dairy products have little or no vitamin D or calcium. (See the yogurt rundown on pages 15-17.) Milk and margarine are the only foods consumed by the general population that are fortified with vitamin D; eggs and certain fish contain some naturally. **Rationale:** This government dietary advice puts a halo over all dairy products and, thereby, promotes excess intake of saturated fat and sodium, and insufficient intake of calcium and vitamin D. South African guidance recommends milk, not the usually less nutritious, always more expensive processed milk products.

4. Resize the graphic representations of fruits and vegetables, and grains in relation to other food groups to stress their relative importance. The Fruit and Vegetables food group bar depicted on pages 1-4 of the six-page *Guide* should be approximately 3½ times bigger than the bars depicting meat and milk based on the number of recommended servings. (Whole) Grains should be nearly triple the size. The large text box devoted to promoting vegetable oils should note that the average Canadian already consumes 110 grams of total fat per day, nearly double the recommended amount. **Rationale:** The "Food Plate" helps visually convey

healthful proportionality among the food groups, but the *Guide* itself does so with numbers, but not with images. The mixed messages promote the sale and consumption of products that offer the least to improve healthy life expectancy.

5. State the quantitative risks to health of all aspects of the diet.

Cite the Global Burden of Disease conclusion that poor nutrition causes approximately 49,000 deaths per year and the number of deaths due to inadequate intake of nuts and seeds (9,900 deaths), fruits (9,000), vegetables (8,900), whole grains (8,700), and unsaturated fats (3,500), and the number of deaths due to too much sodium (8,800 deaths), processed meat (3,600), and sugar-sweetened beverages (< 350). The Public Health Agency of Canada says that food poisoning kills about 238 per year. **Rationale:** Quantifying these risks will help Canadians prioritize efforts to improve their diet. Some dietary risks are distorted in the news media, in advertisements, and on food labels. For instance, too much sodium causes about 10 times as many deaths as excess sugar or trans fat, but is rarely mentioned in the media these days. Low fruit intake rarely spills ink.

6. Weigh in on weight loss. Stress the need to choose dietary improvements that involve consuming healthful amounts of foods and that are sustainable in the long term. **Rationale:** Yo-yo dieting may be worse for health than not losing weight at all. Crash diets often involve buying expensive foods or poorly tested over-the-counter medicines.

7. Promote exclusive breastfeeding of infants until at least six months and partial for up to three years. Health Canada should be more vocal at home on the praiseworthy stances it takes to



promote breastfeeding at World Health Organization meetings. **Rationale:** National dietary guidance does so in Australia, Fiji, India, Qatar, and many other countries. The U.S. Pyramid and Healthy Eating Plate do not emphasize breastfeeding, but the United States was the only country to oppose the adoption of the World Health Organization's *International Code of Marketing of Breast-milk Substitutes* due to pressure from global formula companies headquartered there. (See pages 20-21.) Canada should follow its own path.

8. Add a prominent encouragement to include 2-3 servings of fruit or vegetables at every meal or snack.

Include the number of servings per meal in the food plate. **Rationale:** Increasing consumption of fruits and vegetables may be the single best health-promoting dietary change. Fiji's guide is actually in the shape of a pineapple and puts fruits and vegetables as one of three food groups and at the centre of the image, leaving no doubt about their importance.

9. Emphasize tap water. Tap water should be visually and quantitatively promoted. **Rationale:** Water is calorie free and vital to every system in the body. Adequate intake of water helps to prevent infectious diseases. The Israeli and South African food guides prominently promote tap water. Canadians are enamoured with environmentally unsustainable bottled water and mostly unhealthful sweetened or salted drinks. These are extremely expensive alternatives where safe tap water is readily available.

10. Make artwork like eye candy. Make dietary guidance imagery cool. **Rationale:** Interesting, artful, or eye-catching images may disseminate faster and farther. Finland's is hipper than most.

