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Centre for Food in Canada

WHAT'S TO EAT?

Improving Food Literacy in Canada.



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The Conference Board
of Canada

What's to Eat? Improving Food Literacy in Canada
by *Alison Howard* and *Jessica Brichta*

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Preface

Improving food literacy—household attitudes, skills, and knowledge about food—in Canada will support healthier choices in diet and nutrition and better food skills, leading to improved nutrition and health outcomes. Information and education are crucial, but must be presented using strategies that engender lasting behavioural changes. *What's to Eat? Improving Food Literacy in Canada* discusses why food literacy matters (in terms of dietary, health, and environmental outcomes); analyzes the current state of food literacy in Canada; highlights current efforts to develop food literacy; and recommends strategies to further improve Canadian household food literacy.

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The findings and conclusions of this report are entirely those of The Conference Board of Canada. Any errors and omissions in fact or interpretation remain the sole responsibility of The Conference Board of Canada.

ABOUT THE CENTRE FOR FOOD IN CANADA

The Centre for Food in Canada (CFIC) is a three-year initiative of research and dialogue to help address one of the mega-issues facing our country today—food. Food impacts Canadians in an extraordinary range of ways. It affects our lives, our health, our jobs, and our economy.

The twin purposes of the Centre for Food in Canada are:

- ◆ to raise public awareness of the nature and importance of the food sector to Canada's economy and society;
- ◆ to create a shared vision for the future of food in Canada—articulated in the Canadian Food Strategy—that will meet our country's need for a coordinated, long-term strategy for change.

The Centre is taking a holistic approach to food. It focuses on food in Canada through three interrelated but distinct lenses: safe and healthy food, food security, and food sustainability. These lenses ensure that the Centre focuses on the full range of important issues facing the food sector.

The work involves a combination of research and effective communications. The goal is to stimulate public understanding of the significance of the food sector and spur the demand for collaborative action. To achieve its goals, the Centre is working closely with leaders and partners from Canada's food sector, governments, educational institutions, and other organizations.

Launched in July 2010, CFIC actively engages private and public sector leaders from the food sector in developing a framework for a Canadian food strategy. Some 25 companies and organizations have invested in the project, providing invaluable financial, leadership, and expert support.

For more information about CFIC, please visit our website at www.conferenceboard.ca/cfic.

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Executive Summary

What's to Eat? Improving Food Literacy in Canada

At a Glance

- ◆ Improving food literacy in Canada will support better choices in diet and nutrition, attitudes, and food skills, leading to improved nutritional and health outcomes.
- ◆ Nutrition education for children is especially important as a positive influence on their food-related knowledge and skills, eating and physical activity behaviours, and health status.
- ◆ Information and education are crucial, but must be presented using strategies that inspire lasting behavioural changes.

Together with industry and government, households play a central role in ensuring that the food they eat is healthy, nutritious, and safe. In addition, household food-related knowledge and behaviour affect industry and government decisions about food production, consumption, and regulation. What individuals know about food, and whether they put that knowledge to use, influences the extent to which key food strategy objectives are achieved, particularly healthy food, food safety, household food security, and to some extent, environmental sustainability.

In recent years, there has been a rise in interest in the role of food in health and in how food is grown and processed. Yet, it is unclear whether household

attitudes, skills, and knowledge about food—food literacy—have developed along with that interest. As this report reveals, despite the importance of food literacy to achieving key food objectives, there are gaps and deficits in Canadians' knowledge and skills related to food. Further, while food literacy is important, it is only one of many factors that affect household food selection and preparation decisions. Other factors include, for example, price, convenience, taste, and availability.

The report's findings are being used to inform the development of the Canadian Food Strategy. In particular, the report defines food literacy; assesses the current state of household food literacy and its impact on dietary and health outcomes and the environment; explores education and awareness-raising programs and initiatives that aim to improve food literacy; and recommends strategies for governments, industry, the health and education sectors, civil society, and households to further enhance Canadians' food literacy.

FOOD LITERACY AND DIETARY OUTCOMES

Evidence from a number of studies shows a strong correlation between nutritional knowledge and healthy eating or dietary quality. Moreover, public awareness and education campaigns and industry efforts to improve food's healthiness have been key components of past successful public health initiatives. Interventions to improve food literacy can have a positive effect on the

food consumption habits of children and adolescents. While increasing their nutritional knowledge leads to them choosing healthier foods, children tend to prefer nutritional foods that also taste good. Encouraging family involvement in household food preparation is one path to increasing the food preparation knowledge and skills of younger household members.

FOOD LITERACY AND HEALTH OUTCOMES

As a subset of health literacy, food literacy affects health outcomes in several ways. Food literacy positively impacts food safety when proper knowledge and behaviours toward food storage and handling are observed. Knowledge and use of food label information can help improve diets and thereby help to reduce health risks. Similarly, household cooking skills can contribute to a healthier diet and better health outcomes. Finally, dietary knowledge is a factor in food and meal choices that will contribute positively to overall health.

FOOD LITERACY AND ENVIRONMENTAL OUTCOMES

Although environmental impacts are not households' top priority in terms of food issues, household decisions are pushing the agendas of the authentic, local, and organic food movements as well as environmental sustainability efforts, including reductions in food packaging and chemical use in farming practices.¹ Canadian households would like additional information to be provided on food product labels, especially on health and environmental factors such as the presence of pesticides, antibiotics, and growth hormones, as they feel this information is currently not clear on product labels.²

1 Agriculture and Agri-Food Canada, *The Canadian Consumer*, 15–17.

2 Canadian Consumer Initiative, *Supporting Consumers*.

THE STATE OF FOOD LITERACY IN CANADA

Canadians have a good general understanding of food, nutrition, and health, but may lack a thorough understanding of the details of how they are connected. Despite the confidence shown in surveys of self-reported knowledge, household knowledge of nutrition is weak in some areas. Publications such as *Canada's Food Guide* have helped many Canadians improve their eating habits, but studies that track fruit and vegetable consumption indicate that some Canadians are unaware of or do not follow their recommendations.

Although the majority of Canadians are food label readers, label use varies by subgroup, and many Canadians may be struggling to use and interpret labels because they lack the numeracy skills to do so. In addition, high levels of food waste and the relatively low percentage of Canadians who both have *and* follow a household budget suggest that many households could improve their planning and purchasing habits. Likewise, the low percentage of children and adolescents who regularly participate in family meal preparation is a concern, and may lead to future generations with increasing cooking skill deficits. Moreover, certain groups of people, including new immigrants and some Aboriginal peoples, ostensibly face more barriers to food literacy than other groups.

STRATEGIES TO IMPROVE FOOD LITERACY

Programs administered at the federal, provincial, territorial, regional, and community levels are making notable steps toward raising food literacy levels. Nutritional information, guides, and tools are helping Canadians of all ages to develop their food literacy. *Canada's Food Guide*—a relatively low-cost, low-intervention strategy—is a popular information source for improving household knowledge and dietary choices. Nutrition education for children is especially important as a positive influence on their food-related

knowledge and skills, eating and physical activity behaviours, and health status. School meal programs are an excellent means of providing students with nutritious food as well as education on nutritious and healthy diets. Public-private partnerships leverage a variety of approaches—including experiential learning, point-of-purchase nutrition logos and labelling, and menu labelling—to increase and enhance household food literacy skills.

FUTURE CONSIDERATIONS

Improving food literacy in Canada will support better choices in diet and nutrition, attitudes, and food skills leading to improved health and safety. In addition, improved food literacy will positively impact environmental sustainability. While good work has already been done, Canada still has considerable room to improve food literacy. Further action needs to be taken at the federal, provincial/territorial, and community levels to promote healthier diets and eating

patterns. Information and education are crucial, but must be presented using strategies that inspire lasting behavioural changes.

Many stakeholders—including governments, businesses, and households, as well as the health and education sectors—have roles to play, as programs that use a multi-stakeholder approach can achieve greater reach and so generate bigger impacts. Seven recommendations for improving food literacy are the following:

- ◆ Make nutritional information more effective, understandable, and accessible for household use.
- ◆ Tailor food literacy programs to high-risk populations and community needs.
- ◆ Incorporate food literacy into school curricula.
- ◆ Foster parental involvement in hands-on experiential opportunities to develop food literacy.
- ◆ Create guiding principles for children’s advertising.
- ◆ Replicate highly successful international food literacy programs.
- ◆ Track, study, and evaluate food literacy initiatives.

Developing the Canadian Food Strategy

This report is an important research input into the development of the Canadian Food Strategy. It is one of a series of 20 research reports that are being conducted by the Conference Board's Centre for Food in Canada (CFIC). Each report addresses an important issue or theme relating to food; the findings will figure in the completed Strategy when it is released in March 2014.

The principal goal of the Centre for Food in Canada is to engage stakeholders from business, government, academia, associations, and communities in creating the framework for the Canadian Food Strategy to meet the country's need for a coordinated long-term strategy.

The Strategy is taking a comprehensive approach to food. It covers the full range of themes relating to industry prosperity and competitiveness, healthy food, food safety, household food security, and environmental sustainability, encompassing both economic and social dimensions.

The Strategy will include a framework of outcomes that we want to achieve and actions that will solve the challenges facing the food sector and food stakeholders. It will also suggest which group—businesses, governments, communities, and others—could lead on implementing them.

The process for creating, disseminating, and implementing the Strategy involves research, analysis, and synthesis; consultation and a high level of collaboration; the development of shared understanding and common goals among stakeholders; broad dissemination through many communication channels; and the commitment of key players to take action.

THE ROLE OF RESEARCH

The process to develop the Strategy starts with conducting research that develops empirical findings and potential solutions to the challenges facing the food sector. The research findings from the 20 research studies are a key input into the Canadian Food Strategy. The findings are used to develop the content of the draft Strategy and are the basis for dialogue

and consultation with CFIC investors and other major food stakeholders.

CFIC research aims to:

- ◆ understand the current reality of Canada's food system, including its impact on GDP, health, trade, environment, and other major economic and social factors;
- ◆ define a desired future state for food and the food system;
- ◆ suggest workable solutions for moving Canada from its current reality to the desired state.

The solutions will take into consideration the realities of economic activity, market forces, environment, policies, laws and regulations, and social conditions and health needs of Canadians.

KEY STEPS AND TIMELINES

1. Begin CFIC research studies—July 2010
2. Develop initial draft of Canadian Food Strategy—April 2012
3. Begin dialogue and consultations—May 2012
4. Review second draft of Canadian Food Strategy—April 2013
5. Release the Canadian Food Strategy—March 2014

CANADIAN FOOD STRATEGY EVENTS—LAUNCHING THE CANADIAN FOOD STRATEGY

CFIC is hosting three major food summits as part of the Strategy development process. Each summit brings together food system leaders and practitioners from business, government, academia, and communities to discuss the latest research, share insights, and consider how to address Canada's major food challenges and opportunities through a national strategy:

- ◆ The first Canadian Food Summit, in February 2012, focused on issues and challenges and explored international perspectives on how to address them.
- ◆ The second Canadian Food Summit, in April 2013, focused on moving from challenges to solutions.
- ◆ The third Canadian Food Summit, in March 2014, will feature the public launch of the Canadian Food Strategy and will focus on moving from strategy to action.

Résumé

Qu'est-ce qu'on mange? Améliorer l'alphabétisation alimentaire au Canada

Aperçu

- ◆ Améliorer l'alphabétisation alimentaire au Canada conduira à des choix alimentaires et nutritionnels plus sains, à de meilleurs comportements et compétences face à l'alimentation, et à des résultats supérieurs sur les plans de la nutrition et de la santé.
- ◆ L'éducation nutritionnelle des enfants revêt une importance particulière en raison de son influence positive sur les connaissances et les compétences alimentaires, les comportements relatifs à l'alimentation et à l'activité physique, ainsi que l'état de santé.
- ◆ Si l'information et l'éducation sont essentielles, elles doivent reposer sur des stratégies qui inspirent des changements de comportement durables.

Parallèlement aux efforts de l'industrie et des gouvernements, les ménages jouent un rôle central dès qu'il s'agit d'assurer la consommation d'aliments sains, nutritifs et salubres. Au-delà, les connaissances et les comportements alimentaires des ménages guident les décisions de l'industrie et des gouvernements touchant la production, la consommation et la réglementation des aliments. Ce que les gens savent de ce qu'ils mangent et leur capacité d'appliquer ce savoir influence les chances que se réalisent les

objectifs au cœur des stratégies alimentaires, soit une alimentation saine, la salubrité alimentaire, la sécurité alimentaire des ménages et, jusqu'à un certain point, la durabilité environnementale.

On observe depuis quelques années un intérêt plus vif à l'égard de l'importance du régime alimentaire dans le maintien d'une bonne santé de même que des méthodes de production et de transformation des aliments. Pourtant, il est difficile de savoir si les comportements, les compétences et les connaissances des ménages au sujet de l'alimentation — l'alphabétisation alimentaire — se sont améliorés en même temps que cet intérêt grandissait. Comme le révèle ce rapport, malgré l'importance de l'alphabétisation alimentaire pour l'atteinte des grands objectifs dans ce domaine, il existe des lacunes et des déficits dans les connaissances et les compétences des Canadiens en matière d'alimentation. En outre, bien qu'elle soit importante, l'alphabétisation alimentaire n'est qu'un facteur parmi d'autres qui influent sur les décisions touchant la sélection et la préparation des aliments. Parmi les autres facteurs figurent le prix, la commodité, le goût et la disponibilité.

Les conclusions du rapport serviront à éclairer la formulation d'une stratégie alimentaire canadienne. Plus particulièrement, les auteurs ont défini l'alphabétisation alimentaire; évalué l'état actuel de l'alphabétisation alimentaire des ménages ainsi que son incidence sur le régime alimentaire, la santé et l'environnement; sondé les programmes et les initiatives d'éducation et

de sensibilisation lancés pour améliorer cette alphabétisation alimentaire; et recommandé des stratégies aux gouvernements, à l'industrie, aux secteurs de la santé et de l'éducation, à la société civile et aux ménages pour rehausser les niveaux d'alphabétisation alimentaire des Canadiens.

L'ALPHABÉTISATION ALIMENTAIRE ET SES RÉSULTATS SUR LE PLAN NUTRITIONNEL

Des données probantes tirées d'un certain nombre d'études indiquent une forte corrélation entre les connaissances sur la nutrition et l'adoption d'une alimentation saine ou le souci de la qualité nutritionnelle. Par ailleurs, les campagnes de sensibilisation et d'éducation publiques ainsi que les efforts de l'industrie pour encourager les choix-santé ont été essentiels au succès des initiatives de santé publique passées. Les interventions visant à améliorer l'alphabétisation alimentaire peuvent avoir un effet positif sur les habitudes alimentaires des enfants et des adolescents. Si l'enrichissement de leurs connaissances sur la nutrition les incite à choisir des aliments plus sains, les enfants ont tendance à préférer les aliments nutritifs qui sont aussi bons au goût. La participation de la famille à la préparation des aliments compte donc également comme piste de solution pour accroître les connaissances et les compétences des plus jeunes membres des ménages dans ce domaine.

L'ALPHABÉTISATION ALIMENTAIRE ET SES RÉSULTATS SUR LE PLAN DE LA SANTÉ

L'alphabétisation alimentaire, sous-ensemble des connaissances en santé, influe sur les résultats en matière de santé de plusieurs façons. Elle a une incidence positive sur la salubrité des aliments parce qu'elle favorise de saines habitudes et l'acquisition de connaissances appropriées pour l'entreposage et la manipulation des aliments. L'interprétation et l'utilisation des étiquettes des produits alimentaires peuvent contribuer à l'adoption d'un meilleur régime alimentaire et ainsi réduire les risques pour la santé. Dans le même ordre d'idées, les compétences culinaires peuvent faciliter la transition des ménages vers une alimentation plus saine,

et l'obtention de meilleurs résultats sur le plan de la santé. Enfin, les connaissances relatives à l'alimentation entrent en jeu dans le choix des aliments et des repas susceptibles d'améliorer l'état de santé global.

L'ALPHABÉTISATION ALIMENTAIRE ET SES RÉSULTATS SUR LE PLAN DE LA ENVIRONNEMENTAL

Bien que les répercussions environnementales ne constituent pas leur priorité absolue lorsqu'il s'agit d'alimentation, les ménages font des choix qui s'inscrivent dans des mouvements de promotion d'aliments authentiques, locaux et biologiques ainsi que dans des efforts favorisant la durabilité environnementale, notamment pour réduire les emballages alimentaires et l'utilisation de produits chimiques dans les pratiques agricoles¹. Les ménages canadiens veulent des étiquettes plus détaillées sur les produits alimentaires, surtout sur des facteurs importants pour la santé et l'environnement comme l'utilisation éventuelle de pesticides, d'antibiotiques et d'hormones de croissance, estimant que les renseignements s'y rapportant ne sont pas clairs à l'heure actuelle².

L'ÉTAT DE L'ALPHABÉTISATION ALIMENTAIRE AU CANADA

De façon générale, les Canadiens ont une bonne compréhension de l'alimentation, de la nutrition et de la santé, mais tous ne saisissent pas bien les liens étroits entre ces éléments. Les connaissances de la nutrition semblent lacunaires à certains égards, même si les ménages s'évaluent plutôt positivement à cet égard dans les sondages. Des publications comme le *Guide alimentaire canadien* ont aidé de nombreux Canadiens à améliorer leurs habitudes alimentaires, mais des études qui font le suivi de la consommation de fruits et de légumes indiquent que tous les Canadiens n'en connaissent pas ou n'en suivent pas les recommandations.

1 Agriculture et Agroalimentaire Canada, *Le consommateur canadien*, p. 15-17.

2 L'Initiative canadienne des consommateurs, *Pour des consommateurs plus exigeants*.

La plupart des Canadiens lisent les étiquettes des produits alimentaires, mais cette tendance varie d'un sous-groupe à l'autre, et nombreux sont ceux qui ont du mal à utiliser et à interpréter les étiquettes parce que leurs compétences en calcul sont insuffisantes. De plus, si l'on en croit la production élevée de déchets de cuisine et le pourcentage relativement faible de Canadiens qui établissent et suivent un budget, bien des ménages pourraient revoir leurs habitudes de planification et d'achat. De même, le faible pourcentage d'enfants et d'adolescents qui prennent régulièrement part à la préparation des repas familiaux est préoccupant : les prochaines générations risquent d'accuser des déficits croissants au chapitre des compétences culinaires. De surcroît, certains groupes de personnes, notamment chez les nouveaux immigrants et les Autochtones, semblent avoir plus d'obstacles à surmonter que d'autres en matière d'alphabétisation alimentaire.

DES STRATÉGIES POUR AMÉLIORER L'ALPHABÉTISATION ALIMENTAIRE

Les programmes mis en œuvre aux échelles fédérale, provinciale-territoriale, régionale et locale contribuent notablement à l'alphabétisation alimentaire. L'information nutritionnelle, les guides et divers outils aident les Canadiens de tous âges à développer leurs connaissances de l'alimentation. Le *Guide alimentaire canadien* — une stratégie à faible coût et intervention — est une source d'information très appréciée qui renforce les connaissances des ménages et soutient leurs choix alimentaires. L'éducation nutritionnelle des enfants revêt une importance particulière en raison de son influence positive sur les connaissances et les compétences alimentaires, les comportements face à l'alimentation et à l'activité physique, ainsi que l'état de santé. Les programmes de distribution de repas en milieu scolaire sont un excellent moyen de fournir des aliments nutritifs et d'éduquer les élèves sur les régimes alimentaires équilibrés et sains. Des partenariats public-privé misent sur diverses approches, comme l'apprentissage par l'expérience, l'étiquetage et les logos nutritionnels dans les points de vente et l'étiquetage des menus, pour accroître et améliorer les compétences alimentaires des ménages.

CONSIDÉRATIONS POUR L'AVENIR

Améliorer l'alphabétisation alimentaire au Canada conduira à des choix alimentaires et nutritionnels plus sains, à de meilleurs comportements et compétences face à l'alimentation, et, au bout du compte, à des résultats supérieurs sur les plans de la nutrition et de la santé. En outre, une meilleure alphabétisation alimentaire a des retombées positives sur la durabilité environnementale. Une bonne somme de travail a été accomplie à ce jour, mais il reste beaucoup à faire pour améliorer l'alphabétisation alimentaire au Canada. D'autres mesures s'imposent aux échelons fédéral, provincial-territorial et local pour encourager l'adoption d'habitudes et de régimes alimentaires plus sains. Si l'information et l'éducation sont essentielles, elles doivent reposer sur des stratégies qui inspirent des changements de comportement durables.

