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# MASTER OF PUBLIC POLICY CAPSTONE PROJECT

**Addressing Misleading Nutrition Marketing on Children's Foods**

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## Capstone Executive Summary

Childhood obesity is a complex issue with many contributing factors. Today, children live in an obesogenic environment that promotes the consumption calorie dense foods high in sugar, fat, and sodium.<sup>1</sup> While much of the previous research has focused on linking the consumption of junk foods to obesity, an important area that has been overlooked until recently is how regular children's foods are contributing to the childhood obesity epidemic. Today, a large proportion of children's foods are being marketed with nutrition claims, health claims, and industry generated front-of-package nutrition logos despite the fact that they contain high levels, of sugar, fat, and sodium. A study by Elliott (2008) found that 89% of the children's foods in Canadian grocery stores were marketed with nutrition and health claims, yet 63% of them could be classified "as of poor nutritional quality" due to their high levels of sugar, fat, and sodium.<sup>2</sup> Similarly, a study by Colby (2010) examining a large sample of foods in the US found that 42% of children's foods contained both nutrition marketing and high levels of saturated fat, sugar, and sodium.<sup>3</sup> These regular foods which include granola bars, breakfast cereals, fruit leathers, and yogourts are often marketed with claims such as 'excellent source of calcium', 'reduced fat', and 'made with real fruit juice' in large font on the front of the packaging of children's foods in order to appeal to parents.<sup>4</sup> Claims that

<sup>1</sup> Eric Finkelstein and Kiersten Strombotne, "The Economics of Obesity", *American Journal of*

<sup>2</sup> Charlene Elliott, "Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children", *Canadian Public Policy* 34, no. 2 (2008): 259-273.

<sup>3</sup> Sarah Colby, Lu Ann Johnson, Angela Scheett, and Bonita Hoverson, "Nutrition Marketing on Food Labels", *Journal of Nutrition Education and Behavior* 42, no. 2 (March- April 2010): 92-98.

<sup>4</sup> Charlene Elliott, "Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children", 259-273.

prominently single out one nutrient in large bold font of the front of a food package in a nutritionally inferior product high in sugar, fat, and sodium could be construed as misleading advertisement.

The misleading information conveyed by claims on children's food packaging can be framed as a problem of information asymmetry. Foods boldly displaying large nutrition claims that draw attention one nutrient in an otherwise unhealthy product interfere with parents' ability to accurately judge the nutritional quality of the foods they are purchasing for their children. As a result, many uninformed parents swayed by health and nutrition claims may end up purchasing foods for their children that are high in sugar, fat, and salt. Regulated nutrition and health claims as well as unregulated industry generated nutrition logos constitute the two main sources of information asymmetry. Although the *Food and Drugs Regulations* lay out specific criteria for the use of nutrition and health claims, it falls short in two major areas: it does not prohibit foods high in sugar, fat, and sodium from carrying health or nutrition claims, nor does it prohibit food manufacturers from displaying their own unregulated nutrition logos on the front of children's food packages. As a result, food manufacturers are free to continue aggressively marketing their unhealthy foods to parents with important consequences for children's weight and their future health.

Four policy solutions are presented in this paper with the aim of helping parents to more accurately judge the quality of children's foods. The policy solutions proposed in this paper include amendments to the *Food and Drugs Regulations*, the banning of all claims on children's foods, as well as the implementation of a tax on children's foods. More specifically, in order to address the misleading nature of health and nutrition claims on unhealthy foods, amendments to the *Food and Drugs Regulations* are proposed that prohibit foods high in sugar, fat, and sodium from carrying health and nutrition claims. Likewise, in order to resolve the information asymmetry created by unregulated front of package labels, models from the US and the UK are examined and evaluated for their suitability for use on food packaging in Canada. If the misleading messages conveyed by nutrition claims on food packaging cannot be altered to accurately signal the true nutritional quality of children's foods, then banning all claims and logos on children's

food packaging is recommended. Finally, in the event that efforts to regulate the packaging of children's foods is subject to major legal challenges by the food industry or proves to be politically unfeasible, then applying a tax or GST to children's foods has been proposed as a means of signaling to parents the poor quality of children's processed foods.

## I. INTRODUCTION:

One quarter of Canadian children are overweight or obese.<sup>5</sup> Obesity has been linked to a host of chronic diseases including type 2 diabetes, hypertension, and some forms of cancer.<sup>6</sup> Obesity is a complex issue with many contributing factors. Today, children live in an obesogenic environment that offers a wide array of cheap processed foods and promotes the consumption of calorie dense foods high in sugar, fat, and salt.<sup>7</sup> While research in the past has focused primarily upon establishing a link between junk food consumption and obesity, one area that has been overlooked until recently is how regular pre-packaged foods found on grocery store shelves might also be contributing to childhood obesity.<sup>8</sup> The typical foods created for and marketed to children in grocery stores include a wide range of foods such as; yogourt-based drinks, fruit leathers, cheese strings, granola bars, breakfast cereals, flavoured milks, and pizza pops.

In recent years, food companies have begun to incorporate nutrition claims on the front of their food packaging in order to appeal to parents. For example, food manufacturers have begun to place nutrition claims such as 'reduced fat', 'source of fibre', 'excellent source of calcium', and statements such as 'made with real fruit juice' or 'contains whole grains' in large font on the packaging of children's foods.<sup>9</sup> This new industry-marketing tactic is highly problematic because many children's pre-packaged

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<sup>5</sup> Public Health Agency of Canada, *Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights* (Ottawa: 2010), <http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/framework-cadre/index-eng.php#an>.

<sup>6</sup> Public Health Agency of Canada, *Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights* (Ottawa: 2010).

<sup>7</sup> Eric Finkelstein and Kiersten Strombotne, "The Economics of Obesity", *American Journal of Clinical Nutrition* 91, no. 5 (2010): 1520s-1524s, <http://ajcn.nutrition.org.ezproxy.lib.ucalgary.ca/content/91/5/1520S.full>

<sup>8</sup> Charlene Elliott, 'Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children', *Canadian Public Policy* 34, no. 2 (2008): 259-273, <http://www.jstor.org.ezproxy.lib.ucalgary.ca/stable/25463610>

<sup>9</sup> Sarah Colby, Lu Ann Johnson, Angela Scheett, and Bonita Hoverson, "Nutrition Marketing on Food Labels", *Journal of Nutrition Education and Behavior* 42, no. 2 (March- April 2010): 92-98, [http://www.nursingconsult.com.ezproxy.lib.ucalgary.ca/nursing/journals/1499-4046/full-text/PDF/s1499404608008476.pdf?issn=1499-4046&full\\_text=pdf&pdfName=s1499404608008476.pdf&spid=23007114&article\\_id=739991](http://www.nursingconsult.com.ezproxy.lib.ucalgary.ca/nursing/journals/1499-4046/full-text/PDF/s1499404608008476.pdf?issn=1499-4046&full_text=pdf&pdfName=s1499404608008476.pdf&spid=23007114&article_id=739991)

foods have been shown to be of questionable nutritional value. For example, Elliott (2008) examined 367 children's foods from Canadian grocery stores, assessing their packaging for the presence of nutrition claims and evaluating their nutritional content, using criteria established by the Centre for Science in the Public Interest (CSPI).<sup>10</sup> Elliott discovered that 89% of the pre-packaged children's foods could be classified as of 'poor nutritional quality' due to their high levels of sugar, fat, and sodium.<sup>11</sup> Yet, almost two thirds of these same foods were marketed with health or nutrition claims on their packaging. A follow-up study by Elliott analyzing 354 children's foods in Calgary grocery stores found that 72% of the products carried one or more nutrition claims on the front of their packages, despite containing high levels of sugar.<sup>12</sup> Furthermore, a study by Colby et al. (2010) examining a large sample of 9105 children's foods in US grocery stores found that a significant proportion of the children's foods displaying nutrition marketing (defined as health claims, nutrient content claims, and manufacturers' statements such as 'made with whole grains') also contained high levels

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<sup>10</sup> Charlene Elliott, 'Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children', *Canadian Public Policy* 34, no. 2 (2008): 259-273, <http://www.jstor.org.ezproxy.lib.ucalgary.ca/stable/25463610>

<sup>11</sup> Charlene Elliott, "Marketing Fun Foods", 259-273.

**NOTE:** According to the Centre for Science in the Public Interest (CSPI) criteria (for fat and sodium) and American Heart Association (AHA) recommendations (for sugar), foods are classified as of 'poor nutritional quality' if 35% of their calories come from fat, if they contain more than 230 to 770 mg of sodium (depending on the food type), and if more than 20% of their calories are derived from sugars.

<sup>12</sup> Charlene Elliott, "Packaging Fun: Analyzing Supermarket Food Messages Targeted at Children", *Canadian Journal of Communication* 37, no. 2 (2012): 303-318, <http://web.ebscohost.com.ezproxy.lib.ucalgary.ca/ehost/pdfviewer/pdfviewer?sid=f67164c6-4e41-4761-88f2-64690aa0b150%40sessionmgr14&vid=4&hid=25>

**NOTE:** A food was evaluated to have a high level of sugar if more than 20% of the calories were derived from sugar.



of sugar, fat, and sodium.<sup>13</sup> Specifically, Colby found that 42% of all children's foods contained both nutrition marketing as well as high amounts of sugar, fat, or sodium.<sup>14</sup>

Highlighting one nutrient in large bold print on the front of a food package in a nutritionally inferior product (high in sugar, fat, or sodium) is highly problematic and could be construed as misleading advertisement. The presence of health and nutrition claims on nutritionally inferior foods may convey the general impression that foods are healthier than they are in reality. As a result, many uninformed parents swayed by health and nutrition claims may end up purchasing foods for their children that are high in sugar, fat, and salt, thus contributing to their weight gain.

The purpose of this Capstone paper is threefold: to assess the extent to which nutrition claims and front of package labels are misleading consumers, to identify the gaps in the food legislation that allow foods high in sugar, fat, and sodium to carry nutrition and health claims, and to recommend policy solutions for dealing with misleading claims on food packaging. It will be argued that nutrition claims and unregulated front of package labels make it difficult for parents to accurately judge the quality of the foods they are purchasing for their children and are therefore a source of information asymmetry. Policy solutions will be proposed to address two important sources of asymmetric information: regulated claims on children's foods as well as unregulated industry created front of package symbols and logos. The policy solutions that will be explored include amendments to the *Food and Drugs Regulations*, the banning of all claims on children's foods, as well as the implementation of a tax on children's foods. These policy solutions will be evaluated for their ability to help parents

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<sup>13</sup> Sarah Colby, Lu Ann Johnson, Angela Scheett, and Bonita Hoverson, "Nutrition Marketing on Food Labels," *Journal of Nutrition Education and Behavior* 42, no. 2 (March- April 2010): 92-98, [http://www.nursingconsult.com.ezproxy.lib.ucalgary.ca/nursing/journals/1499-4046/full-text/PDF/s1499404608008476.pdf?issn=1499-4046&full\\_text=pdf&pdfName=s1499404608008476.pdf&spid=23007114&article\\_id=739991](http://www.nursingconsult.com.ezproxy.lib.ucalgary.ca/nursing/journals/1499-4046/full-text/PDF/s1499404608008476.pdf?issn=1499-4046&full_text=pdf&pdfName=s1499404608008476.pdf&spid=23007114&article_id=739991)

<sup>14</sup> Sarah Colby et al., "Nutrition Marketing on Food Labels", 92-98.

**Note:** A food product was evaluated as having high levels of sugar, fat, or sodium if a serving of the food exceeded 20% of the recommended daily limit for that nutrient (i.e. greater than 4 grams of saturated fat, 480 mg of sodium, 21 grams of sugar for fruit/milk based foods, or 6 grams of sugar for all other food products).

better assess the nutritional quality of the foods they are purchasing for their children and for their feasibility of implementation.

### Economic Framework: Information Asymmetry

From an economic perspective, we can approach the issue of misleading nutrition claims on children's foods by framing it as a problem of information asymmetry.

