

Front-of-pack Nutrition Labelling Systems: A Missed Opportunity?

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ABSTRACT

Both the US Institute of Medicine and the Canadian Standing Committee on Health have called for simple, standardized front-of-package (FOP) nutrition labelling systems on packaged foods. However, despite scientific evidence and expert consensus on the topic, Canada's Minister of Health has dismissed these recommendations, stating that Canadian consumers already have "the tools they need to make healthy food choices when they shop for groceries". This is relevant since existing evidence suggests that the current regulated nutrition labelling tools may not meet their intended objectives. Furthermore, Canada's current FOP labelling environment – characterized by a variety of FOP labels with varying criteria – does not support the objectives of good nutrition labelling defined by Health Canada. Evidence suggests that well-designed FOP systems are capable of positively influencing consumer purchases as well as product reformulations by manufacturers. The US Institute of Medicine suggests a standardized, simple, interpretive, and ordinal FOP symbol as the ideal FOP labelling system. Although additional research is required, such a system should be considered in Canada, as it may be capable of addressing the shortcomings of existing nutrition labelling tools found in the Canadian marketplace.

Key words: Nutrition policy; food labeling; public health

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In 2011, the US Institute of Medicine (IOM) called for a standardized, universal Front-of-Package (FOP) nutrition labelling system, "...that encourages healthier food choices through simplicity, visual clarity, and the ability to convey meaning without written information".¹ In 2007, the Canadian Standing Committee on Health called on "The federal government [to]: Implement a mandatory, standardized, simple, front of package labelling requirement on pre-packaged foods for easy identification of nutritional value".² However, despite expert consensus on the topic, Canada's Minister of Health dismissed these recommendations, stating that Canadian consumers already have "the tools they need to make healthy food choices when they shop for groceries".³

Addressing the burden of diet-related chronic diseases, such as obesity, cardiovascular disease and cancer, has received much attention, leading Canadian public health policy-makers to recommend priority interventions to improve the quality of dietary intakes.⁴ FOP systems have been proposed as one such intervention and consist of symbols placed on a food package to provide summary information about the nutritional characteristics of foods.¹ While Canada has some regulated nutrition labelling tools, FOP systems are unregulated and a variety of systems are currently in use.

Below, we briefly review the effectiveness of current Canadian nutrition labelling tools (Table 1), using the nutrition labelling objectives articulated by Health Canada in the Food and Drug Regulations (Table 2), and offer a rationale for why a standardized FOP system should be explored as an additional, regulated food labelling tool.

Regulated food labelling tools

There are a number of existing food labelling tools in Canada, including the following.

Nutrient Content and Health Claims

Nutrient content claims are optional statements that communicate the amount of a given nutrient in a food (i.e., "Low fat"). A food

must meet regulated levels of the nutrient to use such statements.⁵ Such claims are based on one single nutrient and exclude criteria for other nutrients. For example, a product labelled "low sodium" could also be high in fat, sugar or calories. The other type of claim is diet-related health claims, which communicate the health-related benefits of consuming a product that contains a set amount of a nutrient. For example, to qualify for the claim "A healthy diet with adequate calcium ... may reduce the risk of osteoporosis", a product must contain at least 200 mg of calcium. As per government objectives, both types of claims are consistently worded and based on science; health claims are based on systematic, comprehensive reviews of human evidence of a relationship between a food component and a health effect.⁶

According to consumer research, nutrient content claims and health claims are the least-favoured form of information on food labels. Only 21% and 18% of Canadian consumers, respectively, look for nutrient content claims and health claims on food labels.⁷ Indeed, participants in Canadian government-sponsored research reported that on-pack statements about nutritional content and/or product benefits were overrated, misleading, confusing, and the least useful information on the food label.⁸ Furthermore, numerous studies examining the use of nutrition-related claims on the front of food labels have found that narrow claims (based on single nutrients) can lead consumers to incorrectly infer that a product is healthy and increase their purchase intentions.¹ These findings suggest that, con-

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Table 1. Nutrition Labelling Tools in the Canadian Marketplace