De nombreux acteurs ont un rôle à jouer, y compris les gouvernements, les entreprises et les ménages, de même que les secteurs de la santé et de l'éducation, car les programmes guidés par une approche multilatérale ont une plus vaste portée et exercent donc une incidence plus grande. Sept mesures sont recommandées pour améliorer l'alphabétisation alimentaire, soit :

- ◆ Rendre l'information nutritionnelle plus efficace, plus facile à interpréter et plus accessible aux ménages;
- ◆ Adapter les programmes d'alphabétisation alimentaire aux besoins des populations et des groupes à risque élevé;
- ◆ Introduire les notions d'alphabétisation alimentaire dans les programmes d'enseignement;
- ◆ Encourager la participation des parents à améliorer l'alphabétisation alimentaire, notamment au moyen de l'apprentissage par l'expérience;
- ◆ Élaborer des principes directeurs pour guider la publicité destinée aux enfants;
- ◆ Adopter les programmes d'alphabétisation alimentaire mis en œuvre avec succès dans d'autres pays;
- ◆ Suivre, étudier et évaluer les initiatives axées sur l'alphabétisation alimentaire.

Élaboration de la Stratégie alimentaire canadienne

Le travail de recherche présenté ici est un apport important à l'élaboration de la Stratégie alimentaire canadienne. Il fait partie d'une série de 20 études menées sous la direction du Centre pour l'alimentation au Canada (CAC) du Conference Board. Chaque étude porte sur un sujet ou un thème important ayant trait aux aliments; les résultats figureront dans la stratégie complète qui sera publiée en mars 2014.

Le CAC a pour principal objectif de faire participer les intervenants des entreprises, administrations publiques, universités, associations et collectivités à la création du cadre dans lequel s'inscrit la Stratégie alimentaire canadienne, afin de donner au pays la stratégie coordonnée et à long terme dont il a besoin.

La Stratégie repose sur une approche globale de l'alimentation. Elle recouvre tout l'éventail des thèmes concernant la prospérité et la compétitivité de l'industrie, une saine alimentation, la salubrité des aliments, la sécurité alimentaire des ménages, et la durabilité environnementale, en incluant les dimensions aussi bien économiques que sociales.

La Stratégie comprendra un cadre des résultats que nous voulons obtenir et des mesures susceptibles de résoudre les défis auxquels sont confrontés le secteur de l'alimentation et ses intervenants. Elle proposera aussi un groupe — entreprises, administrations publiques, collectivités ou autres — pour prendre la direction de la mise en œuvre.

Le processus de conception, de diffusion et d'exécution de la Stratégie nécessite des recherches, des analyses et des synthèses ; des consultations et un niveau de collaboration élevé ; l'élaboration d'une vision et d'un objectif communs aux intervenants ; une large diffusion à l'aide de nombreux modes de communication ; et la ferme volonté d'agir de la part des acteurs clés.

RÔLE DE LA RECHERCHE

Le processus d'élaboration de la Stratégie commence par des travaux de recherche visant à obtenir des résultats empiriques et des solutions propres à résoudre les défis affrontés par le secteur de l'alimentation. Les résultats des 20 études sont un apport clé à la Stratégie alimentaire canadienne. Ils viennent enrichir le contenu de l'ébauche de la Stratégie et servent de base aux dialogues et aux consultations avec les investisseurs du CAC et d'autres intervenants importants du secteur de l'alimentation.

Les travaux de recherche du CAC ont pour objectif :

- ♦ de se faire une meilleure idée de l'état actuel du système alimentaire canadien, notamment de ses incidences sur le PIB, la santé, le commerce, l'environnement et d'autres facteurs économiques et sociaux importants ;
- ♦ de déterminer quel est le virage que nous souhaitons faire prendre à l'alimentation et au système alimentaire ;
- ♦ de proposer des solutions viables pour faire évoluer le Canada de la situation actuelle vers celle que nous désirons.

Les solutions doivent prendre en considération la conjoncture économique, les forces du marché, l'environnement, les politiques, les lois et règlements, ainsi que la condition sociale et la santé des Canadiens.

ÉTAPES CLÉS ET CALENDRIER

1. Début des études du CAC — juillet 2010
2. Élaboration d'une première ébauche de la Stratégie alimentaire canadienne — avril 2012
3. Début des dialogues et consultations — mai 2012
4. Examen de la 2^e ébauche de la Stratégie alimentaire canadienne — avril 2013
5. Publication de la Stratégie alimentaire canadienne — mars 2014

ÉVÈNEMENTS ACCOMPAGNANT LE LANCEMENT DE LA STRATÉGIE ALIMENTAIRE CANADIENNE

Dans le cadre du processus d'élaboration de la Stratégie, le CAC a prévu d'accueillir trois grands sommets de l'alimentation. Chaque sommet doit réunir des dirigeants et praticiens du système alimentaire dans les entreprises, administrations publiques, universités et collectivités, afin de débattre des derniers travaux de recherche, d'échanger des idées et de décider de la marche à suivre pour faire face, au moyen d'une stratégie nationale, aux vastes défis et possibilités du Canada en matière d'alimentation :

- ♦ Le 1^{er} Sommet canadien de l'alimentation, qui a eu lieu en février 2012, était axé sur les défis et possibilités et a exploré les moyens d'y faire face sous une perspective internationale ;
- ♦ Le 2^e Sommet canadien de l'alimentation, tenu en avril 2013, est passé des défis aux solutions ;
- ♦ Le 3^e Sommet canadien de l'alimentation, prévu pour mars 2014, aura pour événement vedette le lancement de la Stratégie alimentaire canadienne et passera de la stratégie à l'action.

Chapter 1

Introduction

Chapter Summary

- ◆ Together with industry and government, households play a central role in ensuring that the food they eat is healthy, nutritious, and safe.
- ◆ Food literacy is defined as an individual's food-related knowledge, attitudes, and skills.
- ◆ Individuals' food literacy level influences their food-related decisions, which ultimately impact their diet and health and the environment.
- ◆ While food literacy is important, it is only one of many factors (such as price, taste, and convenience) that affect household food selection and preparation decisions.

Together with industry and government, households play a central role in ensuring that the food they eat is healthy, nutritious, and safe. In addition, household food-related knowledge and behaviour affect industry and government decisions about food production, consumption, and regulation. What individuals know about food, and whether they put that knowledge to use, influences the extent to which key food strategy goals are achieved, particularly healthy food, food safety, household food security, and to some extent, environmental sustainability.

In recent years, there has been a rise in interest in the role of food in health and in how food is grown and processed, as evidenced by the proliferation of food choices, diets, books, television programs, and websites dedicated to food. Yet, it is unclear whether households' attitudes, skills, and knowledge about food—their food literacy—have developed along with that interest. In reality, Canadians' food literacy may not be as high as it could and should be. For example, despite the widespread public awareness of the Nutrition Facts tables, research consistently shows “the need for in-depth education to increase consumers' use and understanding.”¹

As this report reveals, despite the importance of food literacy in achieving key food objectives, there are gaps and deficits in Canadians' knowledge and skills related to food. Addressing the gaps and deficits will ultimately improve Canadians' overall health, and their food-related decisions will contribute to realizing the key food strategy goals outlined above.

PURPOSE OF THE REPORT

This report examines the state of household food literacy—Canadian's food-related knowledge, attitudes, and skills. It also assesses what Canadians need to learn and know to foster their well-being through

1 Health Canada, *Nutrition Facts Education Campaign*.

2 | What's To Eat—October 2013

healthy food choices.² The contribution that food literacy makes, or can make, to dietary and health outcomes is explored, as are initiatives and strategies to improve food literacy. The report provides a foundation for dialogue and action to enhance food literacy and strengthen its contribution to key food objectives.

The report's empirical findings are being used to inform the development of the Canadian Food Strategy, whose release is planned for March 2014. (See box "Developing the Canadian Food Strategy.") In particular, the report:

- ♦ defines food literacy and describes its importance to achieving key food objectives;
- ♦ assesses the current state of Canadians' food literacy and its impact on their dietary and health outcomes as well as on the environment;
- ♦ explores education and awareness-raising programs and initiatives that aim to improve food literacy;
- ♦ recommends strategies and describes opportunities for action by governments, industry, the health and education sectors, civil society, and households to further enhance Canadians' food literacy.

FOOD LITERACY DEFINED

Food literacy can be defined as an individual's food-related knowledge, attitudes, and skills. This broad definition of food literacy incorporates household perception, assessment, and management of the risks associated with their food choices. Individuals' food literacy level influences their food-related decisions, which ultimately impact their diet and health as well as the environment. Food literacy encompasses the following competencies:

- ♦ how to select and/or purchase nutritious foods and meals, including:
 - an understanding of how food is connected to health, well-being, and safety,
 - knowledge of what constitutes a healthy diet,
 - how to read and understand food labels and claims;

- ♦ how to store, handle, prepare, and dispose of food safely;
- ♦ how to plan and budget for food.

Food literacy also includes an individual's understanding of how food is produced, processed, distributed, purchased, and wasted, as well as how to interpret claims made in food marketing and advertising.

FRAMEWORK

This report examines the impacts of food literacy and food choices on household dietary and health outcomes, and on the environment. Why is food literacy important? How does household food literacy affect the household's food choices? How does food literacy vary by socio-economic and cultural subgroups (e.g., children/youth, seniors, Aboriginal peoples, immigrants, education, income level)? These and other questions are explored to illustrate how food literacy affects food-related decisions made by households.

It is important to place food literacy in the broader context of food-related decision-making. While food literacy is important, it is only one of many factors that affect household food selection and preparation decisions. Other factors include price, convenience, taste, and availability. For instance, a family with a busy schedule, such as sports practices or other activities for their children, might choose to eat leftovers for dinner. Good food preparation and storage skills may save time for busy families. Social, ethnic, and cultural contexts also influence food selection and preparation decisions. (See Exhibit 1.)

HOW FOOD LITERACY AFFECTS FOOD OUTCOMES

What individuals know or don't know about food can result in both direct and indirect effects from the food they ultimately consume. In terms of health outcomes, food literacy is a subset of health literacy, which is the ability to read, understand, and use health care information to make decisions and follow instructions for treatment. Health and safety outcomes for individuals include the long-term effects of a diet that does not meet their nutritional needs as well as the short- or

2 Adapted from the definition of literacy used in the *Canadian Index of Wellbeing*, Hayward, Pannozzo, and Colman, *Developing Indicators*, 1.

Developing the Canadian Food Strategy

This report is an important research input into the development of the Canadian Food Strategy. It is one of a series of 20 research reports that are being conducted by the Conference Board's Centre for Food in Canada (CFIC). Each report addresses an important issue or theme relating to food; the findings will figure in the completed Strategy when it is released in March 2014.

The principal goal of the Centre for Food in Canada is to engage stakeholders from business, government, academia, associations, and communities in creating the framework for the Canadian Food Strategy to meet the country's need for a coordinated long-term strategy.

The Strategy is taking a comprehensive approach to food. It covers the full range of themes relating to industry prosperity and competitiveness, healthy food, food safety, household food security, and environmental sustainability, encompassing both economic and social dimensions.

The Strategy will include a framework of outcomes that we want to achieve and actions that will solve the challenges facing the food sector and food stakeholders. It will also suggest which group—businesses, governments, communities, and others—could lead on implementing them.

The process for creating, disseminating, and implementing the Strategy involves research, analysis, and synthesis; consultation and a high level of collaboration; the development of shared understanding and common goals among stakeholders; broad dissemination through many communication channels; and the commitment of key players to take action.

THE ROLE OF RESEARCH

The process to develop the Strategy starts with conducting research that develops empirical findings and potential solutions to the challenges facing the food sector. The research findings from the 20 research studies are a key input into the Canadian Food Strategy. The findings are used to develop the content of the draft Strategy and are the basis for dialogue

and consultation with CFIC investors and other major food stakeholders.

CFIC research aims to:

- ♦ understand the current reality of Canada's food system, including its impact on GDP, health, trade, environment, and other major economic and social factors;
- ♦ define a desired future state for food and the food system;
- ♦ suggest workable solutions for moving Canada from its current reality to the desired state.

The solutions will take into consideration the realities of economic activity, market forces, environment, policies, laws and regulations, and social conditions and health needs of Canadians.

KEY STEPS AND TIMELINES

1. Begin CFIC research studies—July 2010
2. Develop initial draft of Canadian Food Strategy—April 2012
3. Begin dialogue and consultations—May 2012
4. Review second draft of Canadian Food Strategy—April 2013
5. Release the Canadian Food Strategy—March 2014

CANADIAN FOOD STRATEGY EVENTS—LAUNCHING THE CANADIAN FOOD STRATEGY

CFIC is hosting three major food summits as part of the Strategy development process. Each summit brings together food system leaders and practitioners from business, government, academia, and communities to discuss the latest research, share insights, and consider how to address Canada's major food challenges and opportunities through a national strategy:

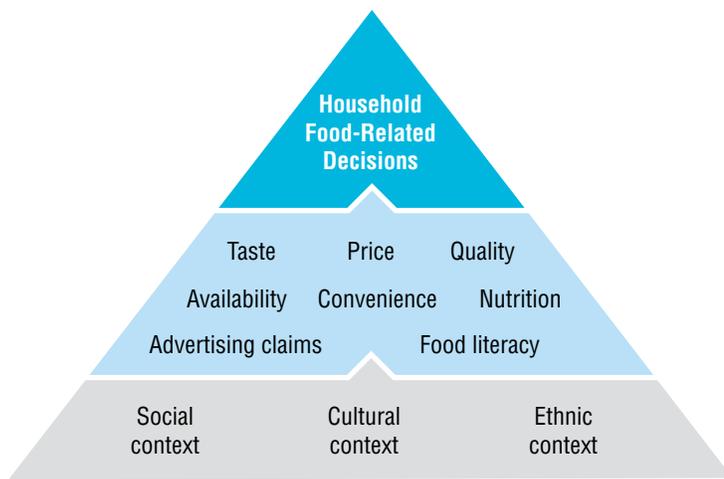
- ♦ The first Canadian Food Summit, in February 2012, focused on issues and challenges and explored international perspectives on how to address them.
- ♦ The second Canadian Food Summit, in April 2013, focused on moving from challenges to solutions.
- ♦ The third Canadian Food Summit, in March 2014, will feature the public launch of the Canadian Food Strategy and will focus on moving from strategy to action.

longer-term effects of eating or coming into contact with food that is unsafe. Health and safety outcomes for individuals are affected in part by whether households recognize and respond to risks appropriately.

Direct effects emerge when household food literacy affects behaviour in purchasing, preparing, consuming, and disposing of food. For example, whether an

individual consumes a healthy, balanced diet depends to some extent on whether that individual knows what foods constitute a healthy diet and whether he or she puts that knowledge to use when acquiring and preparing food. Similarly, whether food is safe for consumption partly depends on whether households know how to properly store, handle, and prepare food and whether they act on that knowledge.

Exhibit 1
 Framework for Household Food-Related Decisions



Source: The Conference Board of Canada.

Household knowledge and beliefs about food can also have indirect effects on food insofar as food producers and government regulators and policy-makers are responsive to household beliefs, preferences, and demands. For example, whether new production and processing technologies that promise improvements to safety, yields, and/or environmental performance will be permitted for use, or are actually put into use, depends to some extent on whether households understand and have confidence in those technologies.³ Similarly, rules and regulations about production can be affected by household knowledge and beliefs about the “best” or most “authentic” farming models, including the most “natural” and “sustainable” models.

In all cases, what households know or don’t know affects their behaviour and decision-making with consequences for their diet and health, safety, and

environmental sustainability. Where knowledge is sound and applied, food literacy contributes to better overall health and aspects of food system performance such as less waste and environmental stability. But where there are gaps in knowledge and beliefs that do not align with the evidence, risks and adverse consequences can emerge. The challenge, then, is to understand where those gaps are and to implement effective strategies to repair them.

KNOWLEDGE, MOTIVATION, AND BEHAVIOUR

Even when food literacy levels are high, household behaviour is not always predictable. In the case of food safety, for example, previous Conference Board research has shown that although individuals generally know how to store, handle, and prepare food in ways that maintain safety, they do not always put that knowledge to use.⁴ They tend to mistakenly believe that their risk of “exposure to food-related hazards in the home is minimal and believe (correctly) that the severity of illness from such hazards is usually low.”⁵ As a result, they often do not take the steps they know will reduce food safety risks.

Thus, as we examine the state of food literacy in Canada and consider programs and initiatives to improve food literacy, we must keep in mind that knowledge must be accompanied by motivation (in addition to a food environment that includes available, accessible, and affordable nutritious food) to improve key food outcomes.

METHODOLOGY

The research involved a multi-faceted methodology:

- ◆ a literature review on food literacy and its contribution to diet and health outcomes, food safety, and environmental sustainability;

3 See, for example, the discussion of irradiation in Munro, Le Vallée, and Stuckey, *Improving Food Safety in Canada*, 14; and high pressure processing in Munro, Stuckey, and Butler, *Competing for the Bronze*.

4 Munro, Le Vallée, and Stuckey, *Improving Food Safety in Canada*, 36.

5 *Ibid.*, 37–38.

About the Centre for Food in Canada's Surveys

A key mandate of the Centre for Food in Canada is to generate insights about the food system from the perspective of both industry and households. The achievement of this mandate requires the Centre to gather proprietary data on the specific challenges facing Canada's food industry and Canadian households' food-related skills, attitudes, and behaviours. To this end, we designed and executed, first, a business survey of the Canadian food industry and, second, a survey of Canadian households. These surveys were conducted by Forum Research, a Toronto-based survey company.

For the industry survey, Forum Research randomly surveyed 1,186 food companies during the period of June 23 to July 22, 2011, using questions prepared by The Conference Board of Canada. Companies were sampled according to three-digit

North American Industry Classification System (NAICS) codes 445 (retail food distribution), 311 (food processing), 111 (crop production), and 112 (animal production). Of the total surveys administered, 1,177 were telephone surveys conducted by trained interviewers and 9 were completed by hand and submitted in hard-copy form. Aggregate survey findings are considered accurate +/- 2.85 per cent, 19 times out of 20.

For the household survey, Forum Research randomly surveyed 1,056 Canadian households from September 8–11, 2011, using questions prepared by The Conference Board of Canada. In this case, aggregate survey findings are considered accurate +/- 3.02 per cent, 19 times out of 20. Subsample results have wider margins of error for both surveys.

- ◆ extensive analysis of data gathered through the Centre for Food in Canada's household survey (see box "About the Centre for Food in Canada's Surveys"); the survey data included respondents who differed sufficiently by region, income, and gender to allow for rich analysis;
- ◆ in-depth interviews with key informants from government, business, educational, and non-profit organizations;
- ◆ eight case studies of effective programs and initiatives to improve household food literacy, including:
 - four case studies of Canadian initiatives,
 - four case studies of international initiatives.

Chapter 2

Why Food Literacy Matters

Chapter Summary

- ◆ There is evidence of a strong correlation between nutritional knowledge and healthy eating or dietary quality.
- ◆ Public awareness and education campaigns and industry efforts to improve food's healthiness have been key components of successful public health initiatives in the past.
- ◆ Nutritional knowledge positively impacts children's diet choices, although they tend to prefer nutritional foods that also taste good.
- ◆ Food literacy positively impacts food safety when proper knowledge and behaviours toward food storage and handling are observed.
- ◆ Households are pushing the agendas of the authentic, local, and organic food movements as well as environmental sustainability efforts.

This chapter analyzes how food literacy is connected to achieving key food outcomes in Canada. First, it briefly considers food literacy's importance to achieving the objectives of food safety, healthy food decisions, and environmental sustainability relative to other drivers of food choice such as price, regulation, business practice, and technology.

It then discusses the relationship between food literacy and dietary outcomes, food literacy and health outcomes, and food literacy and environmental outcomes.

FOOD LITERACY'S RELATIVE IMPORTANCE

Innumerable industry standards, government regulations, and other practices protect households with regard to food quality and safety. However, households themselves play an important role in achieving key food objectives in Canada, including food safety, healthy food decisions, and environmental sustainability. Households have some influence in each of these areas, especially through their spending decisions. When asked how important food literacy is in achieving objectives like food safety, healthy food decisions, and environmental sustainability, all CFIC interviewees noted that food literacy is important.