Perfectly competitive markets operate under the assumption that consumers have perfect information to guide their purchases.<sup>15</sup> That is, consumers are aware of the nature of the products they are purchasing and are fully informed about the nutritional quality of the foods being offered in grocery stores. However, in the case of children's foods, producers have better information about the nutritional content of their products than consumers do, setting consumers up to make unhealthy food choices.

Manufacturers of children's foods attempt to market their products by making highly visible nutrition claims in large font on the front of their food packages, drawing attention to the fact that the product is 'low in fat', knowing full well that their products are also very high in sugar. This imbalance of information (the emphasis on positive attributes and lack of attention to negative ingredients) on food packages makes it difficult for parents and children to accurately judge the nutritional quality or healthfulness of the foods they are purchasing and leaves them vulnerable to being taken advantage of by food manufacturers.

### Challenges in Defining 'Healthy' and 'Unhealthy' Foods

The challenge of clearly defining of what constitutes 'healthy' and 'unhealthy' foods further contributes to the information asymmetry between producers and consumers. While consumers easily identify fruits and vegetables as 'healthy' food choices and junk foods (such as soda pop and cookies) as 'unhealthy' food choices, they have difficulty determining the nutritional quality of the processed foods that do not fit neatly into either of the 'healthy' or 'unhealthy' food categories. That is, consumers simply do not know how to assess the healthfulness of pre-packaged food products that sit somewhere in-between the extreme ends of the 'healthy' to 'unhealthy' food

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<sup>15</sup> N. Gregory Manikew, Ron Kneebone, and Ken McKenzie, *Principles of Microeconomics*, Fifth ed. (Toronto: Nelson Publishing, 2011), 488-495.

continuum. The absence of clear definitions for ‘healthy’ and ‘unhealthy’ food choices can be partially attributed to the food industry’s resistance to efforts by policy makers to label specific foods as being ‘unhealthy’ arguing that there are no good or bad food choices only “good and bad diets”.<sup>16</sup> As a result, the only real food guidance that Canadians have to help them identify ‘healthy’ foods are the dietary recommendations provided by Canada’s Food Guide. These dietary guidelines encourage Canadians to eat more fruits, vegetables, whole grains, lean meats, and fish, and to eat fewer sugar, fat, and sodium-laden foods.<sup>17</sup> Based on this dietary advice one could come up with broad definitions for ‘healthy’ and ‘unhealthy’ foods. ‘Healthy’ foods could be defined as those foods encouraged by Canada’s Food Guide (i.e. fruits, vegetables, whole grains etc.). On the other hand, ‘unhealthy’ foods could be defined as those foods that the dietary guidelines discourage consuming, particularly foods containing high amounts of sugar, fat, and sodium.

However, there are limitations to relying solely on Canada’s Food Guide for dietary advice (and on basing one’s definitions for ‘healthy’ and ‘unhealthy’ foods on it). First, consumers struggle to put these broad dietary guidelines into practice because the types of foods recommend by the guidelines do not always coincide with the actual food choices consumers encounter in grocery stores.<sup>18</sup> Dietary guidelines that emphasize consuming an adequate number of servings from each of the four major food groups (i.e. fruits/vegetables, grains, dairy, and lean meat/meat alternatives) have limited relevance to consumers who are increasingly relying on processed and ready-made

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<sup>16</sup> Tim Lobstein and S. Davies, “Defining and Labelling ‘Healthy’ and ‘Unhealthy’ Food”, *Public Health Nutrition* 12, no. 3 (May 2008): 331–340, <http://journals.cambridge.org.ezproxy.lib.ucalgary.ca/action/displayFulltext?type=6&fid=3824788&jid=PHN&volumeld=12&issueId=03&aid=3824784&bodyId=&membershipNumber=&societyETOCSession=&fulltextType=RV&fileId=S1368980008002541>

<sup>17</sup> Health Canada, *Canada’s Food Guide: Take the Guided Tour* (Ottawa: September 2011), [http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/tour/guided\\_tour\\_guide-eng.php](http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/tour/guided_tour_guide-eng.php)

<sup>18</sup> Tim Lobstein and S. Davies, “Review Article: Defining and Labelling ‘Healthy’ and ‘Unhealthy’ Food”, *Public Health Nutrition* 12, no. 3 (May 2008): 331–340, <http://journals.cambridge.org.ezproxy.lib.ucalgary.ca/action/displayFulltext?type=6&fid=3824788&jid=PHN&volumeld=12&issueId=03&aid=3824784&bodyId=&membershipNumber=&societyETOCSession=&fulltextType=RV&fileId=S1368980008002541>

meals that combine ingredients from several different food categories into a single product (where the specific food components and the serving sizes for each food group are not easily identifiable from the ingredients list or Nutrition Facts table).<sup>19 20</sup> In fact, a 2010 Agriculture and Agri-Food Canada Market Analysis report revealed that Canadians are relying more heavily on convenience foods and are increasingly supplementing meals made from scratch with prepared foods purchased from grocery stores (in the form of premade sauces, frozen meals, and ready to eat foods).<sup>21</sup> The report cites time scarcity as the major factor forcing Canadians to seek out simplified meal preparation (i.e. meals requiring little preparation and cleanup time).

Second, although Canada's Food Guide recommends limiting the intake of foods high in sugar, fat, and sodium, it fails to specify what constitutes a high amount of sugar, fat, or sodium.<sup>22</sup> This is most likely due to the fact that Health Canada has not set mandatory upper allowable limits for the sugar, fat, and sodium content in food products (i.e. Health Canada only recommends limiting added sugar intake to less than 25% of total calories and consuming no more than the Tolerable Upper Intake level of 2300 mg of sodium per day).<sup>23 24</sup> Unfortunately, this leaves Canadians unable to determine when the prepackaged food products they are purchasing for themselves or their children contain unacceptable amounts of sugar, fat, and sodium. In alignment with dietary recommendations and a nutrient profiling approach (that categorizes foods according

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<sup>19</sup> Tim Lobstein and S. Davies, "Defining and Labelling 'Healthy' and 'Unhealthy' Food", *Public Health Nutrition* 12, no. 3 (May 2008): 331–340,

<sup>20</sup> Health Canada, *Canada's Food Guide: Take the Guided Tour* (Ottawa: September 2011),

<sup>21</sup> Agriculture and Agri-Food Canada, *The Canadian Consumer - Behaviour, Attitudes and Perceptions Toward Food Products: Market Analysis Report* (Ottawa: International Markets Bureau, May 2010), <http://www.ats-sea.agr.gc.ca/can/5505-eng.htm>

<sup>22</sup> Health Canada, *Canada's Food Guide: Make Wise Choices* (Ottawa: September 2011), <http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/basics-base/count-maximum-eng.php>

<sup>23</sup> Health Canada, *Sodium Reduction Strategy for Canada* (July 2010), <http://www.hc-sc.gc.ca/fn-an/nutrition/sodium/related-info-conneze/strateg/reduct-strat-eng.php>

<sup>24</sup> Health Canada, *Dietary Reference Intakes Tables*, <http://www.hc-sc.gc.ca/fn-an/nutrition/reference/table/index-eng.php#rvm>

their nutritional composition), a number of research studies have defined ‘unhealthy’ foods or foods of ‘poor nutritional quality’ as foods containing high levels of sugar, fat, and/or sodium. However, because no standardized criteria have been established for determining when a food product contains high levels of sugar, fat, and sodium, the criteria used by researchers often varies from study to study. For example, Elliott (2008) used criteria established by the Centre for Science in the Public Interest (CSPI) to identify foods ‘of poor nutritional quality’. Based upon the CSPI criteria (for fat and sodium) and American Heart Association (AHA) recommendations (for sugar), foods containing 35% of calories from fat, more than 230 to 770 mg of sodium (depending on the food type), and greater than 20% of calories derived from sugars were classified as of ‘poor nutritional quality’.<sup>25</sup> On the other hand, in Colby et al. (2010) a food product was evaluated as having high levels of saturated fat or sodium if a serving of the food exceeded 20% of the Daily Value (DV).<sup>26</sup> DV’s are based on FDA recommendations of consuming less than 20 grams of saturated fat and no more 2400 mg of sodium per day.<sup>27</sup> Since there are no daily values established for sugar, high sugar content was defined by Colby et al as 6 grams or more of sugar per serving (and 21 grams per serving for fruit or milk based products that are high in naturally occurring sugars).

Despite the limitations inherent in Canada’s Food Guide (and the difficulties of establishing adequate definitions for ‘healthy’ and ‘unhealthy’ foods based upon its recommendations), it is still the best source of dietary guidance available to Canadians at this time. Therefore, the foods encouraged in Canada’s Food Guide will be used to establish the definitions for ‘healthy’ foods and the foods that the guide recommends limiting will be used to define ‘unhealthy’ foods in this Capstone paper. Other important terms that will be used in this Capstone paper are defined in the glossary of terms section contained in the box below.

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<sup>25</sup> Charlene Elliott, ‘Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children’, *Canadian Public Policy* 34, no. 2 (2008): 259-273.

<sup>26</sup> Sarah Colby, Lu Ann Johnson, Angela Scheett, and Bonita Hoverson, “Nutrition Marketing on Food Labels.” *Journal of Nutrition Education and Behavior* 42, no. 2 (March- April 2010): 92-98.

<sup>27</sup> Ibid.

### Glossary of Terms used in this Capstone Paper

1. **Healthy foods:** Canada's Food Guide will be used as the benchmark for defining healthy foods (i.e. Canada's Food Guide encourages the consumption of fruits, vegetables, whole grains, low-fat dairy, and lean meat/meat alternatives).
2. **Unhealthy foods or 'foods of poor nutritional quality'** are defined as foods containing high levels of sugar, fat, and/or sodium.
3. **Nutrition marketing** refers to the presence of nutrient content claims, health claims, and/or manufacturers' statements (or nutrition rating schemes) on the front of food packaging.
4. **Nutrient content claims** describe the level of a nutrient in a food either directly or indirectly (i.e. 'source of fibre', 'low in fat', 'excellent source of calcium', or 'good source of protein').
5. **Health claims** state or imply that there is relationship between consuming a food (or an ingredient in the food) and health (i.e. 'Vitamin D is a factor in the formation and maintenance of bones and teeth').
6. **Manufacturers' statements of fact** are unregulated statements, such as 'contains real fruit juice' or 'contains whole grains', made by food manufacturers on the front of their food packages in order to promote their products.
7. **Front of Package (FOP) labels** are unregulated symbols and nutrition labeling schemes created by food manufacturers with the intention of conveying the nutritional attributes (or overall healthfulness) of a food product at a glance (such as Kraft's Sensible Solutions logo).

## II. METHODOLOGY:

The methodology for this Capstone project consisted of a literature-based overview of research studies, government documents, food regulations, and food industry websites pertaining to health and nutrition claims, as well as front of package labeling schemes found on food packaging in Canada and in other countries. First, the research literature was examined to find out how consumers respond to nutrition marketing.

Second, the *Food and Drugs Regulations* were analyzed to determine how they address (or fail to address) the issue of misleading claims on children's food packaging. Third, other countries were surveyed to find out how they have tackled the issue of nutrition marketing on foods high in sugar, fat, and sodium. The criteria developed for health claims and front of package labels in other countries such as the UK, the US, and Australia/New Zealand served as models for the policy recommendations proposed in this Capstone paper. The policy recommendations presented in this paper are attempts to provide Canadian parents with more accurate information or better signals about the true quality of children's foods.