	Definition	Examples
Regulated		
Nutrition labelling	"Refers to the standardized presentation of the nutrient content of a food." ⁵	Nutrition Facts table
Nutrient content claims	"A claim that describes the amount of a nutrient in a food." ⁵	"Low calorie." "Trans fat free." "Reduced sodium."
Health claims	"A statement that describes the characteristics of a diet associated with the reduction of the risk of developing a diet-related disease or condition." ⁵	"A healthy diet with adequate calcium and vitamin D, and regular physical activity help to achieve strong bones and may reduce the risk of osteoporosis. (Name of food) is a good source of calcium." ⁵
Unregulated		
Front-of-pack labelling systems	"Systems that use nutrient criteria and symbols to indicate that a product has certain nutritional characteristics. Symbols are often placed on the principal display panel of the product, but may also be found on the side, top, or back panels or on self tags." ¹	Heart and Stroke Foundation's Health Check™ logo Kraft's Sensible Solutions Pepsi's Smart Spot® Whole Grains Council's Whole Grain Stamp™ PC® Blue Menu™

Table 2. Objectives of Regulated Nutrition Labelling Information in Canada

	Objectives ⁵
Nutrition Facts table	<ul style="list-style-type: none"> To enable consumers to make appropriate food choices in relation to reducing the risk of developing chronic diseases and permitting dietary management of chronic diseases of public health significance. To encourage the availability of foods with compositional characteristics that contribute to diets that reduce the risk of developing chronic diseases. To advance compatibility with the US system and further work towards mutual acceptance by Canada and the US of their respective nutrition labelling requirements. To provide a system for conveying information about the nutrient content of food in a standardized format which allows for comparison among foods and prevents consumers' confusion in respect of the nutrient value and composition of a food at point of purchase.
Nutrient content claims	<ul style="list-style-type: none"> To ensure that nutrient content claims for foods: <ul style="list-style-type: none"> – Enable consumers to make informed dietary choices in order to prevent injury to health; – Are consistent and not deceptive; – Are based on recognized health and scientific criteria; and – Take into account the economic and trade considerations where possible and when not in conflict with health and safety criteria.
Diet-related health claims	<ul style="list-style-type: none"> To ensure diet-related health claims: <ul style="list-style-type: none"> – Are useful to consumers in making informed choices to prevent injury to health by reducing the risk of developing chronic diseases; – Are consistent and not deceptive; – Are based on recognized health and scientific criteria; and – Describe the characteristics of a diet associated with reduced risk of developing the chronic disease identified in the health claim.

trary to their objectives, claims may be deceptive and limited in their ability to help consumers to make informed food choices.

Health professionals have raised concerns that the use of claims on food labels may prioritize food marketing over public health.⁸ For instance, manufacturer emphasis on nutrients and claims related to heart disease excludes other important conditions like diabetes and obesity; or, "trendy" claims, like "low fat", exclude claims with broader public health significance, like "lower sodium".

The Nutrition Facts table (NFt)

The mandatory NFt is found on virtually all pre-packaged foods sold in Canada.⁵ It presents information on the amount of calories and 13 core nutrients per serving of a food. The NFt also provides information on the contribution of a food to an individual's daily nutrient requirements, expressed as the Percent Daily Value (%DV). In accordance with its objectives, the standardized NFt allows comparisons among foods and greater compatibility with the US system.

Canadian data demonstrate that the NFt does not fully meet its intended objective of enabling consumers to make healthy food choices.⁵ Although the majority of Canadians (71%) report using the NFt to support their food choices,⁷ studies show that consumer use of nutrition labels is over-reported.⁹ Furthermore, NFt use and understanding is not uniform across populations. For example, in the US, women were 2.49 times more likely to use the NFt than men, and college-educated Americans were 2.94 times more likely to use the NFt than those with a high school education.¹⁰ These findings suggest that large segments of the population, including

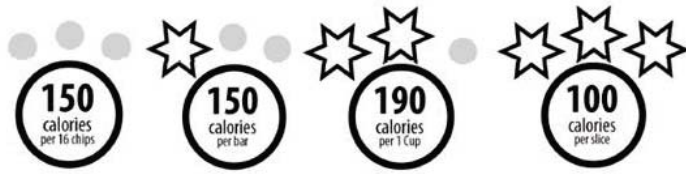
individuals with lower levels of education, are not benefitting from the information presented on the NFt. The NFt's disproportionate reach is particularly concerning as education and literacy, and closely related socio-economic status, are key determinants of health; health status improves with increasing levels of education, income, and social status.¹¹