Interviewees were far more equivocal when asked whether food literacy is more or less important than factors such as price, regulation, business practice, and technology. Most said that it is difficult to determine food literacy's importance relative to those factors, and a few noted that some factors, such as price and "the environment in which people make food decisions" may be more important than food literacy.¹

1 Interview findings.

FOOD LITERACY AND DIETARY OUTCOMES

The lack of national data on the relationship between Canadians' nutritional knowledge and dietary quality makes it difficult to determine the degree to which food literacy impacts food consumption patterns and health. One survey of international literature on nutritional knowledge and consumption patterns found that "the evidence for the influence of nutritional knowledge on food behaviours is mixed."² However, other research, described below, suggests that nutritional knowledge is pivotal in the adoption of healthier food habits.

In researching connections between nutritional knowledge and healthy food behaviours, a survey of 1,040 residents in the United Kingdom (U.K.) found that "knowledge was significantly associated with healthy eating," even "after controlling for demographic variables."³ The behavioural differences between the highest and lowest knowledge levels were dramatic: "[R]espondents in the highest quintile for knowledge were almost 25 times more likely to meet current recommendations for fruit, vegetable and fat intake than those in the lowest quintile."⁴ Dietary knowledge was more strongly correlated with increased fruit and vegetable consumption than with decreased fat intake, however. This is likely due, in part, to the U.K.'s decade-long "5 A DAY" educational campaign, which encourages individuals to eat five fruit and vegetable servings daily.⁵

Research from the United States Department of Agriculture (USDA) has found a relationship between nutritional knowledge and food consumption patterns. The USDA's Economic Research Service analyzed data from the 1989–90 cycle of the Continuing Survey of Food Intakes by Individuals (n = 7,816) and the Diet and Health Knowledge Survey (n = 3,805), using the

Healthy Eating Index (HEI)—a tool that "measures how well the diets of all Americans conform to the recommendations of the Dietary Guidelines and Food Pyramid."⁶ Their analysis concluded that there is a strong correlation between nutritional knowledge and dietary quality.⁷ Participants who scored higher on a nutritional knowledge scale also scored higher on the HEI scale.⁸

Some research shows a relationship between nutritional knowledge and healthy eating among children, especially as children get older.

Moreover, as we noted in *Improving Health Outcomes*, public awareness and education campaigns have been key components of public health initiatives elsewhere—most notably in Finland and the U.K.—that have led to the reduced sodium consumption among populations. (See box "The U.K.'s Salt Reduction Initiative.")⁹ Though it is difficult to quantify the exact contributions that improved food literacy and efforts by industry have made to lowering sodium consumption in these countries, these initiatives—as well as examples of other effective food literacy practices, which we discuss in Chapter 4—suggest that efforts to improve food literacy play an important role in improving dietary quality.

CHILDREN AND ADOLESCENT FOOD LITERACY AND DIETARY QUALITY

A recent review of the determinants of healthy eating among children and youth found that some research shows a relationship between nutritional knowledge and healthy eating among children, especially as children get older.¹⁰ However, the only *individual* determinants of healthy eating that children "consistently identified"

2 Worsely, "Nutrition Knowledge," S579.

3 Wardle, Parmenter, and Waller, "Nutrition Knowledge and Food Intake," 269.

4 *Ibid.*, 274.

5 NHS, "5 A DAY."

6 Variyam, Blaylock, and Smallwood, *USDA's Healthy Eating Index*, 6, iii.

7 *Ibid.*, iv.

8 *Ibid.*

9 The Conference Board of Canada, *Improving Health Outcomes*, 34–35.

10 Taylor, Evers, and McKenna, "Determinants of Healthy Eating," S23.

The U.K.'s Salt Reduction Initiative

In 2003, the U.K.'s Scientific Advisory Committee on Nutrition reviewed evidence on the relationship between salt consumption and chronic disease, and determined that in order to reduce blood pressure levels and the risk of cardiovascular disease among the British, "the average salt intake of the population should be reduced from ... 9.5g to 6g per day."¹ As a result, the U.K. Food Standards Agency and the Department of Health launched a salt reduction initiative that worked with industry to reformulate processed foods, implement a public awareness campaign, and take action to improve the nutrition labelling of foods.² The salt reduction program became the sole responsibility of the Department of Health in October 2010.

The public awareness campaign, which began in 2004, targeted lower-middle-class and working-class women between the ages of 35 and 65, since they are considered "the 'gate-keepers' with regard to buying and preparing food in family households in the U.K."³ The initial stage focused on raising awareness about the connection between salt consumption and health.⁴ The campaign included leaflets, posters, a website, and humorous TV advertisements featuring a character called "Sid the Slug."⁵ In the second stage, the campaign emphasized the message that adults should consume "no more than 6g of salt a day" and urged individuals to read food labels to check for salt content.⁶ In the third stage, the campaign advised that the majority of salt consumed is found in everyday foods and encouraged the purchase of lower-salt products.⁷ The final stage underscored how to change behaviour to reduce salt consumption.⁸

1 Food Standards Agency, *UK Salt Reduction Initiatives*, 1.

2 Ibid.

3 Ibid., 9.

4 Interview findings.

5 Interview findings; Food Standards Agency, *UK Salt Reduction Initiatives*, 9–10.

6 Food Standards Agency, *UK Salt Reduction Initiatives*, 9.

7 Ibid.

8 Ibid., 10.

The public awareness work was accompanied by substantial efforts by the food industry to reduce levels of salt in food. A set of salt targets for around 80 categories of food was originally published in 2006 for achievement in 2010; following a progress review a further set of targets was published in 2009 for achievement in 2012. These provided guidance to industry on the levels and types of reductions needed in order to make progress toward the 6 gram intake target. Further action to progress salt reduction beyond 2012, including thorough reformulation, is under way as part of the Department of Health for England's Public Health Responsibility Deal.

The combined public awareness campaign and product reformulation appear to have had a positive impact on average salt consumption in the U.K., which decreased from 9.5 grams a day in 2000 to 8.1 grams a day in 2011⁹ (England), though the reduction has yet to meet the target of 6 grams per day. The initiative's success may be attributed to a number of factors:

- ◆ It was well planned and was delivered over a long time period, allowing time for the public to understand the messages and industry to take action on reformulation.
- ◆ It targeted those responsible for buying groceries (i.e., women).
- ◆ The campaign messages were serious, but the campaign itself was funny, accessible, and easy to understand.
- ◆ The messaging was consistent.
- ◆ Reformulation provided a health benefit whether or not individuals had changed their purchasing behaviour.
- ◆ Government worked with retailers, manufacturers, and non-governmental organizations that supported the campaign.¹⁰

9 Department of Health, *Report on Dietary Sodium Intakes*.

10 Interview findings.

in the review were "food preferences or liking."¹¹ These findings indicate that, to be effective, nutrition education

11 Taylor, Evers, and McKenna, "Determinants of Healthy Eating," S23. Emphasis added.

for children will help children pick "healthy foods that are also seen as good tasting."¹² The box "Improving Food Literacy, One Sandwich at a Time—California

12 Ibid.

Center for Food Literacy” illustrates the positive results of increasing children’s nutritional knowledge while appealing to their taste buds.

Taylor’s research review also argues that we need to do more to assess “the ability of children to identify foods needed to meet dietary recommendations,” and suggests that we need more longitudinal studies to evaluate “the effects of knowledge on dietary behaviour” in children and adolescents, particularly children from “diverse cultures and socio-economic backgrounds.”¹³ These studies would help us to understand how and to what extent food literacy impacts children’s—and other age groups’—food consumption patterns.

A literature review of food literacy interventions in Organisation for Economic Co-operation and Development (OECD) countries targeted disadvantaged youth between 1997 and 2011. It found that most interventions had a positive impact on “the mediators and mechanisms of food literacy, in particular a change in values, increased pleasure and increased food choice.”¹⁴ In turn, these changes resulted in “reported general dietary change,” improved confidence in and knowledge of cooking and food skills, and “increased fruit and vegetable intake.”¹⁵ Unfortunately, not many of these studies measured long-term behavioural changes, and the magnitude of the impacts varied among the studies.¹⁶ Still, this review suggests that interventions to improve food literacy can have a positive effect on the food consumption habits of children and adolescents. (See box “Food Literacy Goes Viral: *Blink* U.K.” for an example of an intervention targeting adolescents.)

Health Canada’s review of international cooking skills literature concludes that there is an association between dietary quality and the “frequency of family meals and involvement in food preparation activities among

Improving Food Literacy, One Sandwich at a Time—California Food Literacy Center

In the spring of 2012, the California Food Literacy Center piloted a food literacy curriculum, “Your Sandwich Can Save the World,” at Capitol Heights Academy, a kindergarten-to-Grade 5 school in Sacramento, California. The program is designed to give children a better understanding of the impact their food choices have on their health, their community, and the environment.¹ Instead of focusing on what foods children should *not* eat, the program’s approach is one of positive affirmation.²

The curriculum is designed around 13 individual lessons, such as “identifying fruits and vegetables,” “fast food versus homemade,” “learning how to read nutrition labels,”³ and “learning to read recipes”—a lesson that features a peanut-butter sandwich recipe made with sunflower butter, so as to avoid peanut allergies.⁴ The program also offers kids “healthy, sustainable snacks” and allows them to sample fruit and vegetables they may never have tried before.⁵

Although the primary focus of “Your Sandwich Can Save the World” is the health-related aspects of food literacy—with the particular aim of reducing childhood obesity—the program also has an environmental component, where facilitators speak with kids about where their food comes from, farmers’ markets, organic versus non-organic food, and what it means to eat “with the seasons.”⁶

The Center recently finished its first pilot of “Your Sandwich Can Save the World.” Early evaluations are encouraging, particularly among kindergarten and Grade 1 students. Whereas 82 per cent of kindergarten and first grade students answered “no” when first asked “if healthy snacks taste good,” one month into the program, 92 per cent said “yes,” and after three months, 100 per cent said “yes.”⁷ In addition to changing attitudes, there is some evidence that the program is improving students’ nutritional knowledge. For instance, whereas 59 per cent of fourth and fifth grade students “believed lettuce contained the most protein when given choices between lettuce, peanuts, and chocolate,” one month into the program, 83 per cent “understood that peanuts contain the highest amount of protein.”⁸ The program also appears to be having a positive influence on children’s food requests. The Center’s evaluation revealed that after the program “over 70 per cent of kids from all grades are going home and asking for the fruits and vegetables” they learned about in class.⁹

1 California Food Literacy Center, *Mission and History*.

2 Ibid.

3 California Food Literacy Center Video.

4 California Food Literacy Center, *Mission and History*.

5 Ibid.

6 Interview findings.

7 California Food Literacy Center, *Mission and History* and *Results of Our Pilot*.

8 California Food Literacy Center, *Mission and History*.

9 California Food Literacy Center, *Results of Our Pilot*.

13 Taylor, Evers, and McKenna, “Determinants of Healthy Eating.”

14 Cullerton, Vidgen, and Gallegos, *A Review of Food Literacy Interventions*, 26.

15 Ibid.

16 Ibid.

Food Literacy Goes Viral: *Blink* U.K.

In an effort to communicate “healthy eating messages” to teenagers, the U.K.’s Food Standards Agency piloted a six-month public awareness campaign in 2009–10¹ using social media. The pilot was developed out of the knowledge gained from an earlier activity that sponsored celebrity football competitions where they advertised a healthy eating website, “eatwell,” as well as advertorials and web chats linked to teen magazines with a primarily female audience.

Blink, an online teen lifestyle magazine, was designed to look like a “peer to peer” site rather than a government campaign.² *Blink* was posted on Facebook and Bebo and featured articles on popular culture, healthy recipes, information on eating healthy and being active, and competitions and challenges such as “eat more veg” and “lose the fizz”—a challenge that encouraged teens to drink fewer sugary soft drinks.³ Because *Blink*’s content was posted on social media, it allowed teens to interact with each other and to discuss the content; they could also pass it along to their friends. To ensure that the message was being spread throughout social media, the campaign used teen brand ambassadors, who were tasked with telling friends about the magazine, driving traffic there, and promoting competitions.⁴

Due to changes in government funding, the Facebook magazine pilot lasted for only three of the planned six months, and the site was public for only two months. However, in that short time, it showed promise as a way of reaching teenagers and engaging them in a dialogue about healthy eating. At its highest point, “*Blink* had 8,399 monthly active users” and “5,686 fans.”⁵ Moreover, more than half of the magazine’s visitors (56 per cent) came to the site over nine times.⁶ What is even more encouraging is that many of the best performing articles—by views—were those that featured healthy eating rather than popular culture. For example, the “Mo’ Veg” article had the most views (1,009), and outperformed a piece on the hit TV show “Glee” (856 views).⁷ Online surveys also indicate that this type of approach may have a positive effect on teens’ *intent* to change behaviour. However, more research is needed to determine whether intended behavioural change will translate into actual behavioural change.⁸

1 Interview findings.

2 Ibid.

3 Ibid.

4 Ibid.

5 Ibid.

6 Ibid.

7 Ibid.

8 Ibid.

adolescents and young adults.”¹⁷ Efforts, then, to encourage family involvement in household food preparation are one path to increasing the food preparation knowledge and skills of younger household members.

FOOD LITERACY AND HEALTH OUTCOMES

As a subset of health literacy, food literacy (i.e., food-related knowledge, attitudes, and skills) affects health outcomes in several ways. Food literacy positively impacts food safety when proper knowledge and behaviours toward food storage and handling are observed. Knowledge and use of food label information can improve diets and thereby help reduce health risks. Similarly, household cooking skills can contribute to a healthier diet and better health outcomes. Finally, dietary knowledge is a factor in food and meal choices that will contribute positively to overall health.

FOOD LITERACY AND FOOD SAFETY

Food literacy is a key factor in food safety outcomes. Proper knowledge and skills are prerequisites to safe food storage, handling, and preparation. Incidents of food poisoning are one metric for food safety outcomes. Results from the CFIC household survey indicate that when someone in the household is a good cook, there is a lower risk of food poisoning. Only 7 per cent of those who said there was a good cook in the household reported an incidence of food poisoning in the previous year (compared with 16 per cent who did not have a good cook in the household).¹⁸ Although self-reported, the results suggest that when there is someone in the household with the knowledge and skills to safely prepare and handle food, there are fewer incidences of illness due to improper food handling and/or preparation.

FOOD LABEL READING AND HEALTH OUTCOMES

Reading and use of nutritional information and claims allow households to make informed food-related purchase decisions. According to the CFIC household

17 Chenhall, *Improving Cooking*, 3.

18 The Conference Board of Canada, CFIC survey data 2011.

Table 1
Food Label Reading and Concern for Reducing Health Risks
(percentage of respondents who agree; n = 1,056)

	Always or often look at food labels when shopping	Do not or never look at food labels when shopping
It is very important to ...		
... eat foods that reduce the risk of developing heart disease	81	47
... eat foods that reduce the risk of developing cancer	79	37
... eat foods that reduce the risk of developing diabetes	76	39
In the past year, I have deliberately increased the consumption of foods that help ...		
... lower cholesterol	62	30
... with weight loss	56	47

Source: The Conference Board of Canada.

survey, in households where food labels are examined during shopping, there is a higher concern for preparing foods that will help reduce the risk of developing chronic diseases and improve overall health. Table 1 shows the differences in attitude toward reducing health risks, depending on whether food labels are read when shopping. Food label readers are much more likely (than non-food label readers) to agree that it is important to eat foods that reduce the risks of developing heart disease, cancer, and diabetes. Similarly, food label readers are much more likely (than non-food label readers) to have deliberately increased their consumption of foods that help lower cholesterol and help with weight loss in the past year.

COOKING SKILLS AND HEALTH OUTCOMES

Health Canada’s review of the evidence on cooking skills found some evidence that inferior dietary quality is related to the increased consumption of convenience foods and the decline of traditional food skills.¹⁹ However, the evidence pointing to a *direct* relationship between cooking skills and health is limited.²⁰ Nevertheless, some research suggests that “food skills interventions may be a useful starting point for initiating dietary change,” provided that interventions also address other barriers to healthy eating habits, such as

the broader food-choice environment.²¹ Moreover, a number of studies have shown that “low self-efficacy and self-perceived inadequate cooking and food preparation skills” may hinder food choice.²²

The CFIC survey results suggest that when someone in the household is a good cook, there is a higher concern for preparing foods that will help reduce the risk of developing chronic diseases and improve overall health. Table 2 illustrates the differences in attitude toward reducing health risks, depending on whether there is a good cook in the household. Respondents who had a good cook in the household were much more likely to agree that it is important to eat foods that reduce the risks of developing heart disease, cancer, and diabetes. Similarly, respondents with a good cook were much more likely to have deliberately increased their consumption of foods that help lower cholesterol and help with weight loss in the past year.

DIETARY KNOWLEDGE AND HEALTH OUTCOMES

In *Improving Health Outcomes*, the Conference Board highlights the harmful effects that chronic diseases are having on health, wealth, and well-being. In addition to causing pain and suffering, they take a huge toll on our health care systems and make substantial physical and

19 Chenhall, *Improving Cooking*, 28.

20 Ibid.

21 Chenhall, *Improving Cooking*, 28–29.

22 Chenhall, *Improving Cooking*, Executive Summary, 3.

Table 2

A Good Cook in the Household and Concern for Reducing Health Risks
(percentage of respondents who agree; n = 1,056)

	There IS a good cook in the household	There IS NOT a good cook in the household
It is very important to ...		
... eat foods that reduce the risk of developing heart disease	76	61
... eat foods that reduce the risk of developing cancer	74	58
... eat foods that reduce the risk of developing diabetes	73	61
In the past year, I have deliberately increased the consumption of foods that help ...		
... lower cholesterol	57	44
... with weight loss	55	40

Source: The Conference Board of Canada.

emotional demands on caregivers.²³ Unhealthy diets, physical activity, and tobacco use are the key modifiable risk factors in reducing chronic disease risk.²⁴ Many of the most common chronic diseases—including cardiovascular diseases (mainly heart disease and stroke), cancer, chronic respiratory diseases, diabetes, and others (such as oral diseases and bone and joint disorders)—are linked to unhealthy diets and subsequent overweight and obesity rates.

Some researchers argue that in Canada, 1 in 10 of the premature deaths of adults aged 20 to 64 is caused by being overweight or obese.

Obesity and overweight are caused by many factors, including energy imbalances between calories consumed (through large increases in energy-dense foods that are low in vitamins, minerals, and other macronutrients but high in fat, salt, and sugars) and expended (through decreasing levels of physical activity).²⁵ Worldwide, obesity rates have more than doubled since 1980. In 2008, over 1.4 billion adults 20 years of age or older were overweight. Of these, over 200 million

men and almost 300 million women (more than 1 in 10 of the world's adult population) were obese. In 2010, over 40 million children under the age of 5 were overweight.²⁶ Some researchers argue that in Canada, 1 in 10 of the premature deaths of adults aged 20 to 64 is caused by being overweight or obese.²⁷

Although many Canadian households have a fair idea of which foods constitute a healthy diet (as discussed in the next chapter), informational gaps still exist and many of the factors contributing to poor health outcomes could be overcome through higher food literacy levels, particularly those that encourage long-term changes in dietary patterns. Improving household understanding of *what* constitutes a healthy diet and *how* it can be achieved (both in and out of the home) forms the basis of many public health strategies aimed at reducing chronic disease and obesity. These strategies stress the important role that better information plays in helping households manage nutritional risks.²⁸

The Conference Board argues that the incidence of chronic diseases could be cut if Canadians managed dietary risks more effectively by changing their long-term dietary *patterns* (such as *how much* and

23 The Conference Board of Canada, *Improving Health Outcomes*, i.

24 World Health Organization, *Chronic Diseases*.

25 World Health Organization, *Obesity and Overweight*, 2.

26 Ibid., 1.

27 Lau and others, "2006 Canadian Clinical Practice Guidelines," S1.

28 The Conference Board of Canada, *Improving Health Outcomes*, 27.

how frequently individual foods and ingredients are consumed).²⁹ We recommend that households, government, and industry take seven measures to reduce the dietary risks of chronic diseases:

1. Use population-wide strategies to address sodium and trans fat intake levels and other population-wide risks.
2. Focus on high-risk subsets of the population with specific dietary problems.
3. Concentrate efforts on the seriously overweight and obese.
4. Clarify nutritional content descriptions on labelling and packaging.
5. Conduct further research on the social, economic, and psychological drivers of household food choices as the basis for designing policies that influence behaviours.
6. Provide information, expertise, funding, and programs to parents and schools to improve children's food literacy, eating habits, and physical activity.
7. Evaluate and invest more in successful programs.³⁰

Swinburn's review of the international evidence on the dietary and nutritional causes of obesity finds that many countries use public education and mass media campaigns to increase public awareness of healthy eating.³¹ Although these campaigns can improve awareness, knowledge, and intentions, the evidence shows that this does not usually translate into behavioural change except when "the message is highly specific and achievable."³² The influence and effects of mass media campaigns to encourage healthy eating are greater among those with a higher education and those from higher socio-economic backgrounds.³³

Swinburn concludes that health promotion campaigns are necessary for improving dietary intake but not sufficient on their own to change behaviours."³⁴ This sug-

gests that increased dietary knowledge, in isolation, may not be enough to improve healthy eating behaviours and health outcomes.