### III. LITERATURE REVIEW:

#### Evidence of Information Asymmetry

A number of studies examining how consumers respond to nutrition marketing on food packaging have demonstrated that consumers tend to judge foods as being healthier when they are marketed with nutrition and health claims. For example, Drewnowski (2010) found that participants tended to rate foods displaying nutrient content claims as being healthier than foods without claims.<sup>28</sup> Participants, obtained from an online consumer panel, were asked to rate the healthfulness of different food products (with and without nutrition claims), on a scale of 1 to 9 (1= unhealthy and 9 = healthy). A healthy food was defined by a score of 7 or higher. The study revealed that when food products contained nutrient content claims such as 'good source of protein', 'high in fibre', 'no saturated fat', 'excellent source of vitamin C', or 'rich in calcium', participants rated them as 'healthy'.<sup>29</sup> In fact, the study found that just the mere presence of a nutrient content claim (rather than the level of the nutrient itself) was enough to influence participants to rate the product as healthy.

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<sup>28</sup> Adam Drewnowski, Howard Moskowitz, Michelle Reisner, and Bert Krieger, "Testing Consumer Perception of Nutrient Content Claims Using Conjoint Analysis", *Public Health Nutrition* 13, no.5 (2010): 688–694, [http://dc8qa4cy3n.search.serialssolutions.com/?V=1.0&N=150&L=DC8QA4CY3N&S=AC\\_T\\_B&C=Public+Health+Nutrition](http://dc8qa4cy3n.search.serialssolutions.com/?V=1.0&N=150&L=DC8QA4CY3N&S=AC_T_B&C=Public+Health+Nutrition)

<sup>29</sup> Adam Drewnowski et al., "Testing Consumer Perception of Nutrient Content Claims Using Conjoint Analysis", 688–694.

Furthermore, Harris et al. (2011) found that parents tended to rate children's cereals displaying nutrition marketing as healthier than cereals without them, despite the fact that all the cereals used in the study were of low nutritional quality.<sup>30</sup> A sample of 306 parents of young children completed an on-line survey requiring them to assess the healthfulness of selected children's cereals (i.e. Lucky Charms, Froot Loops, and Cinnamon Toast Crunch) displaying the types of nutrition claims and manufacturers' statements typically found on children's cereals such as 'calcium and vitamin D', 'supports your child's immunity', 'whole grains guaranteed', and 'fibre'. Although the least nutritious cereals were used in the study (i.e. due to their high levels of sugar and sodium and low levels of fibre), 50% of the parents stated that the nutrition claims and manufacturers' statements made them more willing to purchase these cereals.<sup>31</sup> These results are concerning considering that 95% of children's cereals are now being marketed with at least one nutrition claim (and with an average of three claims per box).<sup>32</sup> The presence of these claims may be leading a significant proportion of parents to infer that these cereals are a nutritious breakfast option for their children when clearly they are not nutritious due to their high levels of sugar, fat, and/or sodium.<sup>33</sup> According to a Cereal FACTS 2012 report that examined the nutritional quality of almost 300 cereals, although cereal manufacturers have slightly improved the nutritional quality of their cereals since 2009 (as they now contain 45% less sodium, 32% less sugar, and 23% more fibre), they are by no means nutritious foods because children are still getting one teaspoonful of sugar for every three teaspoons of cereal they consume.<sup>34</sup>

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<sup>30</sup> Jennifer Harris, Jacqueline Thompson, Marlene Schwartz and Kelly Brownell, "Nutrition-Related Claims on Children's Cereals: What Do They Mean to Parents and Do They Influence Willingness to Buy?" *Public Health Nutrition* 14, no. 12 (June 2011): 2207- 2212.

<http://journals.cambridge.org.ezproxy.lib.ucalgary.ca/action/displayFulltext?type=6&fid=8420861&jid=PHN&volumeld=14&issueld=12&aid=8420860&fulltextType=RA&fileId=S1368980011001741>

<sup>31</sup> Jennifer Harris et al., "Nutrition-related Claims on Children's Cereals: What Do They Mean to Parents and Do They Influence Willingness to Buy?", 2207-2212.

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Jennifer Harris, Marlene Schwartz, and Kelly D. Brownell. "Cereal FACTS 2012 Report



Furthermore, children's cereals are much less healthy than the cereals marketed to adults, as they contain 56% more sugar, 50% more sodium, and 52% less fibre than adult cereals.<sup>35</sup>

Finally, a study by Roe (1999) revealed that not only do consumers tend to perceive foods with nutrition claims as being healthier than products without claims, they have a tendency to pay less attention to Nutrition Facts Panels and ingredients lists when nutrition claims are present.<sup>36</sup> In this study, fourteen hundred shoppers were asked to rate the healthfulness of three different products (cereal, lasagna, and yogourt) in the presence of three different conditions; when a product was presented without a claim (control condition), when a product contained a nutrient content claim, and when the food contained one of eight different health claims. Roe found that participants rated the healthfulness of the foods significantly higher when a health claim or a nutrient content claim was present on the product. More importantly, Roe found that consumers had a tendency to truncate or limit their search for nutrition information to the front of food packages when health and nutrient content claims were present on food packaging.<sup>37</sup> In other words, when nutrient content claims and health claims were present on the front of food packages, consumers relied primarily on the claims to judge the food's healthfulness and failed to examine other important sources of information such as the ingredients list and the Nutrition Facts Panel that provide a more balanced

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Summary: Food Advertising to Children and Teen Score". *Rudd Center for Food Policy & Obesity, Yale University*, 2012.

[http://www.cerealfacts.org/media/Cereal\\_FACTS\\_Report\\_Summary\\_2012\\_7.12.pdf](http://www.cerealfacts.org/media/Cereal_FACTS_Report_Summary_2012_7.12.pdf)

<sup>35</sup> Jennifer Harris, Marlene Schwartz, and Kelly D. Brownell. "Cereal FACTS 2012 Report Summary: Food Advertising to Children and Teen Score". *Rudd Center for Food Policy & Obesity, Yale University*, 2012.

<sup>36</sup> Brian Roe, Alan Levy, and Brenda Derby, "The Impact of Health Claims on Consumer Search and Product Evaluation Outcomes: Results form FDA Experimental Data", *Journal of Public Policy & Marketing* 18, no. 1 (Spring 1999): 89-105, <http://web.ebscohost.com.ezproxy.lib.ucalgary.ca/ehost/detail?vid=3&sid=e4ff4215-9c21-4721-91c0-b0fad118c930%40sessionmgr10&hid=11&bdata=JnNpdGU9ZWZWhvc3QtbGl2ZQ%3d%3d#db=bth&AN=1932040>

<sup>37</sup> Brian Roe et al. "The Impact of Health Claims on Consumer Search and Product Evaluation Outcomes: Results form FDA Experimental Data", 89-105.

profile of a food's nutritional components. These results have tremendous implications for the likelihood that consumers will be able to adequately assess the nutritional quality of foods when health or nutrient content claims are present. According to Roe, the tendency for consumers to limit their search for nutrition information to the front of the package is not problematic as long as the information on the front of the package provides a balanced and clear picture of the nutritional quality of the product. However, if important information about the nutritional content of the food is missing on the front of the package (i.e. levels of sugar sodium and fat that contradict the claim), then truncation will have important health consequences.<sup>38</sup>

As the above studies have indicated, a strong case can be made for asymmetric information on the following basis:

1. A significant proportion of children's foods displaying nutrition marketing (nutrition claims, health claims, and manufacturers' claims) are high in sugar, fat, and/or sodium.
2. Consumers have a tendency to judge foods with health and nutrition claims as being 'healthy' (or healthier than products without claims).
3. When health and nutrition claims are present, consumers tend to truncate or limit their search for nutritional information to the front of food packages thus affecting their ability to accurately judge the nutritional quality of foods when key nutritional information is missing from the front of the package.

#### Relevant Legislation and Gaps:

The *Food and Drugs Act (FDA)* is the primary legislation governing the safety and nutritional quality of food sold in Canada. The underlying premise of the *Food and Drugs Act* is to help consumers make informed food choices based on information that is truthful and not misleading.<sup>39</sup> *Section 5. (1) of the Food and Drugs Act states that:*

**5. (1) No person shall label, package, treat, process, sell or advertise any food in a**

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<sup>38</sup> Ibid.

<sup>39</sup> Canadian Food Inspection Agency, *Guide to Food Labelling and Advertising*, <http://www.inspection.gc.ca/food/labelling/guide-to-food-labelling-and-advertising/eng/1300118951990/1300118996556>

*manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character, value, quantity, composition, merit or safety...*<sup>40</sup>

The *Food and Drugs Regulations* outline provisions specifying the quantity of a nutrient that must be present in a serving of food in order for food manufacturers to make a nutrition or health claim.<sup>41</sup> The intention of the *Regulations* is to create a consistent and standardized presentation of food information to consumers by specifying the particular nutrients for which a claim can be made (i.e. proteins, fibre, sugar, fat, vitamins, and minerals), the quantity of the nutrient that must be present in the food, as well as the particular wording of the claim. Section B of the *Food and Drugs Regulations* (FDR) outlines very strict rules for the use of nutrition and health claims on food packaging (contained in sections B.01.500 to B.01.603 of the *FDR*).<sup>42</sup>

There are two types of nutrition claims permitted by the *Regulations*: nutrient content claims and health claims:

1. Nutrient content claims specify directly or indirectly the level of a nutrient in a food (such as 'excellent source of calcium' or 'sodium free'). A comparative claim is a type of nutrient content claim that compares the nutritional properties of two or more foods (such as "33% less sodium than our regular potato chips" or "3 grams more fibre than 1 slice of Brand X bread").<sup>43</sup> When a nutrient content claim is made on a food product, it triggers a mandatory declaration of the nutrient in the Nutrition Facts table.
2. Health claims state or imply that there is a relationship between consuming a food (or an ingredient in the food) and health (i.e. "Protein helps build and repair body tissues", "Vitamin D is a factor in the formation and maintenance of bones and teeth" or "A healthy diet rich in a variety of vegetables and fruit may help reduce the risk of

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<sup>40</sup> *Food and Drugs Act*, RSC 1985, c F-27, <http://canlii.ca/t/51x1w> Retrieved on 2013-03-10.

<sup>41</sup> *Food and Drug Regulations*, CRC, c 870, <http://canlii.ca/t/51zm7> Retrieved on 2013-03-10.

<sup>42</sup> *Food and Drug Regulations*, CRC, c 870.

<sup>43</sup> Canadian Food Inspection Agency, *Guide to Food Labelling and Advertising*, Chapter 7.

some types of cancer”).<sup>44</sup> The *Food and Drugs Regulations* prescribes three categories of health claims: general health claims, function claims, and disease reduction and therapeutic claims.

However, the *Food and Drugs Regulations* fall short two major areas. First, it fails to prohibit food manufacturers from using nutrition and health claims on unhealthy foods. That is, the *Food and Drug Regulations* do not disqualify foods high in sugar, fat, and sodium from displaying health or nutrition claims on their packaging. Nor do the regulations establish mandatory upper intake limits for the salt, sugar, or fat content in food products sold to consumers. Second, the *Food and Drugs Regulations* do not prohibit food manufacturers and third parties from displaying their own unregulated front of package nutrition symbols and labeling schemes on foods high in sugar, fat and sodium (an issue that will be discussed in more detail in the next section). This enables the food industry to continue its practice of misleading parents by prominently advertising the positive attributes of their food products on the front of their food packaging and to down-play the negative ingredients that are stated in smaller sized font in nutrition facts tables and ingredients lists. Such labeling practices encourage the consumption of products high in sugar, fat, and sodium that contribute to childhood obesity and ultimately compromise children’s health.

#### IV. FINDINGS:

##### Unregulated Front of Package (FOP) labeling Schemes

While nutrition and health claims constitute a major source of misleading information on food labels, they are not the only contributors to asymmetric information. In Canada, there are both regulated and unregulated forms of nutrition marketing on food packaging. While health and nutrition claims on food packages are strictly regulated by the *Food and Drugs Regulations*, over the past ten years the food industry has also begun developing its own front of package logos and nutrition rating schemes that are unregulated. Some of the main front of a package labeling schemes that have been used in Canada include; Kraft’s Sensible Solutions logo, the Whole Grains Council’s Whole Grain Stamp, the President’s Choice Blue Menu logo, the Heart and

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<sup>44</sup> Ibid. Chapter 8.