11. Make the Food Guide advice more actionable, requiring fewer further calculations, and less vulnerable to distortion.

Nutrition advice should be tailored (or user-tailorable) to suit key decision purposes such as: customizable grocery shopping lists (e.g. to buy enough fruits and vegetables for the whole family and week), daily reminders (like fridge magnets), sports nutrition, diets for vegetarians, vegans, and diabetics, low-sodium diets, and weight-loss measures that can be followed for more than two years (i.e., yo-yo-proof dieting). **Rationale:** The *Food Guide* is currently very focused on the individual and the entire day as the basis for recommendations. Key decisions in eating, cooking, and shopping are made for the meal, the whole family, and the whole week, and a host of common special dietary needs. The "My Food Guide" tool, which has been available at healthykanadians.gc.ca for a decade, invites people to include many dietary choices that should be limited, such as chocolate milk, red meat, cheese, and fruit juice.

12. IF the 2018 edition accords with the best available evidence, especially points #1 to #11, THEN increase the use of Canada's Food Guide among health care professionals/patients, educators/students, and workers.

The *Food Guide* could be a bible for 6,000 dietitians who are highly trained in nutrition, and a convenient handout or web-link for Canada's nutritionally inexperienced 70,000 doctors, and 400,000 nurses. If each one of those health professionals successfully referred one patient to the *Guide* per year, it would triple the current uptake by Canadians. Promotion to all their patients could saturate families with Health Canada's advice and spur significant, even dramatic, improvements in

population health. *Canada's Food Guide* (with better nutrition labelling) could also improve the quality of school food procurement and distribution and enliven curriculum materials for 7 million students from kindergarten to post-secondary. Plenty more of nearly 800,000 Canadian teachers and professors could use the *Food Guide* even in one lesson per year for 7 million students to animate lessons in health, culinary arts, math, statistics, science, ethics, communications, English/French/native languages, physical education, civics/political science, history, social studies, psychology, cultural studies, communications, chemistry, biology, environmental studies, and more. Perhaps, so far, it hasn't resonated as much as it could have because of questions about its concordance with good science, or because of excessive efforts to render its advice inoffensive to interested industries. A frank, multidisciplinary story of its development should be gathered together in one place and adapted for curriculum use. Workplace health is still heavily focused on avoiding accidents, not preventing diet-related diseases, but plenty of Canada's 18 million workers regularly eat in lunchrooms that could become access points for the 2018 edition of *Canada's Food Guide* and reinforce messages coming home from schoolchildren. **Rationale:** *Canada's Food Guide* has been the distant-second most widely circulated federal government document (after tax returns) at an average of 200,000 downloads per year during the past decade. This is a modest toehold for advice that aspires to inform and motivate 37 million souls to prevent 50,000 nutrition-related deaths per year, and hopes to outrank and outnumber countless ill-informed rival pretenders to nutrition authority that litter the Internet and line shelves at libraries and bookstores.

REVISIONS TO CANADA'S FOOD GUIDE

PROPOSED BY THE CENTRE FOR HEALTH SCIENCE AND LAW

Recommended Number of Food Guide Servings per Day

Age in Years Sex	Children			Teens		Adults			
	2-3	4-8	9-13	14-18		19-50		51+	
	Girls and Boys			Females	Males	Females	Males	Females	Males
Vegetables and Fruit	4	5	6	7	8	7-8	8-10	7	7
Grain Products <i>WHOLE</i>	3	4	6	6	7	6-7	8	6	7
Milk and Alternatives <i>1% OR LESS FAT</i>	2	2	3-4	3-4	3-4	2	2	3	3
Meat and Alternatives <i>BEANS, NUTS, SEAFOOD, POULTRY AND ALTERNATIVES</i>	1	1	1-2	2	3	2	3	2	3

What is One Food Guide Serving? Look at the examples below.



Fresh, frozen or canned vegetables
125 mL (½ cup)



Bread
1 slice (35g)

Bagel
½ bagel (45 g)

Flat breads
½ pita or ½ tortilla (35g)



Milk or powdered milk (reconstituted)
250 mL (1 cup)



Canned milk (evaporated)
125 mL (½ cup)



Cooked fish, shellfish, poultry, lean meat
75 g (2 ½ oz.)/125 mL (½ cup)



Cooked legumes
175 mL (¾ cup)

The chart above shows how many Food Guide Servings you need from each of the four food groups every day.