FOOD LITERACY AND ENVIRONMENTAL OUTCOMES

Potential environmental impacts of the agri-food sector include the depletion of natural resources, land contamination and degradation, water contamination, carbon dioxide and air emissions, hazardous and food waste, and safety issues.³⁵ There is little research available to show how much households know about these environmental impacts. Much of their information about farming and farming practices comes from news media outlets and the Internet.³⁶ Therefore, their knowledge is likely based on issues that gain media attention, such as water contamination issues in their region.

We recommend that households, government, and industry take seven measures to reduce the dietary risks of chronic diseases.

Eighty per cent of respondents to the CFIC household survey said that the impact on the environment was at least somewhat important to them in deciding what food to buy.³⁷ However, as shown in Chart 1, environmental impacts are not their top priority. Instead, nutritional value, price, safety, and quality have higher priority. This holds with a recent study of Canadian attitudes toward farm and food care, which showed that households do not see environmental impacts as the most pressing of issues relating to food in general. In that study, food safety, health, and food affordability are of more importance to the majority of Canadians.³⁸ Nevertheless, environmental concerns are pushing the agendas of the authentic, local, and organic food movements as well as environmental sustainability

29 The Conference Board of Canada, *Improving Health Outcomes*, i-ii.

30 *Ibid.*, iii-iv.

31 Swinburn and others, "Diet, Nutrition," 139.

32 *Ibid.*

33 *Ibid.*

34 *Ibid.*

35 United Nations Environment Programme, *Agri-Food*.

36 Farm & Food Care, *Study of Canadian Attitudes*, 19.

37 The Conference Board of Canada, CFIC survey data 2011.

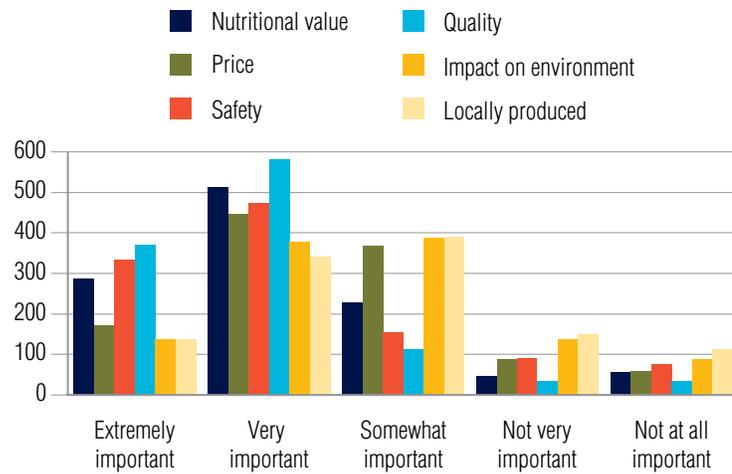
38 Farm & Food Care, *Study of Canadian Attitudes*, 9.

CONCLUSION

Numerous stakeholders (including households, governments, businesses, educators, and the health sector) have been working hard to improve the eating habits and dietary patterns of Canadians, and raising food literacy levels will play a key role in achieving this goal. The experts we interviewed agreed that food literacy is important in helping Canadians to achieve better food safety and to make healthy food decisions and more sustainable food choices. However, they suggested that it is difficult to assess food literacy's importance relative to other key drivers of food choice, such as price, taste, and convenience.

The paucity of national data on Canadians' nutritional knowledge, attitudes, and skills—and on the relationship between nutritional knowledge and dietary quality—makes it difficult to establish definitive conclusions about food literacy's impact on Canadians' health and safety. Studies elsewhere, however, show an association between higher levels of nutritional knowledge and improved diets. CFIC survey data also indicate that there is a relationship between cooking skills and food safety. They show a connection between households' label reading and their intention to consume foods that reduce the risk of chronic diseases. Similarly, the survey suggests that there is a relationship between households' self-reported high level of cooking skills and their intention to consume foods that minimize chronic disease risk. More research is required to determine whether this intention actually leads to better food-related behaviours.

Chart 1
Consumer Food Purchasing Priorities
(number of respondents; n = 1,198)



Source: The Conference Board of Canada.

efforts, including reductions in food packaging and chemical use in farming practices.³⁹ (Reports from the Conference Board's Centre for Food in Canada address local food as well as environmental issues in more detail.)

Canadian households would like additional information to be provided on food product labels, especially concerning health and environmental factors such as the presence of pesticides, antibiotics, and growth hormones, as they feel this information is currently not clear on product labels.⁴⁰

39 Agriculture and Agri-Food Canada, *The Canadian Consumer*, 15–17.

40 Canadian Consumer Initiative, *Supporting Consumers*.

Chapter 3

The State of Food Literacy in Canada

Chapter Summary

- ◆ Canadians have a good general understanding of food, nutrition, and health.
- ◆ Although publications such as the *Food Guide* have helped many Canadians improve their eating habits, studies that track fruit and vegetable consumption indicate that some Canadians are unaware of or do not follow the recommendations of these publications.
- ◆ Instituting governing principles for voluntary industry point-of-purchase nutritional information would help bolster its use and credibility.
- ◆ Given the potential impacts of advertising on children's food preferences, it is especially important to create guiding principles for advertising food and beverages to children.

This chapter examines the current state of food literacy among households in Canada. It assesses what we know regarding Canadians' knowledge, attitudes, and skills about food selection and preparation. It begins with a discussion of household understanding of what constitutes a nutritious and healthy diet. Knowledge of meal planning and preparation is then explored, followed by an analysis of Canadians' use and comprehension of food labels and nutritional information. Food safety knowledge and the ability to plan and budget for food are then discussed

as additional elements of food literacy. Knowledge of how food is produced, processed, and distributed, particularly in relation to environmental impacts, is also explored. Finally, the effect of marketing and advertising on food consumption patterns, and especially on children's food literacy development, is analyzed. The results point to areas of knowledge gaps where future interventions can have a positive impact.

NUTRITIONAL AND DIETARY KNOWLEDGE

Canadians have a good general understanding of food, nutrition, and health, but may lack a thorough understanding of the details of how they are connected.¹ However, such detailed knowledge may not be necessary for good health. For example, "you do not necessarily have to know how calcium contributes to bone health to know that consuming milk is good for you."²

According to the Canadian Council of Food and Nutrition's Tracking Nutrition Trends (TNT) surveys, self-rated nutritional knowledge has stayed relatively stable over the last two decades.³ In 1997, when the TNT survey first asked Canadians to evaluate their nutritional knowledge, 33 per cent rated themselves

1 Interview findings.

2 Ibid.

3 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends: A 20-Year History*, 15.

as very knowledgeable. Although this figure dropped to 26 per cent in 2006, it rose to 38 per cent by 2008.⁴ In 2008, eight out of ten Canadians said they were either very or somewhat knowledgeable about nutrition.⁵ Self-rated nutritional knowledge varied by gender and education level. Women were slightly more confident about their nutritional knowledge than men, and those with higher levels of education were more confident than those with lower levels of education.⁶

Despite the confidence expressed in surveys of self-reported knowledge, households' knowledge of nutrition is weak in some areas.

People's perception of what constitutes a healthy diet affects their food choices. Paquette's review of the Canadian and international literature on public perceptions of healthy eating shows that in Canada and many other countries, people's beliefs about what constitutes a healthy diet "seem to be heavily influenced by dietary guidance ... [which typically] recommends vegetables and fruits, meat, limitations of fat and salt, variety and moderation."⁷ The TNT surveys similarly show that Canadians have a reasonable understanding of the connection between diet and health. Throughout the TNT survey cycles (i.e., between 1989 and 2008), the vast majority of participants "agree that a high fibre diet may help prevent colon cancer; that reducing fat in the diet can lower cholesterol in the blood; and that some types of dietary fibre can help reduce cholesterol in

one's blood."⁸ The federal government's publication *Eating Well With Canada's Food Guide* is one of the key resources on healthy eating for households.

GAPS IN CANADIANS' NUTRITIONAL KNOWLEDGE

Despite the confidence expressed in surveys of self-reported knowledge, households' knowledge of nutrition is weak in some areas. While many nutrition guides cite different numbers of food groups, public knowledge of one of the better known guides—*Canada's Food Guide*—has been examined in national studies. Although a large majority of Canadians could name "at least one food group" (associated with *Canada's Food Guide*) in the 1997 and 2001 TNT surveys, only a small majority (56 per cent) could name all four food groups in 1997; by 2001, only 41 per cent could name all four food groups.⁹ A review of studies on perceptions of healthy eating also found that when asked about healthy eating, Canadian consumers do not often mention the "grain products group," and they cite the milk products group even less frequently, though this varies by age.¹⁰ Canadians also appear to be unsure about how much meat is optimal in a healthy diet.¹¹ In addition, though Canadians tend to identify the concept of "balance" when asked what constitutes a healthy diet, there is little agreement about what "balance" means.¹²

The role of fats is another source of confusion for Canadians.¹³ Household awareness and concern about trans fats has risen in the past two decades—by 2008, 80 per cent of Canadians responding to the TNT survey said that low trans fat content was a driver of food choice.¹⁴ However, some confusion about fats still

4 N.B.: Although the question "How knowledgeable would you say you are about nutrition?" stayed the same, the response options changed between cycles. In 1997, the options were "Extremely," "Very," "Quite," "Slightly," and "Not at all." After that, the response options changed to "Very knowledgeable," "Somewhat knowledgeable," "Not very knowledgeable," "Not at all knowledgeable," or "Don't know." Canadian Council of Food and Nutrition, *Tracking Nutrition Trends: A 20-Year History*, 15.

5 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, 14.

6 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends: A 20-Year History*, 15.

7 Paquette, "Perceptions of Healthy Eating," S18.

8 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends: A 20-Year History*, 16. With the evolution of nutrition science, we know now that some of the statements tested with consumers in the past, which were then believed to be true, are not supported by evidence.

9 Ibid., 18.

10 Paquette, "Perceptions of Healthy Eating," S18.

11 Ibid., S16.

12 Ibid., S17.

13 MacDonald, *Consumer Confusion About Fat*.

14 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends: A 20-Year History*, 8.

exists: the TNT survey results also revealed that “two in five Canadians believe in error that soft margarine contains less fat than butter, while 21 per cent ‘don’t know.’”¹⁵ Part of the problem may stem from the *Food Guide*’s recommendation that individuals “choose soft margarines that are low in saturated and trans fats,” and “limit butter, hard margarine, lard and shortening.”¹⁶

Finally, there is little research on *how much* Canadians believe they should eat to maintain a healthy diet.¹⁷ Such information could provide useful insights into the current levels of overweight and obesity, which are partly influenced by diet quality and quantity. Although publications such as *Canada’s Food Guide* have helped many Canadians improve their eating habits, localized surveys and reports that track fruit and vegetable consumption clearly show that some Canadians are unaware of or do not follow the recommendations of these publications. For example, the Alberta Cancer Board’s *Report on Nutrition* found that 75 per cent of survey respondents were eating less than the recommended five servings of fruit and vegetables per day. Only 46 per cent were aware of the *Food Guide* recommendations and only 29 per cent thought they needed to eat five or more servings per day. The lowest amounts of fruit and vegetables were consumed by males, respondents without any post-secondary education, and smokers. Other barriers to higher fruit and vegetable consumption include confusing advice about how to eat healthy (38 per cent), too little information on preparation (21 per cent), and high prices for fresh vegetables and fruit (14 per cent).¹⁸

MEAL PLANNING AND PREPARATION

FOOD PURCHASING PRIORITIES

Food literacy is one of many factors that influence food-related decision-making and priorities. Other key factors include food quality, safety, nutritional value,

claims, source, and price. Self-reported data from the CFIC household survey show that when deciding what food to buy:

- ◆ quality was extremely or very important for 84 per cent of respondents;
- ◆ safety was extremely or very important for 72 per cent of respondents;
- ◆ nutritional value was extremely or very important for 71 per cent of respondents;
- ◆ price was extremely or very important for 55 per cent of respondents.¹⁹

The 2008 Tracking Nutrition Trends survey also found that nutrition and health were more important factors than price/cost:

- ◆ Taste was very or somewhat important for 98 per cent of people.
- ◆ Nutrition was very or somewhat important for 93 per cent of people.
- ◆ Healthfulness was very or somewhat important for 91 per cent of people.
- ◆ Cost was very or somewhat important for 87 per cent of people.
- ◆ Convenience or ease of preparation was very or somewhat important for 78 per cent of people.²⁰

FOOD PREPARATION SKILLS

There is a lack of definitive research on whether food preparation and cooking skills are declining among the general population. Some research suggests that with the increased production and availability of processed foods in recent decades, people have been losing their food-preparation skills.²¹ However, Health Canada’s review of Canadian and international literature on cooking skills concludes that there is not enough evidence to determine whether or not a household “deskilling”²² is actually occurring. Part of the challenge in determining whether such skills are declining is that most research in this area relies on self-reported data.

15 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, 20.

16 Health Canada, *Eating Well With Canada’s Food Guide*.

17 Paquette, “Perceptions of Healthy Eating,” S18.

18 Oelke, *Vegetable and Fruit Consumption in Alberta*, 3–4.

19 The Conference Board of Canada, CFIC survey data 2011.

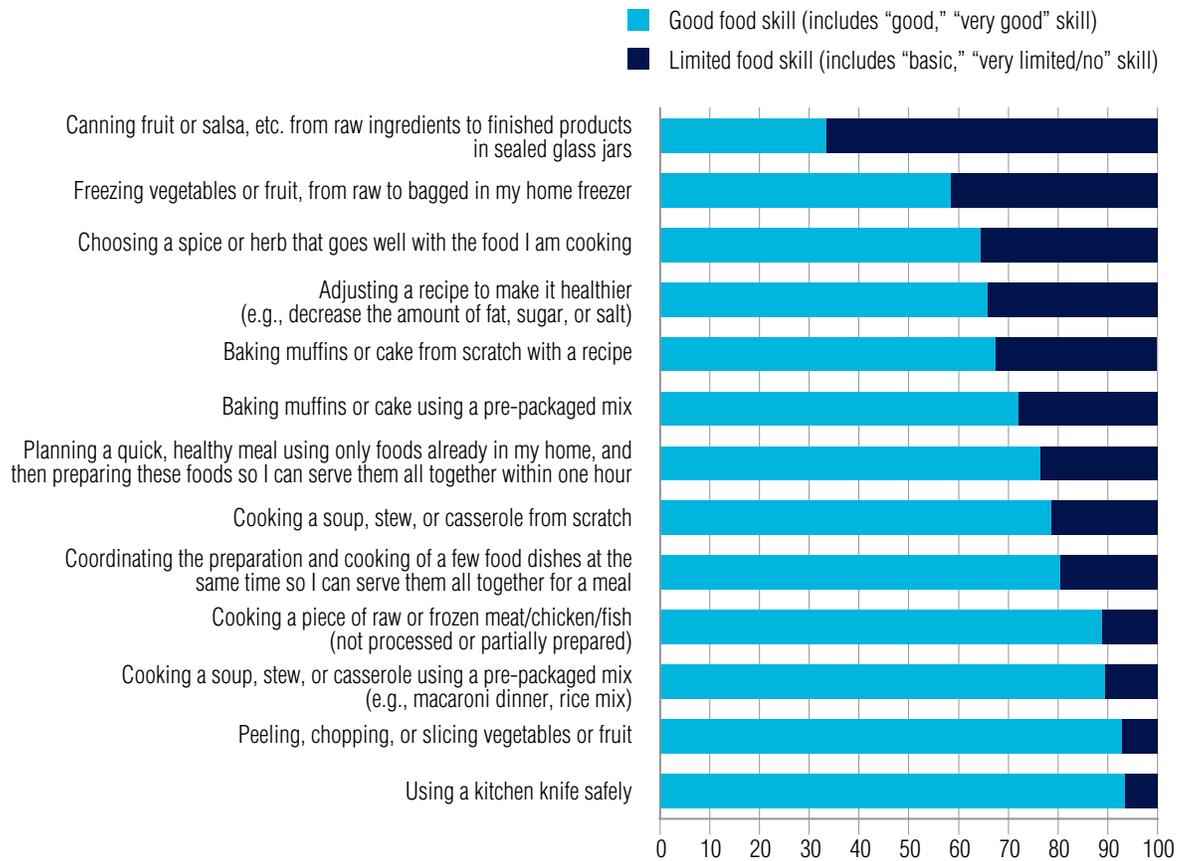
20 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, 3.

21 Chenhall, *Improving Cooking*, Executive Summary, 1.

22 Chenhall, *Improving Cooking*, 10–11.

Chart 2

Self-Rated Food Skills of Waterloo Region Adults
(percentage of respondents; n = 703)



Source: Region of Waterloo Public Health.

Nevertheless, there is strong evidence, both in Canada and around the world, that food choices and consumption patterns have changed, in step with the increased availability of processed foods.²³ In a recent study of 703 adults from Waterloo, Ontario, for example, the majority of participants rated their everyday food skills as “good” or “very good” and 83 per cent of households said they spend at least half an hour per day making their main meal.²⁴ (See Chart 2.) However, self-reported food skill levels may be higher than actual skill levels.²⁵ Changing consumption patterns and the availability of prepared or partially prepared foods have

reduced the need to be able to cook from scratch (i.e., without using commercially processed food items). As a result, people’s definition of cooking and food skills is often now very different—and less rigorous—than in the past.²⁶

A case in point: 77 per cent of respondents in the Waterloo study said they have good skills when it comes to preparing a healthy meal in less than an hour using foods already in the home.²⁷ And even more respondents (84 per cent) were confident they could “coordinat[e] the preparation and cooking of a few food

23 Chenhall, *Improving Cooking*, 10.

24 Vanderkooy, *Food Skills*, 4.

25 Interview findings.

26 Ibid.

27 Vanderkooy, *Food Skills*, 2.

dishes at the same time.”²⁸ However, when asked about the extent to which respondents actually cook from scratch, a different picture emerged: only 44 per cent reported eating five or more meals that were cooked “at least partly from scratch” in the past week.²⁹ These findings suggest that many participants rely on pre-packaged, prepared (or partially prepared) foods for the majority of their meals.

Age and Food Skills

Many are concerned that the “normalization” of processed and packaged foods may also mean that traditional food preparation knowledge is no longer being passed down from parents to their children.³⁰ If food skills are not transferred, the next generation may lack confidence in its ability to prepare food, which will limit its food choices.³¹ Health Canada’s review of Canadian and international literature indicates that self-perception of food and cooking skills generally improves with age, although adolescents are more involved in food preparation activities than young adults.³² However, even adolescents are not particularly involved in household cooking and food preparation, with the majority assisting only once or twice a week.³³ A 2012 study for the Dairy Farmers of Canada found that the majority of parents would like their children to learn cooking skills and to help cook meals, but cited barriers such as time constraints and safety concerns.³⁴

The Waterloo study found that the food skills of the elderly (i.e., those aged 65 and older) may also be a concern, because fewer elderly people than those in younger age groups rated their food skills as good in key areas, including “cooking raw meats properly” and “cooking soup/stew/casserole from a mix.”³⁵ This self-perceived decline implies that “older adults could benefit from support for food skills, whether to increase

confidence or interest in cooking, or because living circumstances have changed (e.g., living alone and/or cooking for the first time in one’s life).”³⁶

Gender and Food Skills

Food preparation—in Canada and internationally—appears to be gendered, and women are the main cooks in the majority of households.³⁷ Not surprisingly, then, women have higher self-confidence “with cooking and food preparation skills” than men, and mothers are the most important “teachers of cooking and food preparation skills,” regardless of socio-economic status.³⁸

Income and Food Skills

Increasing reliance on processed and packaged foods has an impact on the diets of households from all income levels. Some research indicates that those with lower incomes cook food from scratch more often, and adolescents from lower-income families are more involved in food purchasing and preparation activities than children from higher-income families.³⁹

Immigrants and Food Skills

Newcomers to Canada may face particular challenges when it comes to purchasing and preparing nutritious foods.⁴⁰ Recent immigrants are typically familiar with foods from their place of origin, and know how to prepare such foods to create nutritious meals. In Canada, they often find themselves in a new food environment, with different foods and more processed and less nutritious food options:⁴¹ a form of food insecurity. Like written or verbal literacy skills, the food literacy skills of immigrants may be higher in their own “food language” than they are in the Canadian environment.⁴²

In 2007, Health Canada and Canadian Heritage consulted with practitioners who promote healthy eating to new immigrants, including ethnocultural community

28 Vanderkooy, *Food Skills*, 2.

29 Vanderkooy, *Food Skills*, 4.

30 Chenhall, *Improving Cooking*, Executive Summary, 3.

31 Chenhall, *Improving Cooking*, 28.

32 *Ibid.*, 27.