Stroke Foundation's Health Check Logo, and Pepsi's Smart Spot.<sup>45</sup> It is important to acknowledge this unregulated category of labeling because it is becoming an important source of nutrition marketing in Canada. A study by Schermel et al (2013) examining the prevalence of nutrition marketing on 10 487 packaged foods in Canadian grocery stores found that 48% of the foods studied contained some form of nutrition marketing. Nutrition marketing was defined in the study as the use of nutrient content claims (claims about total fat, trans fat, vitamins and minerals), disease reduction health claims (i.e. claims about saturated fat and coronary heart disease), and unregulated front-of-pack nutrition statements (i.e. statements made by food manufacturers such as 'contains real fruit juice' or 'made with whole grains') on the front of their food packages.<sup>46</sup> The study revealed that while nutrient content claims remain the most common form of nutrition marketing (as 45% of the food products studied displayed nutrient content claims), unregulated front-of-package (FOP) labeling now represents the second most prevalent source of nutrition marketing in Canada. For example, nineteen percent (18.9%) of the food products examined in the study displayed industry-generated FOP nutrition rating systems, while less than two percent (1.7%) of food products carried health claims (disease reduction claims).

Unlike government regulated health and nutrition claims, these industry generated symbols, logos, and nutrition-rating schemes are not subject to any scientific scrutiny. Industry-generated front of package labeling schemes are problematic for a number of reasons. First, each front of package (FOP) labeling scheme sets its own nutrition criteria, which means there is no consistent criteria for evaluating products. As a result, the same food that is ranked as 'healthy' in one nutritional system may receive a low score in another nutrition rating system. For example, a recent Institute of

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<sup>45</sup> Teri Emrich, JoAnne Arcand, and Mary L'Abbé, "Front-of-pack Nutrition Labelling Systems: A Missed Opportunity?", *Canadian Journal of Public Health* 103, no. 4 (2012): e260-e262, <http://journal.cpha.ca.ezproxy.lib.ucalgary.ca/index.php/cjph/article/view/3312/2656>

<sup>46</sup> Alyssa Schermel, Teri Emrich, JoAnne Arcand, Christina Wong, and Mary L'Abbé, "Nutrition Marketing on Processed Food Packages in Canada: 2010 Food Label Information Program," *Applied Physiology, Nutrition, and Metabolism* 38 no. 6 (2013): 666-672, <http://www.nrcresearchpress.com.ezproxy.lib.ucalgary.ca/doi/full/10.1139/apnm-2012-0386#.Ucz11zn3AnU>

Medicine report, examining 20 different industry created FOP labeling schemes in the US, discovered that when it assessed the same cereal using several different nutrition rating schemes the cereal received two stars in one system, a score of 84 in another system, and a score of 37 in a third nutrition rating scheme.<sup>47</sup> Second, because food companies set their own nutrition criteria, the healthfulness of the foods receiving FOP nutrition seals has been called into question. For example, the food industry's Smart Choices program was heavily criticized and subsequently withdrawn after being investigated the FDA and by Connecticut's Attorney General for allowing nutritionally inferior foods such as sugary cereals like Cocoa Krispies and Froot Loops to carry its Smart Choices label.<sup>48</sup>

Concerned by the confusion these differing front of package schemes were creating for its consumers, in 2007 the Standing Committee on Health urged the Canadian federal government to implement a mandatory standardized front of package (FOP) labeling system for prepackaged foods, beginning with children's foods first and then extending it to other foods later on, in its "Healthy Weights for Healthy Kids" report.<sup>49</sup> Likewise, concerned by the increasing number of unregulated industry FOP symbols and rating systems appear on foods, the FDA and the Centers for Disease Control and Prevention authorized the Institute of Medicine (IOM) in 2009 to create an expert committee to look into the issue of FOP labeling and to come up with recommendations for a standardized label that could be placed on all processed food packages.<sup>50</sup> However, prior to the release of the Institute of Medicine's Phase II Report

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<sup>47</sup> Institute of Medicine, *Front of Package Nutrition Systems and Symbols: Promoting Healthier Choices*, Committee on Examination of Front-of-Package Nutrition Rating Systems and Symbols (Phase 1 Report), Food and Nutrition Board, (2010), Sections 6-13, [http://www.nap.edu/catalog.php?record\\_id=12957](http://www.nap.edu/catalog.php?record_id=12957)

<sup>48</sup> Kelly Brownell and Jeffrey Koplan, "Front-of-package nutrition labeling – An abuse of trust by the food industry?" *New England Journal of Medicine*, 364 no. 25 (June 23, 2011): 2373- 2375, <http://www.nejm.org.ezproxy.lib.ucalgary.ca/doi/full/10.1056/NEJMp1101033>

<sup>49</sup> The Standing Committee on Health (House of Commons). *Healthy Weights for Healthy Kids* (Ottawa, Ontario: Communications Canada, 2007). [http://www.london.ca/child\\_youth\\_network/pdfs/hehpaliteraturereviewhealthyweightsforhealthykids.pdf](http://www.london.ca/child_youth_network/pdfs/hehpaliteraturereviewhealthyweightsforhealthykids.pdf)

<sup>50</sup> Institute of Medicine, *Front of Package Nutrition Systems and Symbols: Promoting Healthier*

outlining its recommendations to the FDA, the food industry implemented a new labeling system. In January 2011, the Grocery Manufacturers Association and the Food Marketing Institute, which represents 80% of the leading food and beverage companies and retailers, released a new industry wide front of package labeling scheme called “Facts Up Front”.<sup>51</sup> The new program is named “Facts Up Front” because it literally takes information from the Nutrition Facts Table and places it on the front of the food package. What makes this industry generated labeling program different from previous industry initiatives is willingness to voluntarily report sugar, fat, and salt levels on the front of food packages. More specifically, the blue coloured “Facts Up Front” label located on the upper right hand corner of food packaging voluntarily reports the number of calories contained in a serving of a food, as well as the amounts of fat (in grams and %DV), the amount of sodium (in mg and %DV), and the amount of sugar (in grams). The “Fact Up Front” label also reports two optional nutrients selected from a list of eight potential nutrients (fibre, potassium, protein, vitamins A, C, or D, calcium, and iron).<sup>52</sup> See the “Facts Up Front” label in figure 1 below.

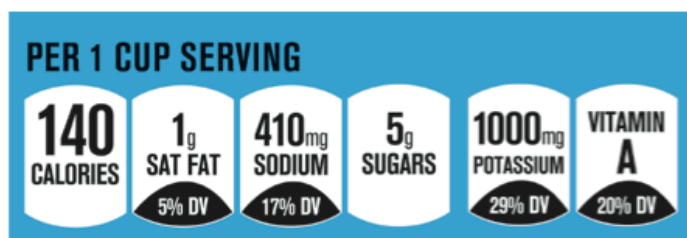


Figure #1: “Facts Up Front” logo.<sup>53</sup>

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*Choices*, Committee on Examination of Front-of-Package Nutrition Rating Systems and Symbols (Phase 1 Report) Food and Nutrition Board, (Oct. 2010), [http://www.nap.edu/catalog.php?record\\_id=12957](http://www.nap.edu/catalog.php?record_id=12957)

<sup>51</sup> Grocery Manufacturers’ Association, *Facts Up Front of Pack Labelling Initiative*, January 2011, <http://www.gmaonline.org/issues-policy/health-nutrition/facts-up-front-front-of-pack-labeling-initiative/>

<sup>52</sup> Kelly Brownell and Jeffrey Koplan, “Front-of-Package Nutrition Labeling – An Abuse of Trust by the Food Industry?” *New England Journal of Medicine*, 364 no. 25 (June 23, 2011): 2373-2375, <http://www.nejm.org.ezproxy.lib.ucalgary.ca/doi/full/10.1056/NEJMp1101033>

<sup>53</sup> Grocery Manufacturers’ Association, *Facts Up Front - Front of Pack Labeling Initiative*.

At first glance this new industry labeling-scheme appears to address the issue of information asymmetry as it places sugar, fat, and sodium squarely on the front of the food package in proximity to nutrition and health claims. One way to help consumers better judge the nutritional quality of foods is to provide a more balanced nutritional profile (present both the positive and negative attributes of the food and allow consumers to make their own judgments). Unfortunately, this new labeling scheme does little to help consumers make better food choices because most consumers do not know how to interpret the meaning of the information presented in the “Facts Up Front” label. Consumers have difficulty understanding the quantitative information contained in Nutrition Facts Tables (such as % Daily Values and serving sizes) so merely restating the same information on the front of the package is not going to resolve the problem.<sup>54</sup> According to Emrich et al. (2012), research commissioned by Health Canada to assess consumer understanding of the Nutrition Facts table found that consumers are confused by the use of multiple units (i.e. milligrams, grams, and percentages) to report the nutrient levels of a single product in the Nutrition Facts table.<sup>55</sup> In addition, consumers have difficulty interpreting the meaning of Percent Daily Values (%DV’s) contained within the Nutrition Facts table. Furthermore, the Health Canada study also revealed that Canadian consumers lack basic nutritional knowledge about what constitutes a small or a large amount of the nutrients reported in the Nutrition Facts table (i.e. consumers do not know what constitutes a high level of sugar, fat, and sodium in a food product).<sup>56</sup> Therefore, simply restating amounts of sugar, fat, and salt on the front of the package (using units such as g, mg, and %DV that consumers do not know how to interpret anyway) does little to help consumers better judge the nutritional quality of foods or to mitigate the influence of misleading nutrition claims.

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<sup>54</sup> Teri Emrich, JoAnne Arcand, and Mary L’Abbé, “Front-of-pack Nutrition Labelling Systems: A Missed Opportunity?”, *Canadian Journal of Public Health* 103, no. 4 (2012): e260-e262, <http://journal.cpha.ca.ezproxy.lib.ucalgary.ca/index.php/cjph/article/view/3312/2656>

<sup>55</sup> Teri Emrich, JoAnne Arcand, and Mary L’Abbé, “Front-of-pack Nutrition Labelling Systems: A Missed Opportunity?”, *Canadian Journal of Public Health* 103, no. 4 (2012): e260-e262, <http://journal.cpha.ca.ezproxy.lib.ucalgary.ca/index.php/cjph/article/view/3312/2656>

<sup>56</sup> Teri Emrich et al., “Front-of-pack Nutrition Labelling Systems: A Missed Opportunity?” e260-e262.



Furthermore, the nutrient information presented in the “Facts Up Front” label is communicated ‘per serving’ however, the inconsistent serving sizes used on food products, even within the same food category, make it difficult to make nutrient and calorie comparisons between products. Inconsistent serving sizes allow manufacturers to alter serving sizes in order to present their food in a more positive light (i.e. using larger serving sizes when reporting nutrients to encourage and smaller serving sizes when reporting nutrients to limit).<sup>57</sup> In addition, consumers may underestimate the calorie content of some foods when they are reported per serving. For example, a study by Vanderlee et al. (2012) found that 90% of parents underestimated the number of calories in a bottle of soda pop when calories were reported per serving.<sup>58</sup> A 591 ml bottle of Coke (containing 2.4 servings of soda pop) was presented to participants. Only 12% of the participants were able to correctly identify the total number of calories per bottle when they were presented with the number of calories per serving, even though they had the aid of the Nutrition Facts table. The majority of the parents incorrectly assumed the calories reported on the bottle represented the number of calories for the entire bottle rather than the number of calories per serving.<sup>59</sup>

It is clear that industry initiatives such as the “Facts Up Front” label will do little help parents make healthier food choices for their children and may actually contribute to the information asymmetry. According to Brownell and Koplan (2011), the new “Facts up Front” label is likely to mislead consumers in two different ways.<sup>60</sup> First, displaying ‘nutrients to encourage’ (where levels should be high) adjacent to ‘nutrients to

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<sup>57</sup> Kelly, Bridget et al. “Consumer Testing of the Acceptability and Effectiveness of Front-of-Package Food Labeling Systems for the Australian Grocery Market”, *Health Promotion International* 24, no. 2, (June 2009): 120-129, <http://heapro.oxfordjournals.org.ezproxy.lib.ualgary.ca/content/24/2/120.full>

<sup>58</sup> Lana Vanderlee, Samantha Goodman, Wiworn Sae Yang, and David Hammond, "Consumer Understanding of Calorie Amounts and Serving Size: Implications for Nutritional Labelling", *Canadian Journal of Public Health* 103, no. 5 (Sep, 2012): 327-31, <http://ezproxy.lib.ualgary.ca/login?url=http://search.proquest.com/docview/1323768341?accountid=9838>, (accessed June 17, 2013).