Having the amount and type of food recommended and following the tips in *Canada's Food Guide* will help:

- Meet your needs for vitamins, minerals and other nutrients.
- Reduce your risk of obesity, type 2 diabetes, heart disease, certain types of cancer and osteoporosis.
- Contribute to your overall health and vitality.

Oils and Fats

- Include a small amount – 30 to 50 mL (2 to 3 Tbsp) – of unsaturated fat each day. This includes oil used for cooking, salad dressings, margarine and mayonnaise.
- Use vegetable oils such as canola, olive and soybean.
- Choose soft margarines that are low in saturated and trans fats.
- Limit butter, hard margarine, lard and shortening.

- IF YOU DRINK **ALCOHOL**, LIMIT TO 2 SERVINGS OR LESS PER DAY FOR MEN, 1 FOR WOMEN. AVOID ALCOHOL ENTIRELY DURING PREGNANCY TO PREVENT FETAL ALCOHOL SPECTRUM DISORDER. A TYPICAL SERVING OF ALCOHOL CAN CONTAIN 200 OR MORE CALORIES.
- WOMEN OF CHILDBEARING AGE ARE ADVISED TO TAKE A **FOLIC ACID SUPPLEMENT** TO PREVENT NEURAL TUBE BIRTH DEFECTS.

SUBSTITUTE **POLYUNSATURATED-RICH VEGETABLE OILS** FOR SATURATED-FATS-LADEN DAIRY AND MEAT FATS. KEEP IN MIND THAT 3 TABLESPOONS OF OIL ADDS NEARLY 400 CALORIES TO A DIET AND NEARLY EVERYONE CAN THRIVE ON 1,500-2,500 CALORIES PER DAY (LESS FOR WOMEN), EVEN IF MODERATELY ACTIVE.

See the back cover for sustainable weight loss tips. Visit www.healthycanadians.ca for current credible evidence.

ELIMINATE JUICE IN FAVOUR OF WHOLE FRUITS AND VEGETABLES.

THE SIZE OF THE COLOURED BARS FOR FRUITS & VEGETABLES AND (WHOLE) GRAINS SHOULD BE APPROXIMATELY 3 1/2 AND 3 TIMES **LARGER**, RESPECTIVELY, THAN THE MEAT AND DAIRY BARS TO MORE ACCURATELY PORTRAY THE AMOUNTS TO CONSUME OF THOSE FOODS.

ALL BREADS, BAGELS, FLAT BREADS, COOKED RICE, BULGUR OR QUINOA, CEREAL, COOKED PASTA OR COUSCOUS **SHOULD** BE **WHOLE GRAIN**.

ALL MILK AND MILK ALTERNATIVES SHOULD BE **1% OR LESS FAT** WITH **NO ADDED SUGARS**. ADD OTHER LOW-FAT MILK ALTERNATIVES.