33 *Ibid.*

34 Dairy Farmers of Canada, *The REAL “Hunger Games.”*

35 Vanderkooy, *Food Skills*, 3.

36 *Ibid.*

37 Chenhall, *Improving Cooking*, 27; Vanderkooy, *Food Skills*, 3.

38 Chenhall, *Improving Cooking*, 27.

39 *Ibid.*

40 Interview findings.

41 *Ibid.*

42 *Ibid.*

workers, immigrant settlement workers, public health nutritionists, dietitians, and nurses.⁴³ The results revealed that certain ethnocultural groups—including Chinese, Tamil, Punjabi, Urdu, Tagalog, Arabic, and Korean—have a particularly difficult time adapting their diets in the Canadian context, because their traditional food consumption and patterns are often different from Canadian practices.⁴⁴ Moreover, newcomers' cultural beliefs about food may conflict with western scientific discourse about food. Accordingly, there is a need for health promotion messages to “incorporate both traditional and nutritional science approaches” in order to reach diverse audiences.⁴⁵ See the box “Food Skills for Families: A Culturally Sensitive Cooking Program” for an example of a program that teaches healthy eating, shopping, and cooking skills, particularly to immigrant families.

Though some ethnocultural groups face acute dietary challenges when they come to Canada, Health Canada and Canadian Heritage identify several common barriers to healthy eating among immigrants, including:

- ◆ limited availability of traditional foods;
- ◆ differences in cooking methods and use of appliances;
- ◆ unfamiliarity with large grocery stores;
- ◆ unfamiliarity with the variety and packaging of foods available;
- ◆ lack of time to shop and cook.⁴⁶

In addition, because mainstream campaigns about healthy diets tend not to feature cultural foods, some immigrants are led to feel that their foods are not healthy, even though many aspects of their traditional cuisines are quite healthy.⁴⁷ For example, one study found that many health professionals who speak about Indian foods emphasize the amount of fat and sugar in Indian cuisine.⁴⁸ Yet, these ingredients are not common

in the traditional Indian diet. Instead, they are increasingly consumed after immigrating, suggesting adoption of western diet choices.⁴⁹

Aboriginal Peoples and Food Skills

Comprehensive studies that assess the determinants of healthy eating in Aboriginal communities are scarce.⁵⁰ As a result, the state of food literacy in Aboriginal communities in Canada is unclear. However, it has been established that in many Aboriginal communities, traditional diets have been changing, as “market foods, many of which are of low nutritional quality,” are taking the place of “traditional foods.”⁵¹ This transition is particularly evident in northern and remote communities, where—as we observed in *Enough for All: Household Food Security in Canada*—the high cost of hunting and fishing has made it increasingly difficult for Aboriginal communities to hunt for their own food.⁵² At the same time, Aboriginal children are eating more market food and less traditional food than their parents' generation, leading to declining knowledge of harvesting and preparing traditional foods.⁵³

There is a need for health promotion messages to “incorporate both traditional and nutritional science approaches” in order to reach diverse audiences.

In addition, some Aboriginal peoples are used to traditional foods that are inherently healthy, making “it difficult for them to understand why they must avoid certain store-bought foods to maintain health.”⁵⁴ For example, the Cree of northern Quebec “find the categories of healthy and unhealthy as related to store-bought food to be confusing” because their own traditional food, by nature, is nutritious.⁵⁵ When they begin to transition from a traditional diet to one that

43 Martineau, “Promoting Healthy Eating,” 14.

44 Ibid., 17.

45 Chapman, Ristovski-Slijepcevic, and Beagan, “Meanings of Food,” 110.

46 Martineau, “Promoting Healthy Eating,” 18.

47 Chapman, Ristovski-Slijepcevic, and Beagan, “Meanings of Food,” 110.

48 Ibid.

49 Ibid.

50 Willows, “Determinants of Healthy Eating,” S35.

51 Ibid., S32.

52 Howard and Edge, *Enough for All*; Boulton, *Hunger in the Arctic*, 8.

53 Willows, “Determinants of Healthy Eating,” S34.

54 Ibid.

55 Ibid.

Food Skills for Families: A Culturally Sensitive Cooking Program

In 2008, the Canadian Diabetes Association introduced the Food Skills for Families program in British Columbia to promote healthy eating.¹ Food Skills for Families is a hands-on six-week course that teaches healthy eating, shopping, and cooking skills to adult populations that are at a high risk of developing chronic disease, including Aboriginal and Punjabi communities, new immigrants, and low-income Canadians. A year ago, the program grew to include senior citizens.² The program was initially funded by the provincial Ministry of Health, under ActNow BC, and the federal Aboriginal Diabetes Initiative.³

Professional dietitians and adult educators developed Food Skills for Families' core curriculum, which was then adapted for each target population.⁴ Adaptation examples include incorporating culturally appropriate recipes and ingredients and translating course materials into different languages.⁵ Paid community facilitators—lay people who are trained through Food Skills for Families' Train-the-Trainer program—deliver the curriculum in host organizations throughout the province.⁶ Host organizations are agencies with access to adequate kitchen facilities, whose services target the same populations as the Food Skills program.⁷

As of March 2011, Food Skills for Families had delivered 313 programs to more than 2,500 participants.⁸ Since participants are often the primary cook in the family, the program's

reach may be even broader than these numbers suggest. According to the Canadian Diabetes Association, the program has reached approximately 7,900 adults and children since its inception.⁹

Evaluations of Food Skills for Families show that the program is having a positive impact on participants' nutritional knowledge and eating behaviours. Among participants who answered both pre- and post-program questionnaires in the most recent evaluations:

- ◆ the number of participants who said they ate fruit at least twice daily increased by 14 per cent;
- ◆ the number of participants who said they ate salad at least twice daily increased by 18 per cent;
- ◆ knowledge of the recommended daily servings of fruit and vegetables improved by 26 per cent.¹⁰

Through program participation, significant increases in participants' confidence were seen in a number of areas:

- ◆ preparing and cooking new foods (19 per cent increase);
- ◆ following basic food safety (18 per cent increase);
- ◆ reading facts on food labels (22 per cent increase).¹¹

Because of Food Skills for Families' success, and because it meets with Ministry of Health objectives to increase vegetable consumption among B.C. residents, the Ministry has recently renewed the program's funding.¹² In addition, the program has increased its sustainability by training the staff members of some host organizations, which have since begun to deliver Food Skills for Families as part of their own programming.¹³

1 Canadian Diabetes Association, *Food Skills for Families Program*, i.

2 BC Healthy Living Alliance, *Food Skills for Families*.

3 Interview findings.

4 Ibid.

5 Ibid.

6 Canadian Diabetes Association, *Food Skills for Families Program*, i.

7 Interview findings.

8 Canadian Diabetes Association, *Food Skills for Families Program*, 5.

9 Ibid.

10 Canadian Diabetes Association, *Food Skills for Families Program*, 11.

11 Ibid., 13.

12 Interview findings.

13 Ibid.

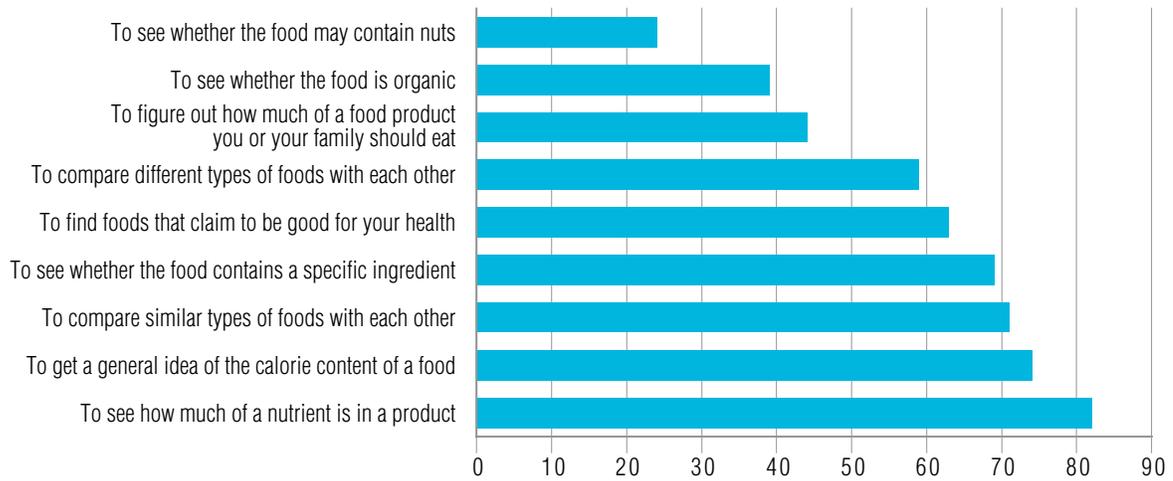
includes market foods, Aboriginal peoples are increasingly faced with the need to understand the health and nutrition implications of market-food choices. As a result, the change from traditional to market foods has broad food literacy and health implications for Aboriginal populations.

POINT-OF-PURCHASE NUTRITION INFORMATION AND CLAIMS

Households are presented with a variety of nutritional information and claims at food's point-of-purchase. Their understanding, trust, and use of such information affect their purchase behaviour in grocery stores,

Chart 3

Use of Information (“sometimes” or “often”) on Food Packages
(percentage of respondents; n = 1,907)



Source: Adapted from CCFN *Tracking Nutrition Trends VII*.

restaurants, convenience stores, and other food venues. Food information and claims are not always deemed credible by households. Claims made by dietitians, health associations, family physicians and health professionals, and government materials are trusted most.⁵⁶ Product labels are trusted somewhat less (although used most) while the information claims from industry are least trusted and used.⁵⁷ Instituting governing principles for voluntary industry point-of-purchase nutritional information would help bolster its use and credibility.

The Tracking Nutrition Trends survey reveals that Canadians look for a variety of information on food packaging, with the majority searching for ingredient information (80 per cent), the best-before date (74 per cent), and/ or the Nutrition Facts table (71 per cent).⁵⁸ Canadians also use food information and claims in a variety of ways, but figuring out “how much of a nutrient is in a product” (82 per cent) and “the calorie level”

(74 per cent) are the most common uses.⁵⁹ Searching for a particular ingredient or the presence of nuts can indicate a concern for food allergy triggers. Information on food packaging is used far less frequently (44 per cent) to determine the quantity of food we should be consuming or serving to our families. (See Chart 3.)⁶⁰

The Tracking Nutrition Trends survey reveals that “the majority of [Canadian] consumers (57 per cent) are habitual label readers.”⁶¹ However, their concern for nutrition is not as high when someone else is doing the cooking: only 22 per cent “look for nutrition information when eating out.”⁶² Seventy-two per cent of CFIC household survey respondents said that they always or often looked at the food labels when they shopped.⁶³

56 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends: A 20-Year History*, 26–27.

57 Ibid.

58 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends*, 31.

59 Percentage of Canadians who “sometimes” or “often” “use the information provided in the following ways.” CCFN, *Tracking Nutrition Trends VII*, 35.

60 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, 35.

61 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, Executive Summary, vii.

62 Ibid., 47.

63 The Conference Board of Canada, CFIC survey data 2011.

While we do not know how well the food label information was understood or if it actually influenced their purchase behaviour, this at least shows that almost three-quarters of respondents were concerned about the content of the foods they were selecting.

When asked whether they usually checked the nutrient content information in the Nutrition Facts tables when first buying a new product, 79 per cent of respondents to the CFIC household survey said “yes.”⁶⁴ While checking or reading a label does not equate to understanding all of the information provided on the label, the findings demonstrate that almost four-fifths of respondents felt it was important to learn about the nutritional content of new foods in their diet. This number varied with the age of the respondent, with younger shoppers less likely to check the nutrient content information of new products (70 per cent of respondents younger than 25 years of age said “yes,” compared with 80 to 82 per cent for all other age ranges).⁶⁵ This number also changed slightly with income level, with respondents at lower household income levels less likely to check the nutrient content information of new products (75 to 76 per cent of households with less than \$75,000 annual income said “yes,” compared with 87 to 88 per cent of households with more than \$75,000 annual income).⁶⁶

Nutrient listings and serving sizes that require calculations are especially confusing to individuals with lower education and literacy skills.

The use of labels is not consistent among the general population and, in fact, a review of food labels showed that their use “varies considerably across subgroups, with lower use among children, adolescents, and older adults who are obese.”⁶⁷ The majority of research on income levels and label use has demonstrated that those with lower incomes are less likely to use nutrition labels

than those with higher incomes.⁶⁸ Likewise, women read labels more often than men, and those with higher self-rated nutritional knowledge read labels more than those with lower self-ratings of nutritional knowledge.⁶⁹

A lack of standardization in serving size can be misleading (e.g., unrealistically low serving sizes often cause the reader to think that the product is healthier than it actually is). Many individuals do not know how to properly read food labels or make the necessary calculations to determine how many calories their desired serving size actually contains. Nutrient listings and serving sizes that require calculations are especially confusing to individuals with lower education and literacy skills.⁷⁰ Although Health Canada and Food & Consumer Products of Canada (FCPC) have achieved widespread public awareness of the Nutrition Facts tables, research consistently shows “the need for in-depth education to increase consumers’ use and understanding.”⁷¹

In addition, although the majority of households typically read food product labels, poor readability of the labelling and nutritional information may prevent some labels from being understood. Readability of food labels is affected by the use of colour, all capital letters, spacing, condensed or compressed print, position of the text, printing on reflective surfaces, and other elements.⁷²

NUMERACY SKILLS AND NUTRITIONAL INFORMATION COMPREHENSION

Numeracy skills are a factor in households’ abilities to comprehend and use the different types of nutritional information they are presented with at the point of purchase or selection (e.g., on packaging or at the shelf). A recent review of research on the effectiveness of food labels in seven countries, including Canada, noted that many households struggle “with the quantitative information presented on labels, especially with respect

64 The Conference Board of Canada, CFIC survey data 2011.

65 Ibid.

66 Ibid.

67 Campos, Doxey, and Hammond, “Nutrition Labels,” 1.

68 Ibid., 4.

69 Campos, Doxey, and Hammond, “Nutrition Labels”; Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, 29.

70 Nayga, Lipinski, and Savur, “Consumers’ Use of Nutritional Labels,” 32.

71 Health Canada, *Nutrition Facts Education Campaign*.

72 Consumer Interest Alliance Inc., *Readability*, 61.

to recommended daily amounts, per cent daily values, serving sizes or other forms of reference information on the label.”⁷³ These findings suggest that some households are struggling to use and interpret the information available because they lack the necessary numeracy skills to do so. Using the information provided typically requires the skills to read and understand data in a table format, to calculate percentages and serving sizes, and to apply this information against daily nutritional needs.

When asked how confident they were using the Nutrition Facts tables to make healthy food choices, 9 per cent of respondents to the CFIC household survey said they were extremely confident, 33 per cent said they were very confident, and 39 per cent said they were somewhat confident.⁷⁴ Whether or not their confidence was well-founded, about four-fifths of respondents felt at least somewhat sure that they were interpreting the information in the Nutrition Facts tables correctly. Female respondents were slightly more confident than males in their ability to use the Nutrition Facts tables: 87 per cent of female respondents said they were extremely, very, or somewhat confident, compared with 77 per cent of males.⁷⁵ When compared with the general literacy skills of Canadians, the confidence level of the respondents to the CFIC household survey seems high. The most recent International Adult Literacy and Skills Survey (IALSS) found that the majority of Canadians aged 16 and over (55 per cent) scored below Level 3—the “desired level” of proficiency—on numeracy.⁷⁶ Although the IALSS did not examine Canadians’ comprehension of food labels per se, its findings imply that, to be accessible to more Canadians, the quantitative component of food labels may need to be simplified and/or numeracy skills improved.

73 Campos, Doxey, and Hammond, “Nutrition Labels,” 5.

74 The Conference Board of Canada, CFIC survey data 2011.

75 Ibid.

76 Human Resources and Skills Development Canada and Statistics Canada, *Building on Our Competencies*, 9.

FOOD SAFETY

Food safety is a critically important part of food literacy. Having the skills and knowledge to store, handle, and prepare foods safely is a key to maintaining household health. In *Improving Food Safety in Canada: Toward a More Risk-Responsive System*, the Conference Board found that some households do not have adequate knowledge about proper food storage, handling, and preparation, and that “levels of knowledge appear to track certain demographic characteristics—with lower levels of knowledge found especially among young males and those with lower educational attainment.”⁷⁷

Better knowledge about proper food storage, handling, and preparation is a necessary, though not sufficient, condition for lowering food safety risks.

Additionally, many with knowledge frequently fail to put it to use, thereby elevating their risk of contracting a food-borne illness. As the report notes, “a large majority of people *know* what they should be doing in the kitchen, but the number of people who actually *do* what they should be doing is much lower.”⁷⁸ This gap between knowledge and behaviour appears to be a function of households’ poor food risk assessment. Research cited in the report shows that households frequently underestimate both their likelihood of getting, and the severity of, food poisoning from food prepared at home.⁷⁹

In short, there is a connection between food literacy and food safety outcomes. Better knowledge about proper food storage, handling, and preparation is a necessary, though not sufficient, condition for lowering food safety risks. A sound understanding of food safety

77 Munro, Le Vallée, and Stuckey, *Improving Food Safety in Canada*, 37.

78 Ibid., 36.

79 Ibid., 37.

risks and a capacity to assess and manage risks—all elements of food literacy—are essential to achieving food safety outcomes.

PLANNING AND BUDGETING FOR FOOD

As with cooking skills data, there are limited national data on Canadians' ability to budget and plan for meals. As observed earlier, the CFIC household survey found that the vast majority (83 per cent) of respondents believed that their household has at least one good cook.⁸⁰ However, the term "good cook" was not defined in the survey, so respondents' interpretation may refer to the ability to create good-tasting food, good-quality food, nutritious meals, or some combination of these abilities. Although not an exact measure of planning and budgeting for food, these data imply that most households include someone who is able to plan meals.

Household food-related decisions demonstrate households' knowledge, attitude, and skills in relation to food production, processing, distribution, and waste.

Changing demographics and technological advances are likely changing how household finances are managed. The first-ever survey on Canadians' financial capability found that a small majority of Canadians (51 per cent) do have a household budget. However, of those who had a budget, only 37 per cent "always stayed within their budget" and 54 per cent "usually stayed within budget."⁸¹ The survey did not ask specifically about Canadians' grocery budgets. Some households may take a loose approach to food and other discretionary spending, or use an "envelope" approach to household spending. In addition, the loyalty programs of some major supermarket chains also function to help participants to monitor their food spending. Overall, there is a dearth of research on the actual food budgeting practices of Canadians.

80 The Conference Board of Canada, CFIC survey data 2011.

81 Arrowsmith and Pignal, *Initial Findings*.

Some research indicates that low-income households are well practised in making their food dollars go further. A recent review of the determinants of healthy eating among low-income Canadians, for example, concluded that "those in low-income households have been shown to buy more nutrients for their food dollar than higher income households."⁸² This finding reveals an economic reality, however, and does not necessarily show that lower-income households have a higher level of food literacy than higher-income households. A study of 458 low-income Torontonians found that when respondents needed "to stretch their food dollars" to make ends meet, they made food from scratch, used leftovers creatively, stretched meals by using cheap fillers, such as carrots and potatoes, and used canned foods.⁸³ These low-income families also used resourceful strategies in the grocery store, such as "sticking to a fixed budget, using shopping lists, coupons and flyers, purchasing sale items, comparison shopping, and buying in bulk."⁸⁴ Some low-income households, in spite of having good budgeting skills, still experience food insecurity. Issues specific to household food insecurity and recommendations for addressing them are found in another CFIC report, *Enough for All: Household Food Security in Canada*.

FOOD PRODUCTION, PROCESSING, DISTRIBUTION, AND WASTE

Household food-related decisions demonstrate households' knowledge, attitude, and skills in relation to food production, processing, distribution, and waste. Household knowledge and understanding of how food is made available for retail purchase varies according to the information available, household interest, and the ability to comprehend the information provided.