<sup>59</sup> Ibid.

<sup>60</sup> Kelly Brownell and Jeffrey Koplan, “Front-of-Package Nutrition Labeling – An Abuse of Trust by the Food Industry?” *New England Journal of Medicine*, 364 no. 25 (June 23, 2011): 2373-2375, <http://www.nejm.org.ezproxy.lib.ualgary.ca/doi/full/10.1056/NEJMp1101033>

discourage' such as sugar, fat and salt (where levels should be low) will only serve to confuse consumers.<sup>61</sup> Second, allowing food manufacturers to showcase positive nutrients on food labels (such as calcium, potassium, and vitamins) next to the 'nutrients to limit' may encourage food manufacturers to fortify unhealthy foods with nutrients in order to convey a more positive image of their food products. Any new food-labeling scheme should be judged by whether or not it alleviates the information asymmetry (or helps consumers to better evaluate the nutritional quality of the foods they are eating). The "Facts Up Front" program gets a failing grade because it does little to improve consumers' ability to distinguish healthy from unhealthy foods. According to Brownell and Koplan, the timing of the food industry's introduction of the "Fact Up Front" labeling program is suspicious as it occurred just prior to the release of the Institute of Medicine's Phase II recommendations to the FDA.<sup>62</sup> The new "Facts Up Front" industry initiative, that purports to provide consumers with better information on important food components, appears to be an attempt by the food industry to prevent future mandatory government regulation of the front of food packages. The Phase I Institute of Medicine report made it very clear that fat and sodium were going to be targeted in any front of package model it recommended.<sup>63</sup> By creating its own "Facts Up Front" label food manufacturers have the appearance of being more transparent about the levels of sugar, fat, and sodium in their food products without actually having to change anything at all (i.e. maintaining the status quo of continuing to produce low quality foods and providing little guidance to consumers in making informed food choices).

On October 20, 2011 the Institute of Medicine (IOM) released a report entitled "Front of Package Nutrition Rating Systems and Symbols: Promoting Healthier Choices". Based on the IOM's comprehensive review of research studies on front of

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<sup>61</sup> Kelly Brownell et al, "Front-of-package nutrition labeling – An abuse of trust by the food industry?", 2373-2375.

<sup>62</sup> Ibid.

<sup>63</sup> Institute of Medicine, *Front of Package Nutrition Systems and Symbols: Promoting Healthier Choices*, (Committee on Examination of Front-of-Package Nutrition Rating Systems and Symbols (Phase I) Food and Nutrition Board, (2010), [http://www.nap.edu/catalog.php?record\\_id=12957](http://www.nap.edu/catalog.php?record_id=12957)

package labels, the report concluded that it was time for a fundamental shift in front of package labeling (FOP) from a system that simply provides consumers with factual information about the levels of nutrients to one that provides clear guidance to consumers on the healthfulness of food products.<sup>64</sup> Evidence from the literature reviewed by the IOM suggested that a simple standardized front of package system (using a symbol such as a star or a check mark) that makes healthy food choices easily recognizable would aid consumers in making healthier food choices. Chapter 7 of the IOM Phase II report outlines the criteria that a successful front of package (FOP) system should contain.<sup>65</sup> First, according to the IOM report a FOP labelling system should be simple. That is, a front of package label should not require consumers to have sophisticated nutritional knowledge in order to understand it. Second, a FOP label should help consumers interpret or assess the healthfulness or nutritional quality of the product. That is, it should present nutrition information in a manner that guides consumers to healthier choices rather than merely presenting facts (i.e. a labelling system that rates the healthfulness of foods instead of merely presenting nutrient levels which requires consumers to have adequate nutritional knowledge in order to interpret). The IOM report states that a FOP system should translate information from the Nutrition Facts Panel into a “quickly grasped health meaning” so that healthier choices are “unmistakable”.<sup>66</sup> Third and fourth, the report asserts that nutrition guidance should be conveyed through a ranking or ordinal system using a readily recognizable symbol. For example, the IOM report recommended using stars or a checkmarks to indicate the healthfulness of the product (i.e. the greater the number of stars, the healthier the product).

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<sup>64</sup> Institute of Medicine, *Front of Package Nutrition Systems and Symbols: Promoting Healthier Choices*, (Committee on Examination of Front-of-Package Nutrition Rating Systems and Symbols (Phase II) Food and Nutrition Board, (2011), [http://nap.edu/catalog.php?record\\_id=13221](http://nap.edu/catalog.php?record_id=13221)

<sup>65</sup> Institute of Medicine, *Front of Package Nutrition Systems and Symbols: Promoting Healthier Choices*, Phase II Report (2011): Chapter 7.

<sup>66</sup> IOM Report, Phase II, Chapter 7, page 73.

The IOM report advocates for a FOP labelling system that reports the nutrients that are most critical to the health of the population.<sup>67</sup> Since sugar, fat, and sodium have been identified as the greatest contributors to obesity and chronic disease they were recommended by the IOM as the critical nutrients to report on the front of food packaging.<sup>68</sup> The IOM has created a model FOP label that displays calories (per serving), and zero to three points (stars or checkmarks) food products can earn for containing low levels of sugar, sodium, saturated fats and trans fats. The number of points a product earns depends on its performance in a two-stage process. First, food products are screened for their eligibility to earn points. Food products are excluded or disqualified from the points system if their levels of fat, sugar, or sodium are too high. If any of the three critical nutrients (sugar, fat, or salt) exceeds established threshold limits, the food is disqualified from displaying any points or stars at all. In this case, a disqualified product would only display calories per serving on the front of the package (no stars).<sup>69</sup> A product that contains low enough levels of sugar, fat, and sodium (i.e. is not disqualified in stage one) moves onto stage two where it is evaluated for the number of points/stars it can earn. Each nutrient that meets the qualifying criteria (i.e. its level is low enough) is eligible to earn a point (or star). Each product can earn up to three points (one point for each of sugar, fat, and salt content). Although the product may not be disqualified for exceeding threshold levels in the first stage of evaluation, if none of the nutrients are at low enough levels in the second stage of evaluation it may not earn any stars at all. Figure #2 below provides an example of the IOM's proposed FOP label illustrating how four different food products (chips, granola bars, cereal, and bread) are rated for stars based on their ability to meet the disqualifying and eligibility criteria.

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<sup>67</sup> Ibid.

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.



Figure #2: Institute of Medicine model Front-of-package labeling system (example 1).<sup>70</sup>

The IOM report recommends that the FDA align its eligibility and disqualifying criteria with existing food regulations in the US.<sup>71</sup> It suggests using the criteria for health claims to disqualify foods from earning points (i.e. disqualifying foods that exceed the threshold levels for fat and sodium) and using the criteria for nutrient content claims (specifically the criteria for 'low' and 'healthy' nutrient content claims) to determine the number of points/stars a food can earn. Food products in the US are prohibited from carrying health claims if their saturated fats or sodium levels exceed 20% of the daily recommended value (DV) for sodium and fat (as anything above 20% DV is considered to be inconsistent with dietary advice/ dietary guidelines for maintaining good health).<sup>72</sup> It is important to note that the FDA has not set disqualifying levels for added sugars or trans fats. According to the IOM report, daily reference values have not been established for added sugars or trans fats due to the lack of scientific consensus on the safe amounts for these nutrients.<sup>73</sup> The report acknowledges that there are certain

<sup>70</sup> Ibid. Phase II Report, Chapter 7, page 75.

71 Ibid.

72 Ibid.

73 Ibid.

categories of foods such as beverages (soda pop, energy drinks, and sports drinks) as well as cereals and deserts that contribute more than half of the added sugars to people's diets and therefore must be addressed in the FOP system.<sup>74</sup> In order to prevent certain food categories high in added sugars from displaying points for sodium and fat, the beverages and deserts categories have been disqualified from earning any points. Unfortunately, sugary cereals have not been disqualified from earning points. According to the IOM report, the rationale for this decision is based on the argument that some products (such as cereals) can "make meaningful contributions to dietary fiber and/or essential nutrients and should therefore be evaluated for FOP points".<sup>75</sup> This is certainly disappointing news, as it gives sugary cereals a free pass to earn stars for sodium and fat.

If the FDA decides to adopt the IOM front of package model, it will face many challenges in setting disqualifying criteria and in establishing the eligibility criteria that enables products to earn stars. The IOM report has stated that one of the major difficulties with the criteria it has proposed is the failure of certain foods recommended by dietary guidelines (such as dairy products) to qualify for points due to their high levels of naturally occurring sugars or saturated fats.<sup>76</sup> The IOM report suggests that perhaps different criteria will need to be set for certain food categories (i.e. dairy products, oils, and nuts) in order to allow the IOM model to align itself better with dietary guidelines. However, if the challenge to set appropriate criteria/levels for sugar, fat, and salt for FOP labels is too great for the FDA, there is always the option of banning all FOP labels from children's foods.

### Critique of the Institute of Medicine's FOP Model

The ultimate test of any labeling system is whether or not it adequately addresses the issue of information asymmetry. In other words, does the IOM model enable consumers to accurately judge the nutritional quality of foods? By requiring a food to earn stars for critical components (sugar, fat, and salt), the model goes beyond merely

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<sup>74</sup> Ibid.

<sup>75</sup> Ibid. Chapter 7, page 63.

<sup>76</sup> Ibid.

providing facts to offering some guidance to consumers on the nutritional quality of foods (at least in the area of fats and sodium). Unfortunately, its failure to set a disqualifying level for sugar allows the majority of children's foods to bypass scrutiny. According to the Institute of Medicine's FOP model, the only foods that are automatically excluded from earning any stars are deserts, sweets, and beverages. All other sugary foods skip stage one, without being subjected to any further analysis for disqualifying levels of sugar. As stated at the beginning of this paper, Elliott's analysis of more than 300 children's foods in Calgary grocery stores found that 72% of the products displaying nutrition claims on the front of their packages contained high levels of sugar (i.e. more than 20% of their calories came from sugar).<sup>77</sup> The failure of the IOM model to set sugar limits creates a situation where the majority of children's foods, high in sugar, have the potential to earn two out of three stars, signaling to parents that they are healthier choices when in fact these foods should have been disqualified from earning any stars at all. Thus, we have a faulty signaling system. If the FDA sets conservative disqualifying levels for sugar then the IOM model has the potential to be a good model of for signaling food quality, as it would end up excluding a large proportion of children's foods from earning any stars (properly signaling their poor quality).

Another problem with the FOP model proposed by the IOM is its failure to link each star earned to a particular nutrient. So while a product with two stars conveys the general impression of having some healthfulness, consumers do not know exactly for which of the three critical nutrients the food has earned the stars. The IOM has attempted to address this issue by suggesting that small stars be placed in the Nutrient Facts Panel beside the corresponding nutrients earning them.<sup>78</sup> While this is one potential solution to the problem, it adds search time to consumers' limited shopping time by forcing them to flip the package over to examine the Nutrition Facts table (which may or may not be a bad thing). However, research has demonstrated that consumers already have difficulty interpreting Nutrition Facts tables and consumers viewing FOP

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<sup>77</sup> Charlene Elliott, "Packaging Fun: Analyzing Supermarket Food Messages Targeted at Children", *Canadian Journal of Communication*, 37 (2012): 304-317.