Recent Health Canada-commissioned research demonstrated that individuals had significant confusion concerning the numeric aspects of the NFt, including the %DV, serving size, and quantities for nutrients.¹² Canadians were also uncertain about how to interpret the %DV and contextualize it within the NFt. They were further confused by the use of multiple units (e.g., g, mg, %) to report nutrient amounts, and admitted that they lacked the basic nutrition knowledge required to interpret the NFt (i.e., what is a little or a lot of a nutrient?). These data are consistent with other studies, showing that nutrition knowledge and numeracy skills were major obstacles to the understanding of nutrition labels.^{1,9} These findings agree with the IOM recommendations that simplified nutrition labelling, i.e., not requiring complicated nutrition knowledge or numeracy or literacy skills, may be better at guiding food choices.

Front-of-pack nutrition labelling systems

Considering the limitations of the NFt and claims, FOP systems have been proposed as an ideal means to achieve the core objective of nutrition labelling – enabling consumers to make informed food selections to reduce the onset of chronic disease. FOP systems are found on selected pre-packaged foods in Canada and provide summary infor-

Figure 1. Institute of Medicine Example Model Front-of-Pack Symbol System*



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mation on the nutrition profile of a product.¹ Environmental scans have identified at least eight proprietary FOP systems in the Canadian marketplace, developed by manufacturers, food retailers, and non-profit health groups, each with their own nutritional criteria.^{13,14}

There are some data to suggest that FOP systems may promote healthier diets by encouraging consumers to make healthier choices and manufacturers to provide healthier offerings. Sales data from field experiments in supermarkets have shown that FOP systems influence consumer purchases.¹ Although data are limited in amount and scope, such studies give the best evidence of how FOP systems would operate in the real world. Moreover, studies have demonstrated that manufacturers enrolled in FOP programs improved the nutritional profile of their products in order to qualify to carry the FOP symbol.^{15,16} However, since these studies did not include controls, it is unclear whether non-participating manufacturers similarly improved the nutritional quality of their products. While additional research is needed, FOP systems appear to be a promising intervention to improve the quality of dietary intakes.

In the most comprehensive review of FOP systems to date, the IOM concluded that symbols that are simple and easily understood are most effective at encouraging the selection of healthier foods.¹ While no single FOP system emerged as the 'best', the IOM drew on food package and marketing research to suggest an approach to FOP labelling that would be noticeable and accessible to a range of consumers. According to the IOM, a model FOP system would be simple (i.e., requires no nutrition knowledge to be understood), interpretive (i.e., provides guidance rather than information), and ordinal (i.e., uses a scaled or ranked approach) (Figure 1). Furthermore, the IOM found that a single, standardized FOP system is preferable to multiple, proprietary systems, based on data showing that the coexistence of multiple systems causes confusion among consumers and makes interpreting nutrition information and comparing products difficult. While informed by research, the IOM's approach is untested and would benefit from additional studies to confirm its effectiveness.

CONCLUSION

The use of a single FOP system in Canada could ensure that this tool is more consistent with the objectives of good nutrition labelling outlined by the Canadian government. A standardized FOP system would ensure that Canadians see a consistent symbol, one based on scientific criteria, which research suggests may enable consumers to select the healthiest foods. Furthermore, more individuals may benefit from a FOP system than from the NfT, if the FOP system did not require literacy, numeracy, or nutrition knowledge. Together, these data suggest that a standardized FOP system merits Canadian research and consideration as a potential intervention to enhance Canada's existing nutrition labelling tools.