As the food literacy project of the Socrates-Grundtvig program of the European Commission notes, each stage of food production, processing, distribution, and

82 Power, "Determinants of Healthy Eating," S39.

83 Dachner and others, "Food Purchasing," e52.

84 Ibid.

Table 3
Attitudes Toward Food and Farming
(percentage of respondents; n = 1,129)

Element	Most important issue	Second most important issue
The safety of the food Canadians eat	29	30
The overall health of Canadians	29	19
The affordability of food in Canada	19	24
The environment (including soil, air, water, and biodiversity)	19	18
The welfare of farm animals in Canada	4	9

Source: Farm and Food Care.

consumption affects the environment.⁸⁵ Accordingly, “conscious selection of foods can be a considerable contribution to the protection of nature.”⁸⁶ A recent survey of Canadians’ attitudes toward food and farming shows that the environment (including soil, air, water, and biodiversity) ranks fourth in the top five elements of sustainable food production.⁸⁷ Elements ranked higher included the safety of the food Canadians eat, the overall health of Canadians, and the affordability of food in Canada. (See Table 3.) In the same study, reasons for negative perceptions of farming in Canada related to environmental issues, including the use of chemicals and pesticides and concern for the resulting contamination of water sources.⁸⁸

Canadian households have a mixed understanding of food and farming practices. Some people struggle with the terminology used, or mistakenly think they understand it correctly. For instance, the Informed Food Philosophy Study found that “81 per cent of Canadians who typically buy free run eggs believe the chickens producing them have access to the outdoors.”⁸⁹ However, this is incorrect: they are confusing “free run” with “free range.” The Canadian Food Inspection

85 Schnögl and others, *Savoury Dishes*.

86 Ibid.

87 Farm & Food Care, *Study of Canadian Attitudes*, 9.

88 Ibid., 12, 27.

89 Farmers Feed Cities, *Study Finds*.

Agency (CFIA) recommends that an explanation of what is meant by these terms appear on the label along with the claim, so that households are not misled.

Many Canadians lack accurate information regarding the processes and safeguards in place to ensure that genetically modified foods and the use of antibiotics and synthetic hormones in livestock are acceptable for consumption.⁹⁰ Further, since genetically modified products are not labelled as such, it is difficult for households to even know whether or not they are purchasing genetically modified food.⁹¹ The vast majority of Canadian consumers (83 per cent) support mandatory labelling of food that contains genetically modified organisms (GMOs).⁹²

A recent survey of Canadians’ attitudes toward food and farming shows that the environment ranks fourth in the top five elements of sustainable food production.

Although the majority of Canadians know how to plan and prepare meals, high levels of food waste imply that Canadians need to improve their skills and behaviours when it comes to their food purchasing and/or preparation patterns. Statistics Canada estimates that approximately 40 per cent—or \$27 billion dollars’ worth⁹³—of the food that is produced, processed, and distributed in Canada is wasted annually, though not all food waste is generated at the consumer level.⁹⁴ This estimate is based on models, so it must be interpreted with some degree of caution. Nevertheless, the George Morris Centre argues that the greatest mismanagement in Canada takes place at the consumer level, where 51 per cent of the food waste occurs.⁹⁵ Moreover, research in the U.K. has demonstrated that most consumer food waste could be eliminated, and other research shows

90 Ibid.

91 Hayward, Pannozzo, and Colman, *Developing Indicators*, 202.

92 Households Council of Canada, *Supporting Households*.

93 Gooch, Felfel, and Marenick, *Food Waste in Canada*, 2.

94 Statistics Canada, *Human Activity and the Environment 2009*, 2010.

95 Gooch, Felfel, and Marenick, *Food Waste in Canada*, 5.

that consumers in developing countries waste very little food.⁹⁶ Such a discrepancy suggests that food waste is a key area where Canadian households could improve their food literacy levels and lower food costs as well as environmental impacts.

MARKETING AND ADVERTISING

Many Canadians are concerned about the effects of marketing and advertising on food consumption patterns.⁹⁷ Research shows that certain marketing signals, such as container and portion size, product descriptions, and even the quantity of food displayed on the package, “influence taste perceptions and food choice[s],” including the amount of food we consume.⁹⁸

The influence of marketing and advertising is of particular concern when it comes to children, because research has concluded that children “ages 8 years and younger do not effectively comprehend the persuasive intent of marketing, and most children ages 4 years and under cannot consistently discriminate between television advertising and programming.”⁹⁹ The Institute of Medicine’s systematic review of advertising to children found that advertisements impact children’s tastes and purchasing requests. A recent global comparative study revealed that 80 per cent of the food advertisements that Canadian children view are for “noncore foods,” a category that “includes products relatively high in undesirable nutrients, including fat and sodium, or energy (as defined in dietary guidelines).”¹⁰⁰ According to the Institute of Medicine, “television advertising influences children to prefer and request high-calorie and low-nutrient foods and beverages.”¹⁰¹ As pointed out in

CFIC’s report on the role of food in addressing chronic diseases, “poor childhood dietary patterns increase the lifetime risk of developing chronic diseases.”¹⁰² Given the potential impacts of advertising on children’s food preferences, it is especially important to create guiding principles for advertising food and beverages to children.

CONCLUSION

The available data suggest that, overall, Canadians have a fairly good basic knowledge of food, nutrition, and health, but they often do not put that knowledge to use. There are also key areas where a lack of longitudinal, national data makes it difficult to determine the extent to which Canadians’ food literacy (or lack thereof) contributes to certain food behaviours. For example, although we know that Canadians have been increasingly consuming processed, pre-packaged foods, it is unclear whether this increased consumption corresponds with the loss of cooking skills. We also do not know the extent to which food literacy levels contribute to overeating in Canada. Such information is crucial to better-informed policies and strategies that target food literacy in Canada.

Our research does show that there are key areas where Canadians are struggling with food literacy. Although the majority of Canadians are food label readers, label use varies by subgroup, and many Canadians may be struggling to use and interpret labels because they lack the numeracy skills to do so. In addition, high levels of food waste and the relatively low percentage of Canadians who both have *and* follow a household budget suggest that many households could improve their planning and purchasing habits. Likewise, the low percentage of children and adolescents who regularly participate in family meal preparation is a concern, and may lead to future generations with increasing cooking skill deficits. Moreover, certain groups of people, including new immigrants and some Aboriginal peoples, ostensibly face more barriers to food literacy than other groups.

¹⁰² The Conference Board of Canada, *Improving Health Outcomes*, 24.

⁹⁶ Gooch, Felfel, and Marenick, *Food Waste in Canada*, 4; Gustavsson and others, *Global Losses*, v.

⁹⁷ The Conference Board of Canada, *Improving Health Outcomes*, 27.

⁹⁸ Block and others, “From Nutrients to Nurturance,” 8; Wansink, *Mindless Eating*.

⁹⁹ Institute of Medicine, Committee on Food Marketing, *Food Marketing*, 8.

¹⁰⁰ The Conference Board of Canada, *Improving Health Outcomes*, 27; Kelly and others, “Television Food Advertising,” 1733.

¹⁰¹ Institute of Medicine, Committee on Food Marketing, *Food Marketing*, 8.

Chapter 4

Strategies to Improve Food Literacy

Chapter Summary

- ◆ Programs administered at the federal, provincial, territorial, regional, and community levels are making notable steps toward raising food literacy levels.
- ◆ *Canada's Food Guide*—a relatively low-cost, low-intervention strategy—is a popular information source for improving household knowledge and dietary choices.
- ◆ School meal programs are an excellent means of providing students with nutritious food as well as education on nutritious and healthy diets.
- ◆ Public-private partnerships leverage a variety of approaches—including experiential learning, point-of-purchase nutrition logos and labelling, and menu labelling—to increase and enhance household food literacy skills.

This chapter identifies strategies to improve food literacy that are currently under way in Canada and elsewhere. A number of successful Canadian initiatives, at the federal, provincial, and community levels—including public-private

partnerships—are examined in light of their role in improving food literacy. The knowledge gained from Canadian and international initiatives and models inform the recommendations for improving food literacy that are described in Chapter 5.

FOOD LITERACY IMPROVEMENT INITIATIVES

There are many food literacy improvement initiatives in Canada. Programs administered at the federal, provincial, territorial, regional, and community levels are making notable steps toward raising food literacy levels and, consequently, the ability of Canadians to make informed food-related decisions.

FEDERAL INITIATIVES

The Canadian Institutes of Health Research (CIHR) is the largest health care research funding agency in Canada. Through its Institute of Nutrition, Metabolism and Diabetes (INMB), CIHR promotes food literacy by conducting and disseminating research on how to achieve healthy body weights and reduce obesity.¹ Canada's two main federal agencies responsible for health promotion are Health Canada and the Public Health Agency of Canada (PHAC).

1 Canadian Institutes of Health Research, "Mid-Term Evaluation."

HEALTH CANADA INITIATIVES

Health Canada's main responsibility is to help Canadians "maintain and improve their health, while respecting individual choices and circumstances."² To achieve this goal, it uses scientific research to inform its work, consults Canadians to determine how to meet their long-term health care needs, communicates information about disease prevention, and encourages Canadians to increase their physical activity levels and eat well.³ Operating under the authority of the *Department of Health Act*, the *Food and Drugs Act*, and the *Food and Drug Regulations*, Health Canada's federal health authority, the Food Directorate, establishes policies, sets standards, and provides advice and information on the nutritional value and safety of food.⁴

Canada's Food Guide

One of Health Canada's most effective information tools in promoting food literacy is *Eating Well With Canada's Food Guide*. First established in July 1942 as *Canada's Official Food Rules*, the publication aimed to improve the health of Canadians and prevent nutritional deficiencies amid wartime food rationing. Today, it continues to guide food selection and promote the nutritional health of Canadians.⁵ Over the years, the guide has evolved by adopting new names, looks, and messages. To meet the needs of immigrants, it is published in a number of languages, including Arabic, Chinese, Farsi, Korean, Punjabi, Russian, Spanish, Tagalog, Tamil, and Urdu.⁶ A special version tailored to Canada's Aboriginal peoples was released in April 2007, and recognizes "the cultural, spiritual and physical importance of traditional Aboriginal foods as well as the role of non-traditional foods in contemporary diets."⁷ As a relatively low-cost, low-intervention strategy, the *Food Guide* is a popular information source for improving household knowledge and dietary choices.⁸ *Canada's Food Guide* has consistently been

the "most popular destination on the Health Canada Web site."⁹ As healthy eating knowledge is often linked to government dietary guidance initiatives, unsurprisingly, many Canadians' views of healthy eating closely align with the *Food Guide* and its recommendations.¹⁰

The Healthy Eating Awareness and Education Initiative is a multi-year educational initiative grounded in the guidance of the *Food Guide*. It aims to increase the awareness, understanding, and knowledge of Canadian parents and caregivers of children aged 2 to 12 about healthy eating, including topics such as reading nutrition labels, healthy eating and sodium reduction, and healthy eating and healthy weights, with a focus on food skills to ultimately influence behavioural change.¹¹

As a relatively low-cost, low-intervention strategy, the Food Guide is a popular information source for improving household knowledge and dietary choices.

Nutrition Facts Education Campaign

The first phase of the Healthy Eating Awareness and Education Initiative is the Nutrition Facts Education Campaign, a multi-media campaign designed to help households "understand and use the information on the Nutrition Facts table, and in particular, the % Daily Value."¹² Working in collaboration with Food & Consumer Products of Canada, the Government of Canada designed a Nutrition Facts table literacy campaign with practical information and tips that was promoted through websites, television, and various other social media.¹³ So far, 34 companies have joined the campaign, using in-store and on-package messaging in addition to print and television advertising and an educational website.¹⁴

2 Health Canada, *About Health Canada*.

3 Ibid.

4 Health Canada, *Food Directorate*.

5 Health Canada, *History of the Food Guide*.

6 Health Canada, *Frequently Asked Questions*.

7 Health Canada, *Canada's Food Guide*.

8 The Conference Board of Canada, *Improving Health Outcomes*.

9 Health Canada, *Canada's Food Guides From 1942-1992*.

10 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII, Executive Summary*.

11 Giurgevich, *Healthy Eating*.

12 Health Canada, *Nutrition Facts Education Campaign*.

13 Ibid.

14 Food & Consumer Products of Canada, *Nutrition Facts Education Campaign*.

Two federal departments share the responsibility for developing food labelling requirements in Canada: Health Canada and the Canadian Food Inspection Agency. Food labels serve three main functions. They:

- ♦ provide basic product information (such as common names; lists of ingredients; net quantity; durable life dates; grade and quality; country of origin; and the name and address of the manufacturer, dealer, or importer);
- ♦ provide health, safety, and nutritional information (such as instructions for safe handling and storage; the quantity of carbohydrates, proteins, fats, vitamins, and minerals per serving of a stated food size—found in the Nutrition Facts tables—and specific information regarding special dietary restrictions);
- ♦ act as a vehicle for food marketing, promotion, and advertising (through promotional information, label vignettes, and claims such as low-fat, cholesterol-free, high source of fibre, product of Canada, natural, organic, no preservatives added, etc).¹⁵

In 2002, the *Food and Drug Regulations* made nutrition labelling (including the Nutrition Facts table, nutrient content claims, and health claims) mandatory for most pre-packaged foods.¹⁶ The related legislation affirmed that Canadians had the right to make informed decisions regarding their dietary practices and the associated risk of developing chronic diseases¹⁷ such as obesity, diabetes, cancers, coronary heart disease, and stroke. The government believed that this information could help households improve their dietary practices. Additionally, increased household demand for healthier products would in turn motivate companies to produce food and nutrition products with higher nutritional values.¹⁸ These labels ensured accurate information in a consistent Nutrition Facts table format.

Rising interest in health and concerns about obesity and other food-related chronic conditions, in addition to highly publicized food contamination, have increased public interest in food labelling in both North America and Europe.¹⁹ As previously mentioned, 57 per cent of Canadians are habitual label readers who look for ingredient information (80 per cent), the best-before date (74 per cent), and/or the Nutrition Facts table (71 per cent). Canadians most commonly use food labels to identify the amount of nutrients in products (82 per cent) and their calorie levels (74 per cent).²⁰ Currently, the features most often sought are low trans fat content (80 per cent) and whether a product is made with whole grains (78 per cent), has a low sugar content (72 per cent), and is low in salt or sodium (71 per cent).²¹

Increased household demand for healthier products would in turn motivate companies to produce food and nutrition products with higher nutritional values.

Pre-packaged foods' nutrition labels are a primary source of consumers' nutritional information.²² They help consumers make purchasing decisions by differentiating between individual foods and brands.²³ Research indicates that the nutrition labels are a cost-effective intervention with unparalleled reach. However, to capitalize on their potential, governments will need to explore new formats and different types of information content to ensure that nutrition information is accessible and understandable."²⁴

Eat Well Campaign

The second phase of the Healthy Eating Awareness and Education Initiative is the Eat Well Campaign, which focuses on healthy eating and sodium reduction.

15 Canadian Food Inspection Agency, *Guide to Food Labelling and Advertising—Purpose of Food Labelling*.

16 Health Canada, *Food and Nutrition*.

17 Joint Steering Committee Responsible for the Development of a National Nutrition Plan for Canada, *Nutrition for Health*.

18 Wordsworth, *A Review of Recognized Labelling Practices*, 7.

19 Ibid., 5.

20 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, vii.

21 Ibid., v.

22 Campos, Doxey, and Hammond, "Nutrition Labels," 1.

23 Canadian Food Inspection Agency, *Guide to Food Labelling and Advertising*.

24 Ibid., 1.

It aims to raise Canadians' awareness about the benefits of healthy eating and sodium reduction by promoting easy-to-understand messages through a variety of channels and partners.²⁵ The various outreach channels include media, industry, and retail partners; intermediaries, Canadian provinces and territories, and non-governmental organizations; public relations; and web and digital engagement.

PUBLIC HEALTH AGENCY OF CANADA INITIATIVES

Through its research, programs, and services, PHAC aims to help Canadians become healthier, reduce health disparities, and deliver on and support public health initiatives.²⁶ PHAC works with Health Canada to conduct research and gather data on food and nutrition. It actively promotes healthy eating, physical activity, and healthy weight by delivering programs and providing funding to other initiatives aimed at improving nutrition and reducing obesity rates. PHAC provides funding for about 1,200 community-based projects across Canada to improve the health and well-being of at-risk families and children.²⁷ These include the Community Action Program for Children (CAPC),²⁸ the Canada Prenatal Nutrition Program (CPNP),^{29, 30} and Aboriginal Head Start in Urban and Northern Communities (AHSUNC)³¹ projects. Specifically, CAPC, CPNP, and AHSUNC promote nutrition education and support for at-risk pregnant

women, children, and families. Activities include nutritional counselling; collective kitchens; provision of food, vitamins, and supplements; and breastfeeding promotion and support. PHAC also promotes the health of Canadians, works to prevent and control chronic diseases and injuries, facilitates national approaches to public health policy and planning, strengthens inter-governmental collaboration on health, applies international research and development to Canada's public health programs, and shares Canada's expertise with the rest of the world.³²

PHAC provides funding for about 1,200 community-based projects across Canada to improve the health and well-being of at-risk families and children.

PHAC's research plays a role in improving food literacy and influencing related policy decisions. For example, through the Health Behaviour in School-Aged Children study, an international school-based survey carried out in collaboration with the World Health Organization, PHAC collects data about the food consumption of Canadian children aged 11 to 15 that could be used by numerous organizations to inform food literacy initiatives.³³

Furthermore, PHAC plays a leadership role in the Integrated Pan-Canadian Healthy Living Strategy. The Strategy was created by the federal/provincial/territorial (FPT) ministers of health (except Quebec) in 2005 to provide a framework for promoting good health and preventing chronic disease in Canada by aligning sectors and coordinating efforts to address common risk factors like unhealthy eating and a lack of physical activity. Key initiatives include the Declaration on Prevention and Promotion and Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights.³⁴

25 Government of Canada, *Eat Well Central*.

26 Public Health Agency of Canada, *Mandate*.

27 Ibid.

28 CAPC provides funding to "community-based groups and coalitions to develop and deliver comprehensive, culturally appropriate prevention and early intervention programs that promote the health and social development of children (0–6 years)." Public Health Agency of Canada, *Summative Evaluation of the Community Action Program for Children: 2004–2009*.

29 CPNP provides funding to community groups and coalitions to develop or enhance services that address the needs of at-risk pregnant women and their babies. Public Health Agency of Canada, *Summative Evaluation of the Canada Prenatal Nutrition Program 2004–2009*.

30 Public Health Agency of Canada, *Canada Prenatal Nutrition Program (CPNP)*.

31 AHSUNC is an "early intervention funding program for Aboriginal children and their families living in urban and northern communities." Public Health Agency of Canada, *Aboriginal Head Start in Urban and Northern Communities (AHSUNC)*.

32 Public Health Agency of Canada, *About the Agency*.

33 Public Health Agency of Canada, *Health Behaviour*.

34 Public Health Agency of Canada, *Overview of the Pan-Canadian*.

PROVINCIAL INITIATIVES

Each province and territory in Canada has its own health strategy, which includes food literacy components. More sophisticated province-wide strategies, such as ActNow BC and EatRight Ontario, involve cross-government department and/or partnership models of health promotion initiatives that reinforce healthy eating messages through a variety of conduits.

ActNow BC

Despite B.C.'s reputation as the healthiest province in Canada,³⁵ approximately 1.2 million British Columbians have one or more chronic health conditions, many of which are preventable. In 2003, only 40 per cent of the province's adults reported eating five or more fruit and vegetable servings per day and 42 per cent of British Columbians were overweight and obese. Annually, overweight and obesity also cost the province \$730 million to \$830 million.³⁶

To reduce risk factors and the rates of chronic disease in British Columbia, the provincial government partnered with the BC Healthy Living Alliance and 2010 Legacies Now to create ActNow BC, a cross-government health promotion initiative whose goal is to reduce inactivity, poor nutrition, overweight and obesity, tobacco use, and unhealthy choices in pregnancy. The program's healthy eating goals include increasing the percentage of B.C. adults eating five or more servings of fruit and vegetables per day by 20 per cent and reducing the number of overweight or obese B.C. adults by 20 per cent.³⁷ The B.C. Ministry of Health estimates that improved eating habits could reduce death from cancer and diabetes by 30 per cent and from cardiovascular disease and stroke by 20 per cent.