<sup>78</sup> IOM Report, Chapter 7.

claims tend to truncate their search to the front of packages (so any stars placed in the Nutrition Facts table may not be examined).<sup>79 80</sup> A better way of signaling to consumers which critical nutrient has earned a star is to label the stars with the words 'sugar', 'fat', or 'salt' either inside the star (make the stars bigger) or below the stars (as is done with the Traffic Light labeling system in the UK). Not only would consumers be able to get a sense of the overall healthfulness of the product (based on the number of stars), it would immediately signal to them for which ingredients the stars were earned (sugar, fat, and/or sodium). In addition, labeling the stars will prevent consumers from making the assumption that the stars were earned for something else (i.e. for a low number of calories).

## **V. POLICY RECOMMENDATIONS, IMPLICATIONS, AND IMPLEMENTATION:**

If the main problem is information asymmetry, as consumers do not have adequate information to judge the nutritional quality of foods, then policy initiatives should focus on alleviating that asymmetry. Policy initiatives need to address two major sources of asymmetric information: regulated health and nutrition claims on children's food packaging, as well as unregulated industry created FOP labels. One way governments can intervene in order to reduce the information asymmetry is by providing consumers with better information about the products they are buying so they can make more informed decisions. Governments can provide that information itself or it can require the food industry to supply clearer information to consumers (i.e. mandatory FOP labeling or stricter regulations for nutrition and health claims). On the other hand, another way to tackle information asymmetry is by reducing consumers' need for information. This can be accomplished by banning all misleading information from the front of children's food packages (banning all front of package symbols, advertisements, and nutrition or health claims). Governments can also help consumers to judge the healthfulness of foods by

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<sup>79</sup> Teri Emrich et al., "Front-of-pack Nutrition Labelling Systems: A Missed Opportunity?", e260-e262.

<sup>80</sup> Brian Roe, Alan Levy and Brenda Derby, "The Impact of Health Claims on Consumer Search and Product Evaluation Outcomes: Results from FDA Experimental Data." *Journal of Public Policy & Marketing* 18, no. 1 (Spring 1999): 89-105.



sending price signals about the quality of the food (i.e. taxing foods high in sugar, fat, and salt which sends a message that the food is akin to junk food which is also subject to a tax).

**Policy Recommendation #1:** Amend the *Food and Drugs Regulations* to incorporate a provision that prohibits prepackaged children's foods high in sugar, fat, and/or sodium from carrying nutrition and health claims.

Prohibiting nutrient content claims and health claims on foods high in sugar, fat, and sodium will help to eliminate the misleading health messages being conveyed by food packaging. In the absence of these misleading signals, parents will be better able to judge the nutritional quality of children's foods. In order to implement this policy recommendation, Health Canada will need to establish disqualifying levels for sugar, fat, and sodium. Health Canada should look to other countries that have already established disqualifying criteria for health claims, to serve as models for establishing its own criteria. In January of this year, Australia and New Zealand adopted a new mandatory food standard for health claims (Standard 1.2.7) that requires foods carrying health claims to meet a Nutrient Profiling Scoring Criterion (NPSC).<sup>81</sup> Foods are assigned baseline points for their levels of sugar, fat, and sodium, as well as modifying points (which are subtracted) for the percentage of vegetables, fruit, fibre, and protein they contain. A nutrient profile score is calculated by subtracting the modifying points (% of vegetables, fruit etc.) from the baseline points (sugar, fats, and sodium).<sup>82</sup> If a food's nutrient profile score falls below the cut off criterion (NPSC) then it is eligible to carry a health claim (and if its nutrient profile score is above the criterion it may not carry a health claim).

Health Canada could use Australia's Nutrient Profiling Scoring Criterion method as a model for developing its own criteria for Canadian health claims. Since health

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<sup>81</sup> Australia New Zealand Food Standards Code, *Standard 1.2.7 - Nutrition, Health and Related Claims- F2013L00054*, (January, 2013) <http://www.comlaw.gov.au/Details/F2013L00054>

<sup>82</sup> Australia New Zealand Food Standards Code, *Standard 1.2.7 - Nutrition, Health and Related Claims- F2013L00054* (January, 2013), Schedule 5.

claims only represent a small proportion of the claims on Canadian foods (less than 2% of foods are marketed with health claims in Canada) and nutrient content claims constitute the majority of nutrition marketing (45% of foods), the disqualifying criteria should be applied to nutrient content claims as well.<sup>83</sup>

Alternatively, Health Canada could adopt the United States' criteria for health claims. Food manufacturers in the US are prohibited from using health claims on products containing disqualifying levels of fat and sodium (but not sugar). For example, foods exceeding 20% of the daily reference values for total fats (13 grams), saturated fats (4g), cholesterol (60mg), and sodium (480 mg) are disqualified from carrying health claims.<sup>84</sup> Canada could adopt these standards for its own health claims and address the high sugar content of children's foods by creating a 20% DV criterion for sugar. This means however, that Health Canada will need to establish a daily reference value (or upper limit) for sugar.

**Policy Recommendation #2:** Health Canada should implement a single, standardized front of package (FOP) labeling system that specifically targets the sugar, fat, and sodium content of children's foods and provides parents guidance in assessing the healthfulness of these products. This standardized and mandatory FOP label should replace all existing unregulated industry labeling-schemes.

Health Canada could adopt the model proposed by the Institute of Medicine (IOM). The IOM model rates the healthfulness of foods by assigning points/stars to foods based on their levels of sugar, fat, and sodium. However, the IOM model will require the following modifications in order to better communicate the healthfulness of products:

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<sup>83</sup> Alyssa Schermel, et al., "Nutrition Marketing on Processed Food Packages in Canada: 2010 Food Label Information Program", 666-672.

<sup>84</sup> Jennifer Pomeranz, "Front-of-Package Food and Beverage Labeling: New Directions for Research and Regulation", *American Journal of Preventive Medicine* 40, no. 3 (2011): 382–385, <http://www.sciencedirect.com.ezproxy.lib.ucalgary.ca/science/article/pii/S0749379710007063>

1. Health Canada will need to set disqualifying levels for sugar in order to prevent children's foods that are high in sugar from earning any stars or points at all. In the IOM report, disqualifying criteria was not set for sugar (only beverages, sweets, and deserts were excluded from earning points), giving most foods a free pass to earning points for sodium and fat. Failing to set disqualifying levels for sugar (exempting sugary children's foods from any kind of scrutiny) is unacceptable as it allows foods with high sugar content to carry stars and mislead consumers about the healthfulness of the product. A FOP label that disqualifies children's foods from earning points for all three critical nutrients (sugar, fat, and sodium) will do a much better job of helping parents to judge the quality of the food.
2. Each star earned should be labeled with the name of the corresponding nutrient (sugar, fat, salt) for which the point was earned. It is important for parents to know for which nutrients the stars are being earned otherwise they are left with only a vague sense of the general healthfulness of the product. See the revised FOP model below in figure 3.



Figure 3: Revision to IOM model for FOP labels.

One of the goals of the IOM model is to help make the healthy food choice an easily recognizable choice.<sup>85</sup> Unlike the food industry's "Facts Up Front" labeling scheme, the IOM model goes beyond merely presenting nutrition information as facts (which most consumers have difficulty understanding) and actually provides consumers guidance in judging the healthfulness of foods. The IOM model evaluates foods based on the critical nutrients linked to obesity and chronic disease and conveys the healthfulness of the product through the number of stars it earns.<sup>86</sup> The IOM labeling

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<sup>85</sup> IOM Report, Chapter 7.

<sup>86</sup> Ibid.

system (with modifications) would aid parents in judging the nutritional quality of children's food.

Alternatively, Health Canada could adopt the UK's Traffic Light labeling system and use it on the front of children's food packages as a way of providing parents with information on the three most troublesome ingredients: sugar, fat, and sodium. The Traffic Light labeling system was originally developed at Oxford University and later adopted by the UK Food Standards Agency in an attempt to provide consumers with an easily understandable FOP label and to assist them in making quick and informed decisions about food quality.<sup>87</sup> The Traffic Light label alerts consumers to high levels of sugar, fat, and sodium in foods by assigning each nutrient a green, amber, or red light (accompanied by the words 'low', 'moderate', and 'high'). Figure 4 below shows two versions of the Traffic Light system (with and without grams per serving).

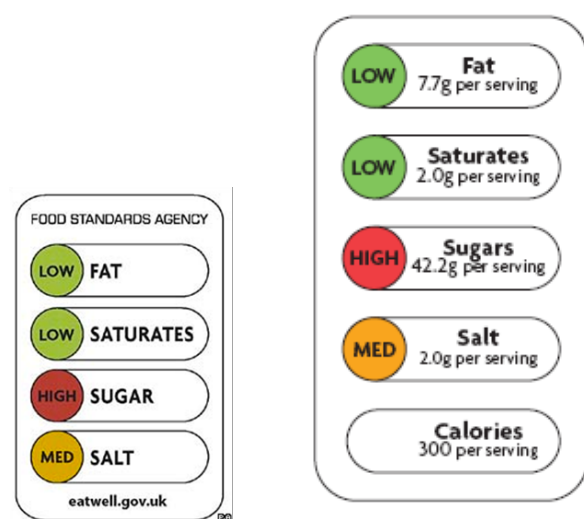


Figure #4: Traffic Light labeling system adopted by the UK Food Standards Agency.<sup>88</sup>

The Traffic Light system differs from the IOM model in that its red lights serve as

<sup>87</sup> Kelly Brownell and Jeffrey Koplan, "Front-of-Package Nutrition Labeling – An Abuse of Trust by the Food Industry, 2373- 2375.

<sup>88</sup> Christina Roberto, Marie Bragg, Marissa Seamans, Regine Mechulan, Nicole Novak, and Kelly Brownell. "Evaluation of Consumer Understanding of Different Front-of-Package Nutrition Labels", 2010–2011. *Preventing Chronic Disease* 2012; 9:120015, DOI: <http://dx.doi.org/10.5888/pcd9.120015>

health warnings on food packages, making it a much more of evaluative label than the IOM label that indicates healthfulness by the presence or absence of stars. The Traffic Light label is an excellent tool for clearly communicating to consumers whether a food product contains high or low amounts of sugar, fat, and sodium. For example a food high in sugar is assigned a red light (accompanied with the word ‘high’), alerting consumers to unhealthy levels of sugar. On the other hand, foods with low amounts of sugar are signaled by a green light and the word ‘low’. Foods containing primarily green lights are rated the healthiest foods and foods with mostly red lights signal unhealthy food choices.

If we apply the same criteria created by the Institute of Medicine for assessing the effectiveness of a front of package labeling system (which it extrapolated from a systematic review of the research literature) we will see that the Traffic Light (TL) system meets all four criteria. According to the IOM criteria, a front of package labelling system should be: simple, interpretative, ordinal, and use an easily recognizable symbol to convey a food’s healthfulness.<sup>89</sup>

1. Simple: The Traffic Light (TL) system is simple and does not require consumers to have sophisticated nutritional knowledge in order to understand it.
2. Interpretive: The TL system goes beyond the mere presentation of nutrient facts and helps guide consumers towards healthier food choices (i.e. more green lights = healthier food choices and more red lights = unhealthy food choices).
3. Ordinal: The TL system ranks the levels of sugar, fat, and salt content of foods as ‘low’, ‘medium’ or ‘high’ according to threshold levels it has established (based on cut off points established in European Regulations for Nutrition and Health Claims).<sup>90</sup>
4. Uses an easily recognizable symbol: A traffic light is an easily recognizable and memorable symbol for conveying information about the nutritional quality of the food product.

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<sup>89</sup> IOM Phase II Report, Chapter 7.