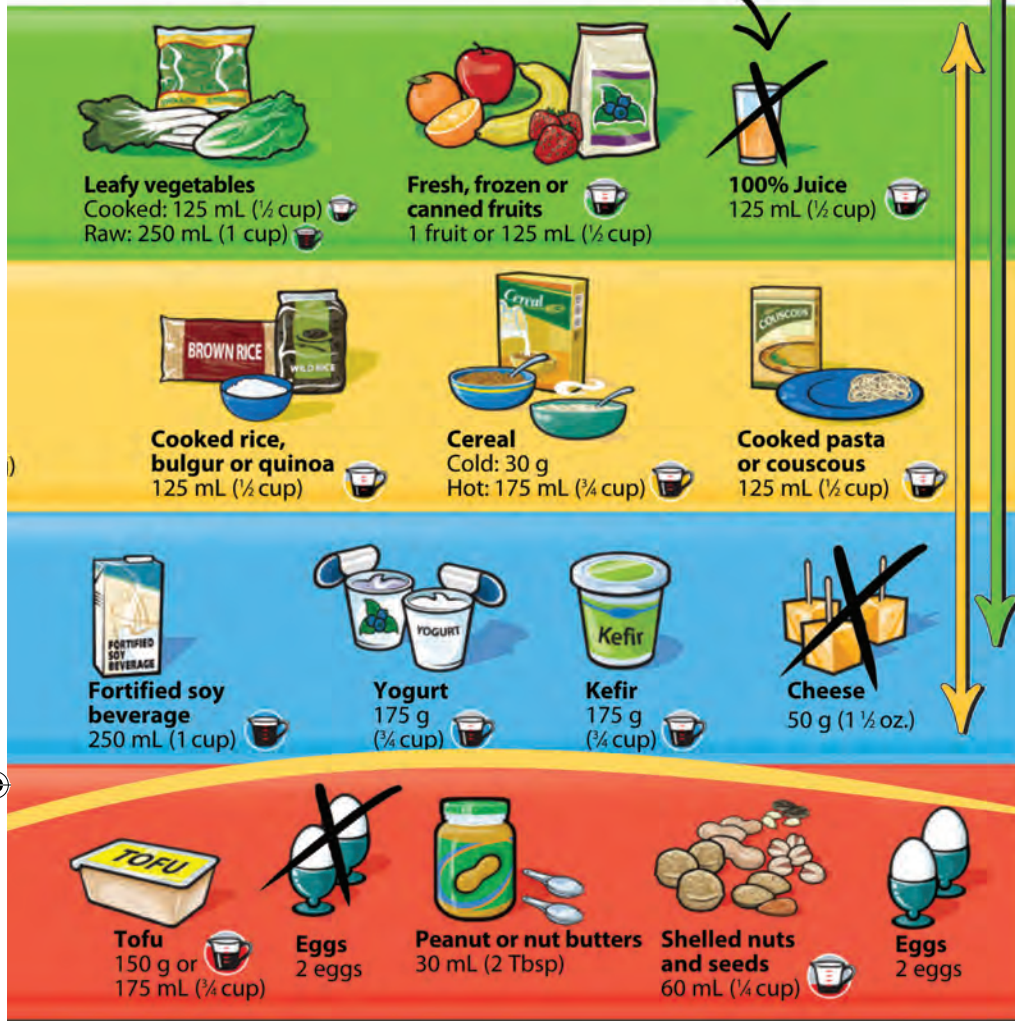
EAT MOST CHEESES RARELY.

ELIMINATE RED MEAT. THE GLOBAL BURDEN OF DISEASE REPORT (EXCERPT BELOW) LISTS OPTIMAL INTAKE AT 18-21 GRAMS PER DAY - LESS THAN 2 SMALL SERVINGS PER WEEK, IF ANY. UNLIKE MILK, MEAT OFFERS **NO PROTECTIVE EFFECT**. BEEF IS A MAJOR CONTRIBUTOR TO GREENHOUSE GAS EMISSIONS.

EGGS HAVE LESS PROVEN VALUE THAN PEANUT OR NUT BUTTERS, SHELLED NUTS OR SEEDS, SO SHOULD BE MOVED TO THE END OF THE LIST.

DRINK UP TO **TWO LITRES OF WATER** PER DAY: CAFFEINE DRINKS AND ALCOHOL CAN **DEHYDRATE**.

EXCLUSIVE **BREASTFEEDING** FOR AT LEAST THE FIRST 6 MONTHS, AND PARTIAL BREASTFEEDING AS LATE AS AGE 3 IS **BEST FOR BABIES**.



CANADIAN RISK ACCORDING TO THE GLOBAL BURDEN OF DISEASE PROJECT (http://vizhub.healthdata.org/gbd-compare/)	ESTIMATED DEATHS IN 2015	ESTIMATED LOSS OF DISABILITY-ADJUSTED LIFE YEARS (DALYs) ^a
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