ActNow BC provides support for local governments, schools, employers, and communities to develop and promote programs that “make healthy choices the

easy choices for all British Columbians” and encourage small shifts in behaviour. Some ActNow BC programs include:

- ◆ **Action Schools! BC:** a physical activity and nutritional model that integrates healthy eating and physical activity in schools (shown to increase student vegetable consumption by one-third of a serving per day);³⁸
- ◆ **BC School Fruit and Vegetable Snack Program:** a pilot program that provides one serving of B.C.-grown fruit or vegetables to students from 10 elementary schools twice a week;
- ◆ **Community Food Action Initiatives:** initiatives that support the development and implementation of community food security plans and activities that improve access to nutritionally adequate, safe, and culturally acceptable food systems;
- ◆ **Healthy Communities Initiatives and Healthy Planning Seminars:** initiatives that support the development of healthy public policy in communities (led by the Union of British Columbia Municipalities);
- ◆ **Ministry of Education—Healthy Schools:** a program promoting the concept that schools can directly influence children's health and that healthy children are able to learn better;
- ◆ **Making It Happen:** a site that helps schools start providing healthy options that work for students, schools, and parents.³⁹

EatRight Ontario

EatRight Ontario is a resource for adults that helps consumers improve their health and quality of life through healthy eating. It is a government-funded service providing easy-to-use nutritional information. Registered dietitians provide visitors to the EatRight website with feature articles on food and nutrition, meal planning advice, healthy eating tips, and recipes.⁴⁰ Topics covered include family nutrition, healthy eating, healthy weights, seniors' nutrition, and disease prevention. Through EatRight Ontario, households have access by

35 British Columbia Ministry of Health, *\$30 Million*.

36 Ibid.

37 British Columbia Ministry of Health, *About ActNow BC*.

38 Day and others, *Action Schools! BC*.

39 British Columbia Ministry of Health, *About ActNow BC*.

40 EatRight Ontario, *About Us*.

telephone or e-mail to registered dietitians who can answer their nutrition-related questions. Funded by the Government of Ontario, EatRight Ontario's call centre, e-mail service, and website are managed by Dietitians of Canada.⁴¹

HEALTH, EDUCATION, AND COMMUNITY INITIATIVES

The health and education sectors and local communities also play vital roles in ensuring the development and continuity of effective food literacy initiatives. There are several examples of innovative programs within Canada that contribute to food literacy.

British Columbia Pediatric Society's SipSmart! Program

Sip Smart! BC is an educational program that helps "teach children in grades 4 to 6 about sugary drinks and about making healthy drink choices."⁴² Created by the B.C. Pediatric Society and the Heart and Stroke Foundation, *Sip Smart! BC* receives funding from the BC Healthy Living Alliance. The program is aligned with prescribed learning outcomes for Health and Career Education for grades 4, 5, and 6 and touches on other curriculum areas such as Science.⁴³ It is promoted by the Public Health Agency of Canada through the Canadian Best Practices Portal, a collection of well-evaluated community interventions that focus on chronic disease prevention and health promotion.⁴⁴ *Sip Smart! BC*'s success has led to its replication in other regions, including the Northwest Territories.⁴⁵

Newfoundland and Labrador Central Health's Food and Fun Camp Program

In Newfoundland and Labrador, Central Health's Food and Fun Camp Program (FFCP) was created to address issues of weight, obesity, and inactivity in children and to support them in developing basic, lifelong healthy eating and food preparation knowledge and skills in a fun environment that also promotes physical activity.⁴⁶

The program receives financial and in-kind support from regional primary health care committees and wellness coalitions.⁴⁷ Children who attend the camp participate in a variety of learning activities, including personal instruction, demonstration, hands-on learning, video, activity work sheets, games, grocery store tours, and outdoor hikes. The electronic guide to the FFCP has been adapted for different age groups and settings, including provincial community youth networks, boys and girls clubs, and local school systems as a part of the Grade 3 Exploratories curriculum.⁴⁸

The Food Action Society of the North Okanagan

The Food Action Society of the North Okanagan (B.C.) promotes food literacy through its support of community gardens and education efforts. In 2007, community consultations led to the creation of the society, a non-profit charitable organization dedicated to improving food security by cultivating a healthy, sustainable regional food system through education and community action.⁴⁹ Some of the Society's key activities include producing a local food directory and map, supporting the Community Garden Network, and acting as the host organization for the Good Food Box program, a local bulk-produce buying initiative that helps families access large quantities of affordable fresh fruit and vegetables for their meals.⁵⁰ The Society promotes food literacy by supporting local community initiatives such as educational displays, food sustainability documentary nights, and Roots 'n Brews dinners.

NUTRITION EDUCATION IN SCHOOLS

Nutrition education is often defined as "any set of learning experiences designed to facilitate voluntary adoption of eating and other nutrition-related behaviour conducive to health and well-being."⁵¹ Research has shown that nutrition education can effectively improve the knowledge and skills, eating and physical activity behaviours, and health status of school-aged children.⁵²

41 EatRight Ontario, *FAQs on EatRight Ontario*.

42 British Columbia Pediatric Society, *Sip Smart! BC*.

43 Ibid.

44 British Columbia Pediatric Society, *Sip Smart! BC: Success*.

45 NWT Education, Culture and Employment, *2012-13 Annual Business Plan*, 20.

46 Health Canada, *Improving Cooking*.

47 Chenhall, *Improving Cooking: A Profile of Promising Practices*, 55.

48 Chenhall, *Improving Cooking*.

49 Food Action Society, *About*.

50 The Good Food Box, *About Us*.

51 Contento and others, "The Effectiveness of Nutrition Education."

52 Belansky and others, "Adapting and Implementing."

An important aspect of school nutrition policies is ensuring that children can easily access healthy food options in school and daycare settings. Health professionals advocate for health-promoting schools and believe that modelling healthy eating habits and teaching children how to plan, shop, and prepare healthy foods can lead to lifelong healthy eating behaviours.

As discussed in the CFIC report on household food security, school meal programs are an excellent means of providing students with nutritious food as well as education on nutritious and healthy diets. For example, the Kids Eat Smart Foundation of Newfoundland and Labrador has supported Kids Eat Smart clubs for the past 20 years.⁵³ In addition to providing nutritious meals and snacks for school children, the clubs also focus on increasing participating children's food literacy through activities such as nutrition quizzes, recipes, presentations, and visits from local farmers.⁵⁴ In the 2011–12 school year, more than 19,000 students (from kindergarten through Grade 12) participated.⁵⁵ The Alberta Project Promoting active Living and healthy Eating (APPLE Schools) is another example of a school-based nutrition and education program. (See box “Alberta Project Promoting active Living and healthy Eating (APPLE Schools)”).

Internationally, school-based food literacy programs are also helping to change children's experience with and perception of food. Programs such as the Food Dudes in the U.K. and the Stephanie Alexander Kitchen Garden Foundation in Australia incorporate appreciation for healthy foods and nutrition into learning activities for school-aged children.

THE FOOD DUDES: USING THE THREE RS TO CHANGE CHILDREN'S EATING HABITS

In 2000, the U.K. Department of Health reported that children aged 4 to 6 were consuming an average of only two portions of fruit and vegetables per day—and less

than 4 per cent of those children ate five portions per day.⁵⁶ To combat poor eating habits and rising rates of obesity, psychologists at Bangor University in Wales developed the award-winning Food Dudes Healthy Eating Programme, a school-based intervention specifically designed for primary school children aged 4 to 11. The Programme consists of two phases and is based on “the three Rs”: (1) positive role models—in the form of the Food Dudes characters; (2) repeated tasting; and (3) rewards.⁵⁷ An integrated combination of biological (repeat tasting) and psychological (role modelling and rewards) factors has led to statistically significant lasting behavioural changes that have been successfully measured over time.⁵⁸

In phase one of the Programme, primary school children experience an intensive intervention over 16 consecutive school days where they receive fruit and vegetables, are read a letter and/or watch a DVD video of the heroic Food Dudes characters who battle the evil “Junk Punks,” and receive daily prizes for successfully eating their fruit and vegetables. The popular Food Dudes characters serve as influential role models the children can imitate. By earning rewards through repeated tasting, children begin to enjoy the taste of the fruit and vegetables. They also receive a Food Dudes Home Pack, which encourages home consumption through self-monitoring and parental involvement. In phase two, children receive additional rewards and Food Dudes certificates as they achieve more advanced goals.⁵⁹ This phase also increases the home element by encouraging children to bring their own fruit and vegetables to school.⁶⁰

The Programme changes children's eating habits by motivating them to eat and enjoy good food. Specifically, it:

- ♦ encourages children to eat fruit and vegetables in the school and home environment;

53 Kids Eat Smart Foundation Newfoundland and Labrador, *About*.

54 Kids Eat Smart Foundation Newfoundland and Labrador, *End of School Year*.

55 *Ibid*.

56 Department of Health, *National Diet and Nutrition Survey*.

57 Food Dudes, *Teachers FAQ*.

58 Food Dudes, *Why Does It Work?*

59 Food Dudes, *What Is Food Dudes?*

60 Food Dudes, *Teachers FAQ*.

Alberta Project Promoting Active Living and Healthy Eating in Schools

In 2008, the University of Alberta's School of Public Health introduced a comprehensive school health program, Alberta Project Promoting active Living and healthy Eating (APPLE Schools), with the funding of a private donation.¹ The purpose of APPLE is "to improve healthy eating and active living among elementary school children; to increase the capacity of the school community to address health-related behaviors; and to foster a healthy school environment."² The broader goal of the program is to "prevent overweight and reduce the risk for chronic disease in the long term."³ In its first two years, APPLE included 10 elementary schools, mainly "located in socioeconomically disadvantaged areas" in Alberta.⁴ It has since grown to include 40 schools in northern Alberta.⁵

To ease the burden on teachers, APPLE Schools have a school health facilitator whose job is to work with students, teachers, and parents to develop an action plan tailored to the unique needs of each school and to ensure that comprehensive school health becomes "embedded in the school" culture.⁶ In a focus group study that looked at teachers' perceptions of APPLE, teachers said that having the school health facilitator as a "champion" of the project is crucial to its success. So too is the support of the school administration and the broader community.⁷

Although programs and activities in APPLE Schools vary, the overarching idea behind all of them is to "make the healthy

choice the easy choice" for students, teachers, and parents.⁸ Examples of APPLE School activities include:

- ◆ encouraging teachers to change their classroom rewards from candy to healthier treats, such as blueberries, vegetables, and hummus;
- ◆ providing free apples in all APPLE Schools;
- ◆ focusing monthly campaigns on nutrition and physical activity;
- ◆ providing newsletters for parents, with recipes, tips, resources, etc.;
- ◆ taste-testing fruit and vegetables (at recess, during parent-teacher night, etc.).⁹

In addition, every APPLE School measures the effects of its programs—on physical activity, nutrition, and body mass index—on an annual basis, and compares these results with provincial data.¹⁰ Schools use this information to assess which aspects of the program are not working and to make modifications, where necessary.¹¹

In its first two years, the program had a positive effect on the eating behaviours and physical activity levels of participating students. Between 2008 and 2010, APPLE School students decreased their caloric intake by 12 per cent and increased their consumption of fruit and vegetables by 10 per cent. They also improved their level of physical activity beyond the provincial average and decreased their level of obesity by 14 per cent.¹² In the future, researchers plan to do a cost-benefit analysis, comparing program costs with the health care costs of overweight, obesity, and diet-related chronic disease.¹³

1 APPLE adopted some key elements from a previous comprehensive school health program in Annapolis Valley, Nova Scotia. See Schwartz, Karunamuni, and Veuglers, "Tailoring and Implementing Comprehensive School Health."
 2 Schwartz, Karunamuni, and Veuglers, "Tailoring and Implementing," 3.
 3 Ibid.
 4 Fung and others, "From 'Best Practice' to 'Next Practice,'" 1.
 5 University of Alberta, School of Public Health, *Alberta Project*, 4.
 6 Interview findings.
 7 Storey and others, "Implementing Comprehensive School Health," 9.

8 Schwartz, Karunamuni, and Veuglers, "Tailoring and Implementing," 3.
 9 Interview findings.
 10 See Schwartz, Karunamuni, and Veuglers, "Tailoring and Implementing."
 11 Interview findings.
 12 University of Alberta, School of Public Health, *Alberta Project*, 2.
 13 Schwartz, Karunamuni, and Veuglers, "Tailoring and Implementing."

- ◆ helps them develop a liking for fruit and vegetables (which increases the likelihood that they will continue to eat these foods for their taste rather than for a reward);
- ◆ encourages them to reduce their consumption of unhealthy snack foods;

- ◆ encourages them to think of themselves as—and take pride in being—healthy eaters;
- ◆ creates a school culture that strongly supports healthy eating.⁶¹

61 Food Dudes, *The Food Dudes Behaviour Change Program for Healthy Eating*.

Initial evaluations of the Food Dudes Programme⁶² demonstrated significant increases in fruit and vegetable consumption⁶³ during snack and lunchtime. Teachers also reported that the children enjoyed the Programme and displayed increased enthusiasm for curriculum work that incorporated the Food Dudes theme. They also noted improvements in attendance and children's confidence levels, particularly among underachievers.⁶⁴ A 2008 evaluation of the Food Dudes Programme measured two key factors:

- ♦ increases in children's fruit and vegetable consumption up to 2.5 years after they had participated in the Programme;
- ♦ the effectiveness of a Food Dudes Booster Phase administered 1.5 years and 2.5 years after they participated in the Food Dudes Programme.⁶⁵

A recognized market leader of cultural change, the Food Dudes Healthy Eating Programme shows how school-based interventions can effectively motivate children to eat and enjoy healthy food.

STEPHANIE ALEXANDER KITCHEN GARDEN FOUNDATION

Through its Kitchen Garden Program, the Stephanie Alexander Kitchen Garden Foundation delivers regular kitchen and garden classes to 8-to-12-year-old children in Australia. Since 2001, the Program has steadily and successfully been rolled out in 267 primary schools across all states and territories of Australia.⁶⁶ The Program enables skills-based learning that extends across the entire school curriculum. Structured time “in a productive veggie garden and home-style kitchen is part of their everyday school experience.”⁶⁷ Participating children learn skills that will last them a lifetime, and discover the fun of growing and cooking their own seasonal vegetables and fruit.

National and state government grants represent part-funding for the Program, with schools expected to contribute the balance from their own resources and community networks. From 2008 to 2012 the Australian government committed \$12.8 million to fund the roll-out of the Kitchen Garden Program and build kitchen and garden infrastructure in up to 190 primary schools across Australia. Infrastructure grants of up to \$66,000 (goods and services tax inclusive) per school were allocated in grant rounds over a four-year period. In 2012 the Australian government announced a \$5.4-million funding commitment to support the Stephanie Alexander Kitchen Garden Program over three years and provide opportunity for 400 new schools to join the Program, bringing the total number of schools running the Program to over 650.⁶⁸ There are already over 270 schools on a wait-list for training.⁶⁹

PUBLIC-PRIVATE PARTNERSHIPS

Many partnerships between government departments, businesses, community agencies, and the health and education sectors in Canada work to increase household food literacy. For instance, a number of major retailers have joined forces with government to develop household literacy on the existing Nutrition Facts tables. Some businesses have gone a step further and incorporated health and nutrition expertise into their customers' shopping experiences. Loblaw, for example, has partnered with Dietitians of Canada to bring more registered dietitians into Loblaw's retail stores as part of its campaign to help customers “live life well.”⁷⁰ Sobey's partnership with EatRight Ontario helps to encourage more households to ask questions of registered dietitians.⁷¹ Other public-private partnerships leverage experiential learning, point-of-purchase nutrition logos and labelling, and menu labelling to increase and enhance the food literacy skills of, and resources available to, households.

62 Lowe and others, “Increasing Children's Consumption”; Lowe and others, “Changing the Nation's Diet.”

63 Tapper, Horne, and Lowe, “The Food Dudes to the Rescue!”

64 Ibid.

65 Lowe, Horne, and Viktor, *Ireland Phase 3 Evaluation*, 1.

66 Stephanie Alexander Kitchen Garden Foundation, *Our Schools Program*.

67 Stephanie Alexander Kitchen Garden Foundation, *About the Program*.

68 Stephanie Alexander Kitchen Garden Foundation, *Program Funders*.

69 Interview findings.

70 Kwon, “Making Supermarkets.”

71 EatRight Ontario, *EatRight Ontario Contest*.

EXPERIENTIAL LEARNING

Many public-private partnership programs promote experiential hands-on learning to improve food literacy. They often serve a dual purpose of addressing household food security and food literacy issues simultaneously. As discussed in the CFIC report, *Enough for All: Household Food Security in Canada*, there are a variety of programs that offer food growing and preparation opportunities and training as well as access to food at a reduced cost. Experiential programs are typically delivered with the assistance of community members and government funding. Notable examples of these programs include school and community gardens and kitchens; community greenhouses; and Good Food boxes.

POINT-OF-PURCHASE NUTRITION LOGOS AND LABELLING

Many food and beverage companies voluntarily leverage front-of-pack (FOP) and front-of-shelf labelling at the households' point of purchase (i.e., in food and beverage retail outlets) to advertise the nutritional benefits of their products. These labels often feature prominent nutritional claims (such as "high in fibre" or "fortified with vitamin D") that are simple and easy to read and can help households differentiate between products.

Although some research has been conducted in the U.S. on voluntary point-of-purchase nutrition labelling initiatives, the majority of the available data analyze international programs. Data on point-of-purchase nutrition labelling messaging reveal mixed results in terms of efficacy, comprehension, and use.⁷² Although reformulation and introduction of new products in countries with uniform schemes have resulted in lower sodium consumption, increased fibre, and reductions in saturated fat found in dairy products, the results for sugar and overall calorie consumption are mixed.⁷³

Voluntary product labels provide crucial information, but they can also be misleading and result in unintended side effects. Federal rules stipulate that food

manufacturers can label their pre-packaged food items as "light," "low fat," or having "reduced calories" if they meet specific criteria.⁷⁴ Yet this does not necessarily mean that the item in question is actually a healthy or low-calorie food choice.⁷⁵ In addition, fats give food products flavour—when these are removed, other ingredients (such as salt, sugar, thickeners, or artificial flavours) may be added to make the item taste good.

To boost credibility and household confidence, voluntary nutrition labelling should marry product nutritional values with individual nutritional needs.

Furthermore, numerous studies have shown that participants often consume larger amounts when they select "light" food items instead of the regular version of a product.⁷⁶ For example, a study on the consumption of "low fat" and regular M&Ms found that low-fat claims lead to increased consumption (28.4 per cent more) and that overweight participants eat more (an additional 16.7 per cent) than normal weight participants when products are labelled "low fat" instead of regular.⁷⁷ Studies such as this show that "light" or "low fat" labels can actually lead to overconsumption if readers do not know how to accurately interpret calorie and portion size information.

To boost credibility and household confidence, voluntary nutrition labelling should marry product nutritional values with individual nutritional needs, as is done with the Nutrition Facts tables. In this approach, a product label includes information on the product's nutritional values alongside the accepted average nutritional needs of an individual. One such example is the use of guideline daily amounts (GDAs). Originated in the U.K., GDAs help individuals keep track of their daily nutritional needs when making food purchasing decisions. (See box "Guideline Daily Amounts.") Another example is the Heart and Stroke Foundation's Health

72 Pomeranz, "Front-of-Package Food and Beverage Labeling."

73 Pomeranz, "Front-of-Package Food and Beverage Labeling"; Raaij, Hendriksen, and Verhagen, "Potential for Improvement of Population Diet"; Vyth and others, "Front-of-Pack Nutrition Label."

74 Weeks, "Why 'Light' and 'Low-Fat.'"

75 Ibid.

76 Ibid.

77 Wansink and Chandon, "Can 'Low-Fat' Nutrition Labels?"

Guideline Daily Amounts

Guideline daily amounts (GDAs) are a guide used in the U.K., Europe, and the U.S. to help people understand how many calories and nutrients they can consume daily to maintain a healthy, balanced diet. GDAs have been identified for calories and seven key nutrients: protein, carbohydrate, sugars, fat, saturates (saturated fat), fibre, and salt. GDA information is voluntarily included on food packaging by manufacturers and retailers to help households make sense of nutrition information provided on food labels. A shorthand version of the GDA information is typically included on the front-of-pack label, with more detailed information included on the back-of-pack label. (See table for an example.) The level of detail combined with a simple presentation format quickly allows households to make informed selection decisions based on food's nutritional and other characteristics.