<sup>90</sup> Bridget Kelly, Clare Hughes, Kathy Chapman, et al. “Consumer Testing of the Acceptability and Effectiveness of Front-of-Package Food Labeling Systems for the Australian Grocery Market”, *Health Promotion International* 24, no. 2, (June 2009): 120-129, <http://heapro.oxfordjournals.org.ezproxy.lib.ucalgary.ca/content/24/2/120.full>

Prominent front of package graphics highlighting the unflattering ingredients in addition to the favourable ones would present a more balanced and accurate nutritional profile of children's foods making it easier for parents to make informed decisions and healthier food choices for their children. Not only would a traffic light labeling system help to alleviate misleading labeling practices, it would likely motivate food producers to reformulate their food products to be lower in sugar, fat, and sodium in order to present a more positive image to the public (i.e. reformulating their products so that their products earn more green lights and fewer red lights).<sup>91</sup>

Unlike the Institute of Medicine model that is untested, the Traffic Light label has been evaluated in a number of studies and has been shown to be successful in helping consumers to identify healthier food products.<sup>92</sup> A systematic review of FOP labels by Campos et al (2010), found that traffic light symbols increased consumers' ability to identify healthier foods.<sup>93</sup> Although it is only a voluntary labeling system, 40% of foods in the UK now carry Traffic light labels on the front of their food packages.<sup>94</sup> Furthermore, this number is likely to increase as the UK government has announced its intention to implement a standardized FOP label by the end of 2013 that combines Traffic Light colour-coding along with % Reference Intakes (showing consumers how much of the maximum recommended daily intakes of sugar, saturated fat, total fat, and

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<sup>91</sup> Bridget Kelly, et al., "Consumer Testing of the Acceptability and Effectiveness of Front-of-Package Food Labeling Systems for the Australian Grocery Market", *Health Promotion International* 24, no. 2, (June 2009): 120-129.

<sup>92</sup> Christina Roberto et al., "Evaluation of Consumer Understanding of Different Front-of-Package Nutrition Labels".

<sup>93</sup> Sarah Campos, Juliana Doxey, and David Hammond, "Nutrition Labels on Pre-packaged Foods: A Systematic Review", *Public Health Nutrition* 14, No. 8 (Aug 2011): 1496-1506, <http://journals.cambridge.org.ezproxy.lib.ucalgary.ca/action/displayAbstract?fromPage=online&aid=8318434>

<sup>94</sup> Lindsay McLaren, "Policy Options for Reducing Dietary Sodium Intake." *For the School of Public Policy, University of Calgary, Policy SPP Research Paper No. 12-20*, Vol 5, no. 20 (June 2012): 1-40, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2087820](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2087820)

sodium is contained within a 100 gram serving of the product).<sup>95</sup> Reference intakes (RI's) are the maximum amounts that should be consumed for each of the nutrients in a day and have been set at: fat (maximum 70g), saturated fat (20g), sugars (90g), and sodium (6g).<sup>96</sup> Figure 5 below illustrates what the hybrid traffic light + %RI model might look like.

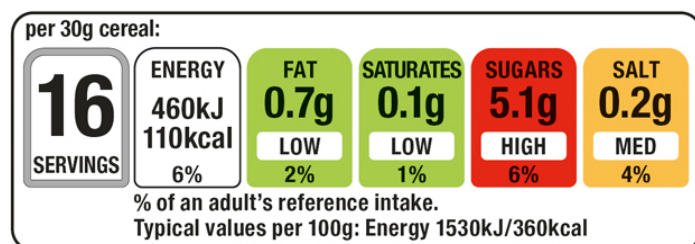


Figure #5: Potential FOP label displaying a combination of Traffic Light and %GDA.<sup>97</sup>

Although it is still only a voluntary initiative, it is estimated that up to 60% of food products in the UK could carry the new FOP label (the hybrid traffic light + %RI system).<sup>98</sup> Many major food manufacturers, including McCain Foods, Mars UK, Nestle UK, and PepsiCo UK have signed up to use the new FOP label, while Cadbury and Coca Cola have refused to do so.<sup>99</sup> Although the food industry is beginning to warm up to the new combined %RI + Traffic Light hybrid as a voluntary initiative, it is unlikely it will sit by idly and allow a traffic light label to become mandatory on food packaging, based on its previous lobbying behavior. According to Brownell and Koplan (2011) the

<sup>95</sup> John Hall, "Plans for New Food Labelling to Combat UK Obesity are Dealt Blow as Cadbury and Coca-Cola Reject 'Traffic Light' System". *The Independent* [UK], June 19, 2013. <http://www.independent.co.uk/news/uk/home-news/plans-for-new-food-labelling-to-combat-uk-obesity-are-dealt-blow-as-cadbury-and-cocacola-reject-traffic-light-system-8664362.html>

<sup>96</sup> Department of Health (UK) and Food Standards Agency, *Guide to Creating a Front of Pack (FOP) Nutrition Label on Pre-packed Products Sold Through Retail Outlets* (June 2013), <http://www.food.gov.uk/scotland/scotnut/signposting/#.UiQLWhbvwb0>

<sup>97</sup> Nick Triggle, "Food Labelling: Consistent System to Start Next Year," *BBC News*, October 24, 2012, <http://www.bbc.co.uk/news/health-20050420>

<sup>98</sup> John Hall, "Plans for New Food Labelling to Combat UK Obesity are Dealt Blow as Cadbury and Coca-Cola Reject 'Traffic Light' System". *The Independent* [UK], June 19, 2013.

<sup>99</sup> Ibid.

food industry spent 1.5 billion dollars lobbying against the mandatory adoption of the Traffic Light labeling system prior to the European Union's decision to adopt the %RI system in its new food labeling legislation in 2011 (EU Regulation 1169/2011).<sup>100</sup>

The Traffic Light system is by no means a perfect labeling system. In the past, it has been criticized for negatively evaluating certain foods that are recommended by dietary guidelines. For example, it assigns a red light to some dairy products (i.e. cheeses get a red light for total fat, saturated fat, and sodium).<sup>101</sup> However, this problem is not unique to the TL system as the Institute of Medicine model suffers from the same problem in establishing appropriate cutoff or threshold values that do not unfavorably evaluate foods recommended by dietary guidelines. For example, the Institute of Medicine criteria also rates foods such as dairy products that are higher in naturally occurring sugars, fats, and sodium unfavorably (they would earn no stars or fewer stars).<sup>102</sup> Again, perhaps the only way to enable these food categories to receive higher rankings is to develop an alternate set of criteria for them. One way the TL system has dealt with issue of unintentionally ranking foods containing naturally occurring sugars as red is by having these foods carry a disclaimer stating that the food “contains naturally occurring sugars” and by creating separate criteria for evaluating beverages.<sup>103</sup>

Policy makers should take into consideration any unintended consequences of their policy decisions. For example, if a mandatory front of package label is implemented and a large number of children's foods signal poor quality (primarily red lights or few/no stars) and there are few suitable alternatives available, there is the possibility that parents may begin to tune out these warning messages and buy these

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<sup>100</sup> Kelly Brownell and Jeffrey Koplan. “Front-of-Package Nutrition Labeling – An Abuse of Trust by the Food Industry?” *New England Journal of Medicine* 364, no. 25 (June 23, 2011): 2373-2375.

<sup>101</sup> Bridget Kelly, et al. “Consumer Testing of the Acceptability and Effectiveness of Front-of-Package Food Labeling Systems for the Australian Grocery Market”, *Health Promotion International* 24, no. 2, (June 2009) 120-129.

<sup>102</sup> IOM Phase II Report, Chapter 7.

<sup>103</sup> Department of Health (UK) and Food Standards Agency, *Guide to Creating a Front of Pack (FOP) Nutrition Label on Pre-packed Products Sold Through Retail Outlets* (June 2013).



low quality foods for their children anyway. Given that the majority of children's prepackaged foods have been found to be high in sugar, fat, and sodium by both Elliott (89%) and Colby (63%), this is a distinct possibility.<sup>104 105</sup> On the other hand, a labeling system that scrutinizes and evaluates children's food for high sugar, fat, and sodium levels and forces manufacturers to report it prominently on the front of their packaging would most likely encourage food companies to reformulate their food products in order to receive more favourable ratings (to earn more green lights or more stars). One case in point is the positive impact that mandatory health warnings on high sodium foods in Finland have had in encouraging food manufacturers to reduce the sodium content in their food products.<sup>106</sup> According to McLaren (2012), Finland's legislation requiring high sodium foods to carry mandatory health warnings (coupled with mass media campaigns and voluntary cooperation by the food industry to reduce the salt content in its products), has not only resulted in a 30 percent decrease in the population's consumption of salt (from 5000 mg to 3300 mg per day) but has also led to the disappearance of a large number of high sodium products from grocery store shelves.<sup>107</sup> It can be argued that the IOM model and the Traffic Light label function similarly to health warnings in that they alert consumers to high levels of sugar, fat, and sodium (by the presence of red lights or by the absence of stars). One positive consequence of mandating front of package labels such as the Traffic Light labeling system or the IOM star system is that it may motivate food manufacturers to reformulate their products over time, leading to improvements in the quality of children's foods and the emergence of healthier children's food products lining the shelves of grocery stores.

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<sup>104</sup> Charlene Elliott, 'Marketing Fun Foods', 259-273.

<sup>105</sup> Sarah Colby et al. "Nutrition Marketing on Food Labels," 92-98.

<sup>106</sup> Lindsay McLaren, "Policy Options for Reducing Dietary Sodium Intake," *For the School of Public Policy, University of Calgary, Policy SPP Research Paper No. 12-20*, Vol 5, no. 20 (June 2012): 1-40, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2087820](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2087820)

<sup>107</sup> Lindsay McLaren, "Policy Options for Reducing Dietary Sodium Intake," *For the School of Public Policy, University of Calgary, Policy SPP Research Paper No. 12-20*, Vol 5, no. 20 (June 2012): 1-40.

## Legal Challenges

Unfortunately, any attempt to mandate FOP labels on children's foods would almost certainly be met with resistance by the food industry. Food manufacturers could take the government to court arguing that the new provisions in the *Food and Drugs Regulations*, requiring them to display a standardized front of package label (either the IOM model or the Traffic Light model), infringes on the freedom of expression granted to them by section 2(b) of the Canadian *Charter of Rights and Freedoms* which states that:

2. *Everyone has the following fundamental freedoms:*

(b) *freedom of thought, belief, opinion and expression, including freedom of the press and other media of communication;*<sup>108</sup>

Regulations requiring food manufacturers to place FOP labels on their products could be argued as interfering with how manufacturers choose to express themselves. According to the Supreme Court ruling, in *RJR MacDonald Inc. v. Canada (Attorney General)* [1995], freedom of expression includes not only the right of companies to express themselves through advertising but also extends to the "right to say nothing or the right to not say certain things".<sup>109</sup> Thus, mandatory labeling can be construed as a form of forced expression.<sup>110</sup>

In order to determine whether the infringement on food manufacturers' freedom of expression could be justified under section 1 of the *Charter*, the Court would apply the Oakes test (*R. v. Oakes* [1986]).<sup>111</sup>

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<sup>108</sup> *The Constitution Act, 1982*, Schedule B to the Canada Act 1982 (UK), 1982, c 11, <http://canlii.ca/t/ldsx>, retrieved on 2013-04-04.