REFERENCES

1. Committee on Examination of Front-of-Package Nutrition Ratings Systems and Symbols (Phase II), Institute of Medicine. *Front-of-Package Nutrition Rating Systems and Symbols: Promoting Healthier Choices*. Washington, DC: The National Academies Press, 2011.
2. The Standing Committee on Health. *Healthy Weights for Healthy Kids*. Ottawa, ON: Communications Canada, 2007.
3. Schmidt S. Aglukkaq pans U.S. nutrition recommendations. *Postmedia News*. 2011 October 20.
4. The Secretariat for the Intersectoral Healthy Living Network in partnership with the F/P/T Healthy Living Task Group and the F/P/T Advisory Committee on Population Health and Health Security. *The Integrated Pan-Canadian Healthy Living Strategy*. Ottawa: Minister of Health, 2005.
5. Government of Canada. Regulations Amending the Food and Drug Regulations. *The Canada Gazette, Part II* 2003;137(1):154.
6. Bureau of Nutritional Sciences. *Guidance Document for Preparing a Submission for Food Health Claims*. Ottawa: Health Canada, 2009.
7. Canadian Council of Food and Nutrition. *Tracking Nutrition Trends VII*. Mississauga, ON: Canadian Council of Food and Nutrition, 2008.
8. The Strategic Counsel. *Consumer Understanding of Health Claims*. Toronto, ON: Health Canada, 2009. Report No.: HC POR 8-16.
9. Cowburn G, Stockley L. Consumer understanding and use of nutrition labelling: A systematic review. *Public Health Nutr* 2005;8(1):21-28.
10. Blitstein JL, Evans WD. Use of nutrition facts panels among adults who make household food purchasing decisions. *J Nutr Educ Behav* 2006;38(6):360-64.
11. What makes Canadians healthy or unhealthy? Ottawa: Public Health Agency of Canada, 2003. Available at: <http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#unhealthy> (Accessed May 5, 2012).
12. The Strategic Counsel. *Focus Testing of Creatives for the Nutrition Facts Education Initiative*. Toronto: Health Canada, 2010. Report No.: HC POR 09-16.
13. Reza Z. Defining "Healthy" Foods Environmental Scan of the Situation in Canada. Ottawa: Food Directorate, Health Canada, 2009.
14. Dietitians of Canada. *Diabetes, Obesity and Cardiovascular Disease Network. Evidence-Based Background Paper on Point-of-Purchase Nutrition Programs*. Dietitians of Canada, 2006.
15. Vyth EL, Steenhuis IHM, Roodenburg AJC, Brug J, Seidell JC. Front-of-pack nutrition label stimulates healthier product development: A quantitative analysis. *Int J Behav Nutr Phys Act* 2010;7.
16. Young L, Swinburn B. Impact of the pick the tick food information programme on the salt content of food in New Zealand. *Health Promot Int* 2002;17(1):13-19.

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RÉSUMÉ

Tant l'Institute of Medicine des États-Unis que le Comité permanent de la santé du Canada ont réclamé des systèmes d'étiquetage nutritionnel « sur le devant de l'emballage » (SLDDE) simples et standardisés pour les aliments emballés. Toutefois, malgré les preuves scientifiques et le consensus des spécialistes sur le sujet, la ministre de la Santé du Canada a rejeté ces recommandations en disant que les consommateurs canadiens possèdent déjà « les outils dont ils ont besoin pour choisir des aliments sains quand ils font l'épicerie ». C'est un élément pertinent, car les données existantes portent à croire que les outils actuels de réglementation de l'étiquetage nutritionnel pourraient ne pas respecter leurs objectifs prévus. De plus, l'environnement d'étiquetage SLDDE actuel du Canada – caractérisé par diverses étiquettes SLDDE choisies selon divers critères – n'appuie pas l'objectif d'un bon étiquetage nutritionnel défini par Santé Canada. Les faits montrent que des systèmes SLDDE bien conçus sont capables d'influencer positivement les achats des consommateurs ainsi que les reformulations de produits par les fabricants. Selon l'Institute of Medicine américain, le système d'étiquetage SLDDE idéal est un symbole SLDDE standardisé, simple, interprétable et ordinal. Il faudrait pousser la recherche, mais un tel système mérite qu'on s'y intéresse au Canada, car il pourrait combler les carences des outils d'étiquetage nutritionnel que l'on trouve actuellement sur le marché canadien.

Mots clés : politique nutritionnelle; étiquetage aliments; santé publique