Example: Typical Back-of-Pack Nutrition and GDA Information on Label for Whole Wheat Crackers

Typical values	Per 100g	Per slice (approx. 5.7g)	% based on GDA for an adult
Calories	360 kcal	20 kcal	1%
Protein	12.4 g	0.7 g	2%
Carbohydrates	68.7 g	3.9 g	2%
Sugars	5.0 g	0.3 g	<1%
Fat	3.9 g	0.2 g	<1%
Saturates	0.5 g	Trace	<1%
Fibre	9.8 g	0.6 g	3%
Salt	0.8 g	0.05 g	1%

Source: Food and Drink Federation.

Check program, which evaluates food items and grants companies or restaurants the use of the program logo on product packaging or menus. Registered dietitians evaluate food and menu items against nutrient criteria that are established by Health Check and based on the recommendations in *Canada's Food Guide*.⁷⁸ Nutrients evaluated include total fat, saturated fat, trans fat, fibre, sodium, sugar, protein, vitamins, and minerals. The Health Check program also works with the food industry to create healthier food products and to offer more healthy food options.⁷⁹ The federal government

78 Health Check Program, *Helping You*.

79 Health Check Program, *Changing the Food Supply*.

can further the adoption of this approach by establishing national guidelines for voluntary point-of-purchase nutrition logo and labelling programs.

MENU LABELLING

Nutritional information on restaurant menus is another important means of increasing households' ability to make informed decisions about the foods they eat. Households, on average, "underestimate the number of calories in their food by about 100 per cent."⁸⁰ In fact, the Canadian Obesity Network recently found that when asked to correctly guess the number of calories in a typical lunch salad (approximately 1,200), only 1 in 10 Canadians could do so. Two-thirds of respondents believed the salad had fewer than 1,000 calories, and almost half of the participants believed this same salad was a good low-calorie choice.⁸¹ The Obesity Network's research also shows that "almost nine out of 10 Canadians believe that all restaurants should have more nutritional information, including calories, readily available and clearly visible at the point of purchase."⁸²

Canadians currently purchase about 1 in 10 snacks or meals at restaurants.⁸³ Although the federal government does not currently require menu labels, many restaurants voluntarily provide information on the nutritional content of menu items to help households make healthier food choices. (See box "Healthy Families BC: Informed Dining Program" for an example of a public-private partnership for menu labelling.)

To find evidence of the efficacy of menu labelling programs, researchers have turned to several U.S. cities and states that have implemented menu labelling laws. The New York City Department of Health and Mental Hygiene measured changes in consumer buying habits following implementation of its calorie menu labelling laws in 2008. It found that, on average, consumers who

80 Canadian Obesity Network. Cited in Caulfield and Sharma, "It's All About the Calories."

81 Ibid.

82 Ibid.

83 British Columbia Ministry of Health, *B.C. Restaurants Help Families*.

Healthy Families BC: Informed Dining Program

A notable model of voluntary industry and government collaboration to improve menu labelling in Canada is the Healthy Families BC—Informed Dining program. It provides nutrition information that highlights sodium and calorie content on restaurant brochures, menu inserts, or posters. Upon request, participating restaurants will provide nutrition information on all standard menu items. The program was developed with the Canadian Restaurant and Foodservices Association, the British Columbia Restaurant & Foodservices Association, the Heart and Stroke Foundation of B.C. and Yukon, other public health partners, and independent restaurant leaders.

Although participation is voluntary for private retail food service providers, it is mandatory in food service establishments inside health care facilities.¹ To date, about 300 of B.C.'s 12,000 restaurants have signed up (including chains such as A&W, Little Caesars, the Boathouse, and De Dutch) and B.C.'s Ministry of Health is actively recruiting more restaurant chains.² Although some critics claim that the Informed Dining program “lacks the regulatory teeth,” it does ensure that participating restaurants can supply information on request.

1 British Columbia Ministry of Health, *B.C. Restaurants Help Families*.

2 Pynn, “Restaurant Nutrition Information Labelling.”

used the new caloric information purchased 106 fewer calories.⁸⁴ Another study also demonstrated that individuals purchased 14.7 per cent fewer food calories after the introduction of the menu labelling laws.⁸⁵

Menu labelling is most effective in reducing intentions to purchase food that is high in calories and fat when a discrepancy exists between perceived and actual caloric and fat content.⁸⁶ A recent U.S. study showed that restaurant diners ate food with fewer calories when they ordered from menus with printed calorie counts, and

84 British Columbia Ministry of Health, *B.C. Restaurants Help Families*.

85 Ibid.

86 Larson and Story, Menu Labeling; Burton and others, “Attacking the Obesity Epidemic”; Yamamoto and others, “Adolescent Fast Food”; Gerend, “Does Calorie Information?”; Burton and Creyer, “What Consumers Don’t Know”; Kozup, Creyer, and Burton, “Making Healthful Food Choices.”

even fewer calories if the menu included visual cues as well (in this case, “traffic-light” symbols).⁸⁷ Point-of-purchase menu labelling has also brought about modest improvements in selections of healthier menu items.⁸⁸ In response, many major restaurant chains (such as IHOP, Panera Bread, and Real Mex Restaurants in the U.S.) have started offering additional lower-calorie meal options.⁸⁹

The potential health repercussions of menu-labelling-inspired behavioural changes are huge. In 2008, a Los Angeles health impact assessment argued that based on an average reduction of 100 calories, the country’s annual weight gain could be reduced by 39 per cent if menu labelling caused 10 per cent of major chain restaurant customers to order moderately lower-calorie options.⁹⁰ In Canada, researchers are also looking for data that evaluate menu-labelling-inspired changes in food purchases and consumption, and subsequent health gains. More research is needed on which type of nutrient information would be the most useful to consumers.⁹¹ However, evidence to date shows that modest improvements in ordering behaviour can have substantial long-term health benefits.

CONCLUSION

Innovative government and organizational initiatives have made real strides in improving the food literacy skills of Canadians. Partnerships between government, business, and the health and education sectors are also contributing to the development of food literacy initiatives. Nutritional information, guides, and tools are helping Canadians of all ages to develop their food literacy. Nutrition education for children is especially important as a positive influence on their food-related knowledge and skills, eating and physical activity behaviours, and health status.

87 Seaman, “Study Finds Menu Labels.”

88 Larson and Story, Menu Labeling.

89 Bernstein, “Restaurants Revamping Menus.”

90 Simon and others, *Menu Labeling as a Potential Strategy*.

91 Dietitians of Canada, “Does Menu Labelling?” 3.

At the same time, more research is needed to provide evidence on the effectiveness of food literacy interventions and campaigns. Many programs do not explicitly measure the effects, outcomes, or impacts of their efforts on improving food literacy in the communities they serve. Such measures may represent an ideal, but one for which data capture may not be reasonable or realistic. Without such information, however, the effectiveness of programs in addressing food literacy issues is difficult to determine.

The success stories profiled in this chapter demonstrate various approaches to educating individuals—including adults, children, and communities—about making healthy food decisions. They point the way to developing recommendations for strategies to address food literacy gaps and further improve food literacy in Canada. The next chapter builds on these models and presents recommendations for federal, provincial/territorial, and regional governments; businesses; educators; and not-for-profit and other community organizations to consider as they continue their efforts to improving the food literacy and health of Canadians.

Chapter 5

Future Considerations

Chapter Summary

- ◆ Canada still has considerable room to improve food literacy.
- ◆ Action needs to be taken at the federal, provincial/territorial, and community levels to promote healthier diets and eating patterns.
- ◆ Information and education are crucial, but must be presented using strategies that inspire lasting behavioural changes.
- ◆ Seven recommendations for improving food literacy are provided, with roles for governments, industry, households, and the health and education sectors.

Improving food literacy in Canada will support better choices in diet and nutrition, attitudes, and food skills, leading to improved health and safety. In addition, improved food literacy will positively impact environmental sustainability. Understanding the current state of food literacy in Canada, where literacy gaps exist, and what successful food literacy programs look like is essential information that points the way for future efforts.

While good work has already been done, Canada still has considerable room to improve food literacy. Although many successful programs are under way, action needs to be taken at the federal, provincial/territorial, and

community levels to promote healthier diets and eating patterns. Information and education are crucial, but must be presented using strategies that inspire lasting behavioural changes. Many stakeholders—including governments, businesses, and households, as well as the health and education sectors—have roles to play, as programs that use a multi-stakeholder approach can achieve greater reach and so generate bigger impacts.

This chapter considers the required elements of a strategy to raise food literacy levels. Seven recommendations for improving food literacy, with roles for governments, industry, households, and the health and education sectors, are detailed.

RECOMMENDATIONS FOR IMPROVING FOOD LITERACY

1. MAKE NUTRITIONAL INFORMATION MORE EFFECTIVE, UNDERSTANDABLE, AND ACCESSIBLE FOR HOUSEHOLD USE.

Canadians make better food choices when they are well informed. Therefore, food and nutrition information needs to be easily understood and accessible to the population. Efforts to help individuals to better understand food and nutrition information, such as the information provided in Nutrition Facts tables, should be twofold: making the information easier to understand on food packaging and through information access or campaigns; and increasing literacy and

numeracy in general. The first can be accomplished by government and industry collaboration, where clear standards are agreed and acted upon. The second is a broader undertaking that can only be accomplished through long-term investments in literacy skills by governments, the education sector, employers, and individual learners. Improved literacy (and numeracy) skills will better enable individuals to read and interpret food labels, prepare food safely, and make informed food-related decisions.

Nutritious food should not just be “good for you”; if children are to choose nutritious food, it has to taste good and be an enjoyable experience.

Providing better access to nutritional information can be accomplished through information campaigns delivered in partnership with a variety of stakeholders. When rating credible sources of food and nutrition information, Canadians identified dietitians (82 per cent gave them the two highest ratings); health professionals—including physicians, health associations, and other health professionals (81 per cent); and the government (56 per cent).¹ The Canadian Council of Food and Nutrition also found that Canadians obtained the majority of their food and nutrition information from easily accessible sources such as product labels (68 per cent); the Internet (51 per cent); and magazines, newspapers, or books (46 per cent).² Providing funding and focusing information dissemination efforts through these particular mediums would therefore achieve broad reach and a high level of trust. The federal government can also encourage industry to provide easy-to-understand nutritional information by establishing national guidelines for voluntary point-of-purchase nutrition logo and labelling programs.

1 Canadian Council of Food and Nutrition, *Tracking Nutrition Trends VII*, vi.

2 Ibid.

2. TAILOR FOOD LITERACY PROGRAMS TO HIGH-RISK POPULATIONS AND COMMUNITY NEEDS.

Specific demographic, socio-economic, and cultural groups (such as children, seniors, Aboriginals, immigrants, and those with lower incomes) may experience lower food literacy levels. Food literacy initiatives that are designed to meet the needs of these particular groups will therefore be more effective with them than broadly applied information campaigns. When designing programs, leaders should consider the social context of food choices and cooking practices³ and identify the “community-relevant assumptions upon which the program or activity is based.”⁴ One-size-fits-all approaches are rarely able to meet the needs of varying groups in different provinces and territories. Flexible programming can therefore improve community involvement and resources.

3. INCORPORATE FOOD LITERACY INTO SCHOOL CURRICULA.

Provincial and territorial governments should ensure that food literacy is incorporated into the curricula of schools in Canada, at least up to a Grade 6 level. Nutritious food should not just be “good for you”; if children are to choose nutritious food, it has to taste good and be an enjoyable experience. Research has shown that changing students’ behaviour “requires a more comprehensive approach that involves parents, community and stakeholders, and includes supportive policies, programs and environments.”⁵ One promising approach to health promotion in schools is called Comprehensive School Health (CSH).⁶ The four pillars of CSH are teaching and learning, social and physical environments, healthy school policy, and partnerships and services.⁷

3 Chenhall, *Improving Cooking*, 4.

4 Ibid., 3.

5 Veugelers and Schwartz, “Comprehensive School Health in Canada,” S5.

6 Veugelers and Schwartz use the Joint Consortium for School Health (JCSF) definition, which states: “Comprehensive school health is an internationally recognized framework for supporting improvements in students’ educational outcomes while addressing school health in a planned, integrated and holistic way.”

7 Joint Consortium for School Health, *JCSH Healthy School Tool Guide*.

In many countries, school-based nutrition interventions have led to significant improvements in the health and nutritional behaviours of children.⁸ Before planning future interventions, Canadian leaders need to review the existing body of lessons learned and best-practice evidence in order to maximize new program effectiveness. Best-practice studies focusing on school interventions highlight the success of programs grounded in behavioural theory—such as social cognitive, social marketing, stages of change, peer modelling, external modelling, and rewards. Social support and regular positive reinforcement promotes a supportive learning environment.⁹ Best-practice clinical and behavioural outcomes are also linked with a number of key components, including physical activity, parental involvement, and food service.¹⁰ A school-based nutrition curriculum administered by trained teachers has proven to be particularly successful at improving lasting behavioural outcomes.¹¹

4. FOSTER PARENTAL INVOLVEMENT IN HANDS-ON EXPERIENTIAL OPPORTUNITIES TO DEVELOP FOOD LITERACY.

Involving parents in program implementation and evaluation (either actively or as intermediaries, depending on the age of their children) can provide powerful reinforcement and support for food literacy initiatives.¹² As parents are the primary household food purchasers, they shape the food environment and culture in the home. Programs that encourage them to purchase and prepare healthier meals complement the food culture transformations that school-based initiatives are promoting. Capitalizing on their interest in learning and showing them how “healthy, cost-effective foods and meals can be planned, prepared and served in limited time”¹³ can help parents become powerful advocates for healthy food choices.

Many parents already support policies that promote healthy eating and active living in schools.¹⁴ For example, a substantial majority of parents of Grade 5 students in Alberta supported a ban on serving unhealthy foods in schools and believed students should be discouraged from bringing unhealthy foods to schools.¹⁵ Many parents report that school-based healthy eating initiatives are having a measurable impact on the home environment, with children actively becoming involved with grocery shopping, cooking, and gardening. Successful food literacy programs inspire children to become lobbyists and advocates¹⁶ for a healthier food environment at home, which in turn encourages parents to help make this change.

A school-based nutrition curriculum administered by trained teachers has proven to be particularly successful at improving lasting behavioural outcomes.

Governments and industry, as well as education, health, and community groups, can contribute to providing more experiential food literacy development opportunities. Experiential learning opportunities inspire both children and adults to enjoy growing, preparing, and eating healthy food. As previously stated, dietary quality improves when adolescents and adults are directly involved in food preparation activities.¹⁷ In the home environment, experiential hands-on learning experiences “promote and build self-confidence and self-efficacy through skill development *and* encourage children and youth to become involved in food preparation activities”¹⁸ The same is true of experiential school-based food programs, where kinesthetic learning opportunities have proven particularly successful in increasing the overall success of students who struggle with the traditional classroom learning experience.¹⁹

8 Steyn and others, “A Review of School Nutrition Interventions,” 145.

9 Chenhall, *Improving Cooking*, 4.

10 Steyn and others, “A Review of School Nutrition Interventions,” 145.

11 Ibid.

12 Chenhall, *Improving Cooking*, 4.

13 Ibid.

14 Spitters, Schwartz, and Veugelers, “Parent and Student Support.”

15 Ibid.

16 Interview findings.

17 Chenhall, *Improving Cooking*, 2.

18 Ibid., 3.

19 Interview findings.

5. CREATE GUIDING PRINCIPLES FOR CHILDREN'S ADVERTISING.

Governments, industries, and the health sector should collaborate to ensure that advertising aimed at children and youth is easy to understand and interpret with regard to nutrition claims. They can work together to establish guiding principles regarding advertising for younger audiences, especially concerning labelling and nutritional information. The vulnerability of children to advertising stems from an as yet underdeveloped ability to make value judgements. It is therefore society's shared responsibility to ensure that any food- and nutrition-related information or advertisements created for children are part of an overarching strategy to develop lifelong food literacy skills and knowledge.

6. REPLICATE HIGHLY SUCCESSFUL INTERNATIONAL FOOD LITERACY PROGRAMS.

Food literacy improvement initiatives from around the world experience funding challenges. The sustainability of otherwise successful programs can be threatened due to a lack of funding commitments. In fact, funding is consistently identified as one of the largest barriers and challenges to improving food literacy in Canada.²⁰ Ongoing government commitments to funding proven, successful food literacy improvement initiatives in Canada would help to support healthy diet choices.

Other nations recognize the importance of providing ongoing financial support for food-related programs that improve the health and well-being of their citizens. For example, from 2008 to 2012, the Australian government committed \$12.8 million to bring the hugely successful Stephanie Alexander Kitchen Garden Program—along with its kitchen and garden infrastructure—to an additional 190 primary schools across the country. At the state level, the Victorian government has provided an additional \$3.94 million since 2007, and the Queensland government committed almost \$2 million in 2011.²¹ Similarly, the Irish government has committed to rolling out the award-winning Food Dudes program to all of the country's primary

schools.²² These examples show that other countries have made improving food literacy and health outcomes a national priority.

Connecting with industry partners can also help programs achieve financial stability, community connections, and broader reach. For example, the industry association Food & Consumer Products of Canada partnered with Health Canada to support and promote the Nutrition Facts Education Campaign. This collaboration has proven successful at helping Canadians understand and utilize the Nutrition Facts table.²³ Business support for local food literacy programs can ensure that programs receive financial support, healthy food, equipment, and expertise.

7. TRACK, STUDY, AND EVALUATE FOOD LITERACY INITIATIVES.

As has been noted, large information gaps exist concerning the effectiveness of food literacy campaigns in Canada. Identifying specific goals and measurement metrics in the early stages of program development will improve the focus of food literacy campaigns and provide important information concerning the most effective aspects of the program. Assessments should include both qualitative and quantitative data. Self-assessment components of eating patterns and behavioural changes have proven particularly effective in promoting greater participant awareness.²⁴ Furthermore, in times of fiscal restraint, producing evidence that these campaigns are having measurable impacts on the health and well-being of Canadians is a crucial component of receiving increased funding. Tracking and evaluating program results will therefore ensure that policy-makers and industry partners have the evidence they need to justify continued investments in food literacy programs that improve the lives of Canadians.

Longitudinal studies of food literacy outcomes in Canada would help policy-makers determine how successful our domestic programs are, as well as

20 Interview findings.

21 Stephanie Alexander Kitchen Garden Foundation, *Program Funders*.

22 Interview findings.

23 Ibid.

24 Chenhall, *Improving Cooking*, 4.

where future investments and improvements would be most effective. To fill data gaps, literature reviews of successful food literacy initiatives often turn to international data, as many other countries are tracking this information more actively.

In Canada, more research is needed on the effectiveness of food literacy campaigns. The Health Canada review on cooking skills revealed a lack of evidence regarding what characterizes effective interventions, as well as a “lack of clear evidence describing the characteristics of successful intervention strategies for specific age and population subgroups.”²⁵ Many food literacy programs cite a great deal of anecdotal evidence, but do not track quantifiable data over time.

25 Chenhall, *Improving Cooking*, 3.

CONCLUSION

Governments, businesses, communities, and the health and education sectors all have roles in and responsibilities for improving food-related skills, knowledge, and attitudes in Canada. Parents, too, have responsibility for ensuring their children learn how to choose a healthy diet. Information and education will continue to be needed to support better choices in diet and nutrition, attitudes, and food skills. Evidence of change in behaviour and positive health outcomes will be the “proof of the pudding” of food literacy development efforts in Canada.

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Appendix A

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Centre for Food in Canada

The Conference Board of Canada has launched a major, multi-year initiative—the Centre for Food in Canada (CFIC)—to address one of the mega-issues facing our country today. Food impacts Canadians in an extraordinary range of ways: it affects our lives, our health, our jobs, and our economy.

Key Objectives

CFIC's key objectives are to:

- raise public awareness of the nature and importance of the food sector to Canada's economy and society; and
- create a shared vision for the future of food in Canada articulated in a framework for the Canadian Food Strategy.

Achieving these purposes requires a combination of research and effective communication to stimulate public understanding of the significance of the food sector and spur the demand for collaborative action.

Who Should Invest

CFIC will appeal to investors from both the private and public sectors. Private sector firms have an interest in understanding the long-term food trends in Canada.

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Public sector organizations clearly have an interest in the operation of Canada's food sector. They are responsible for the policy and regulatory environment within which the private sector corporations operate. In addition, public sector organizations understand the interconnections between food and Canada's health care system, the nutrition of its citizens, and the health and viability of its communities. They are also familiar with the complexities and interrelationships among federal departments and, as well, among these federal departments and their provincial counterparts.

Membership from these organizations, each of which has a vested interest in the food system in Canada, will help to ensure that a balanced and holistic research approach is taken—one that reflects the priorities and concerns of Centre members.

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