<sup>109</sup> *RJR-MacDonald Inc. v. Canada (Attorney General)* [1995] 3 S.C.R. 199, Charter Issues (i) Infringement, *Per* Lamer C.J. and Sopinka, McLachlin, Iacobucci and Major JJ, <http://scc.lexum.org/decisia-scc-csc/scc-csc/scc-csc/en/item/1290/index.do>

<sup>110</sup> *RJR-MacDonald Inc. v. Canada (Attorney General)* [1995] 3 S.C.R. 199

<sup>111</sup> *R. v. Oakes*, 1986 CanLII 46 (SCC), [1986] 1 SCR 103, <<http://canlii.ca/t/1ftv6>> retrieved on 2013-07-12, <http://www.canlii.org/en/ca/scc/doc/1986/1986canlii46/1986canlii46.html>

1. **Pressing and Substantial:** In order for any legislation to override a *Charter* right the government must demonstrate that it has a sufficiently important objective.<sup>112</sup> The Court would consider whether Parliament's objective for creating mandatory front of package labels is a pressing and substantial objective.<sup>113</sup> It could be argued that Parliament's objective in making FOP labels mandatory on children's foods is a pressing and substantial objective because these labels are intended to inform consumers about high levels of sugar, fat, and sodium in children's foods, thus discouraging their excess consumption in the population, leading to a reduction in the rates of childhood obesity, and associated chronic diseases such as type 2 diabetes, heart disease, ultimately reducing the financial burdens on an already overburdened health care system.
2. **Are the means proportional?**
  - a) **Rational Connection:** Next, the court would determine whether there was a rational connection between limiting the *Charter* right (violating manufacturers' freedom of speech with mandatory FOP labels) and the government's objective of reducing consumption of unhealthy foods.<sup>114</sup> It could be argued that using mandatory FOP labels on food products will alert consumers to foods exceeding safe levels of sugar, fat, and sodium deterring them from consuming those products. FOP labels that increase public awareness of nutrients to limit is rationally connected to Health Canada's (the government's) objective of promoting informed food choices and reducing the sugar, fat, and sodium intake in the population. The Court might look for evidence from the research literature to indicate whether or not FOP labels on food packaging have been effective in helping consumers to identify healthier food products and whether FOP labels alter the purchasing behaviour of consumers.

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<sup>112</sup> Centre for Constitutional Studies, *The Oakes Test*, (University of Alberta), <http://www.law.ualberta.ca/centres/ccs/rulings/theoakestest.php>

<sup>113</sup> *Canada (Attorney General) v. JTI-Macdonald Corp.* (2007) SCC 30, (Paragraph 37), <http://scc.lexum.org/decisia-scc-csc/scc-csc/scc-csc/en/item/2369/index.do>

<sup>114</sup> *Canada (Attorney General) v. JTI-Macdonald Corp.* (2007) SCC 30, (Para 40).

- b) Minimal Impairment:** In order to pass the Oakes test, any limitation on a *Charter* right also must attempt to impair that right as minimally as possible.<sup>115</sup> The court would need to determine whether the requirement for the front of children's packaging to carry the mandated Traffic Light or IOM model falls within a range of reasonable alternatives. In order to answer this question the court might examine FOP labeling requirements in other countries (such as the US, the European Union, and Australia) to determine whether or not Canada's new labeling requirements are in line with these other countries.
- c) Proportionality:** The final step in the Oakes test examines whether on balance the benefits derived from the government's legislation outweighs the costs of restricting the *Charter* rights of food manufacturers.<sup>116</sup> Ideally, the court would rule that the considerable benefits arising from mandatory FOP labels are great in proportion to the small impact that the infringement has on food manufacturers' expressive interests (as a large proportion of the package is still left for other expressive activities). That is, helping consumers to make more informed food decisions, reducing the incidence of obesity, and preventing chronic disease outweighs the restrictions it places on food manufacturers.

Upon meeting the criteria of the Oakes test, the Supreme Court might then conclude that the new provisions requiring food manufacturers to display a standardized FOP label, informing consumers about sugar, fat, and sodium levels on their packaging, are deemed to be a reasonable measure justified under section 1 of the *Charter*. Under these circumstances the Supreme Court would rule that the new provisions in the *Food and Drugs Regulations*, requiring food manufacturers to carry mandatory FOP labels, were constitutional and they would remain in force.

**Policy Recommendation #3:** Ban all nutrition claims and FOP labels on children's foods. More specifically, amend the *Food and Drugs Regulations* to prohibit any health

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<sup>115</sup> *Canada (Attorney General) v. JTI-Macdonald Corp.* (2007) SCC 30, (Para 42).

<sup>116</sup> *Ibid*, (Para 45).

claims, nutrition claims, or FOP schemes from being placed on all children's prepackaged foods.

Banning all front of package labels on children's foods would eliminate the misleading messages being conveyed by nutrition claims and front of package (FOP) labels. Parents would then have to use something other than package claims to make their purchasing decisions. Without the distractions of nutrition claims and industry created FOP nutrition labels, parents may have greater incentives to use the Nutrition Facts table where they can view all of the major food components such as the fat, sugar, sodium, and calorie content. However, if all claims and FOP labels were banned, improvements to the Nutrition Facts table would be necessary to make it more user-friendly and comprehensible for consumers.

Banning FOP labels and nutrition claims on all children's food packages is the most controversial of the proposed policy recommendations and would face the greatest food industry opposition. It would most certainly face legal challenges as banning infringes on food manufacturers' freedom of expression. In order to anticipate whether or not the legislation would be struck down if challenged in court, it would be helpful look to legal precedents including court rulings in Canada and around the world where the banning of advertisements have been upheld (i.e. banning advertisements on cigarette packaging or the banning of advertisements to children) as models for how to proceed with banning on children's foods. In 2011, Australia enacted the world's first *Tobacco Plain Packaging Act* that requires tobacco products to be sold in plain packaging. In establishing the rationale and building the evidence base for banning advertisements on children's food packaging, the government could look to Australia's *Tobacco Plain Packaging Act* for guidance as well as the outcome of court rulings to current and future legal challenges by cigarette manufacturers. For example, the High Court in Australia recently ruled in favour of the federal government's legislation and rejected cigarette manufacturers' claim that the new legislation was unconstitutional (as it interfered with manufacturers' intellectual property).<sup>117</sup>

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<sup>117</sup> Mark Metherell, "Big Tobacco Loses High Court Battle Over Plain Packaging", *National Times*, August 15, 2012, <http://www.brisbanetimes.com.au/federal-politics/political-news/big->

On the other hand, Dutton et al (2012) have argued for the banning of advertisements on children's food products on ethical grounds.<sup>118</sup> That is, the government could base its rationale for banning all FOP labels and nutrition claims on the paternalistic argument that children represent a vulnerable group needing protection from food advertisers. For example, in the 1989 Supreme Court of Canada case, *Irwin Toy Ltd. V. Quebec (Attorney General)* [1989], the Court upheld the *Quebec Consumer Protection Act* that prohibits advertising to children under the age of 13, when a toy manufacturer challenged the legislation for infringing on its freedom of expression.<sup>119</sup> The arguments used in this case (i.e. children represent a vulnerable group lacking the cognitive capacity to critically evaluate the messages being sent by advertisers) could be used as model for building the case for justifying a ban on front of package advertisements and nutrition claims on children's food packages.<sup>120</sup>

#### Applying an Economic Analysis To Generate Additional Policy Solutions

While individuals are ultimately responsible for the foods they choose to consume (and purchase for their children), it is important to acknowledge that there are economic forces at work in the environment that promote the consumption of less than optimal foods. Low quality foods that are high in sugar and fat have become cheaper to purchase than healthier foods such as fruits and vegetables. According to Finkelstein et al. (2010), since the early 1980's the price of fresh fruits and vegetables have risen by 190% whereas the price of sugars and fats/oils have shown much smaller price increases (66% and 70% respectively).<sup>121</sup> These price changes have been partially

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[tobacco-loses-high-court-battle-over-plain-packaging-20120815-247kz.html#ixzz2Z0B3q3rh](http://tobacco-loses-high-court-battle-over-plain-packaging-20120815-247kz.html#ixzz2Z0B3q3rh)

<sup>118</sup> Dutton, Daniel, Norman Campbell, Charlene Elliott, and Lindsay McLaren, "A Ban on Marketing of Foods/Beverages to Children: The Who, Why, What and How of a Population Health Intervention", *Canadian Journal of Public Health*, 103, no. 2 (2012): 100-102, <http://journal.cpha.ca/index.php/cjph/article/view/2987>

<sup>119</sup> *Irwin toy ltd. v. Quebec (Attorney general)* [1989] 1 S.C.R. 927, <http://scc.lexum.org/decisia-scc-csc/scc-csc/scc-csc/en/item/443/index.do>

<sup>120</sup> *Irwin toy ltd. v. Quebec (Attorney General)* [1989] 1 S.C.R. 927.

<sup>121</sup> Eric Finkelstein and Kiersten Strombotne. "The Economics of Obesity," *American Journal of Clinical Nutrition* 91, no. 5 (2010): 1520s-1524s, <http://ajcn.nutrition.org.ezproxy.lib.ucalgary.ca/content/91/5/1520S.full>

attributed to government subsidies to the corn and soy industry. As a result, high calorie processed foods have become relatively cheaper to consume than more nutritious foods such as fruits and vegetables. These changes in relative prices have encouraged consumers to shift their purchases away from healthier foods such as fruits and vegetables (as they have become relatively more expensive) towards consuming increasingly higher quantities of lower quality processed foods high in sugar and fat (because they have become relatively inexpensive).<sup>122</sup>

Unsurprisingly, a decline in the price of unhealthy processed foods has coincided with sharp increases in obesity rates.<sup>123</sup> Today, one quarter of Canadian children are overweight or obese.<sup>124</sup> There is a well-established link between obesity and a host of chronic diseases such as type 2-diabetes, coronary heart disease, and cancer.<sup>125</sup> Furthermore, obesity has contributed greatly to health care costs making it more than simply a private health matter. A 2010 report by Alberta Health Services entitled, 'The Cost of Obesity in Alberta Summary Report: 2010', estimated the direct and indirect costs of obesity to the Alberta healthcare system in 2005 to be 1.27 billion dollars.<sup>126</sup> So while low quality foods have become cheaper to purchase, their lower price tag does not reflect the true cost of consuming these foods to either the individual or society. Thus, obesity is a public health concern that justifies government intervention.

Because consumers suffer from information asymmetry, time inconsistent preferences, and are using price signals to make consumption decisions, government policy makers and economists can help consumers make healthier food choices by changing the price signals that consumers are receiving. Price signals can be altered to

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<sup>122</sup> Eric Finkelstein and Kiersten Strombotne, "The Economics of Obesity," 1520s-1524s, <http://ajcn.nutrition.org.ezproxy.lib.ucalgary.ca/content/91/5/1520S.full>

<sup>123</sup> Ibid.

<sup>124</sup> Charlene Elliott, 'Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children,' 259-273,

<sup>125</sup> Alberta Health Services. *The Cost of Obesity in Alberta: Summary Report*. Alberta: 2010. <http://www.albertahealthservices.ca/poph/hi-poph-surv-phids-cost-of-obesity-2010.pdf>

<sup>126</sup> Alberta Health Services, *The Cost of Obesity in Alberta: Summary Report*, Page 37.

steer consumers in the direction of making healthier food choices. If consumers are responding to price signals to select food products, then it reduces the amount of nutrition information consumers need to know in order to make healthy food choices. Thus, using policy instruments such as taxation can help to reduce the information asymmetry between producers and consumers.

#### **Policy Recommendation #4: Tax Children's Processed Foods**

One way to reduce the consumption of undesirable foods and to promote the consumption of healthier foods is to implement tax policies. In order to reduce consumption of unhealthy children's foods, policy makers could alter their prices to make them relatively more expensive than healthier foods (by applying a large tax rate) or alternatively they could introduce a smaller symbolic tax such as a GST on children's foods in order to signal to parents that these foods are of poor nutritional quality (i.e. sending the message that children's processed foods are comparable to junk foods that are also taxed).

A GST might be the easiest type of tax to implement (and is more likely to be supported by politicians than a larger 10% or 20% tax). The GST, which has the benefit of being visible on grocery receipts, provides immediate feedback to parents and has the potential to change consumption patterns over time. While a smaller tax such as a GST may not necessarily alter consumption because it raises the prices of these foods significantly, it does send a strong message to consumers that children's processed foods are of poor nutritional quality and in the same category as junk foods that are also subject to the GST.

On the other hand, if the government was to impose a larger tax on children's processed food products (effectively raising their price), the hope is that parents may find them less attractive and begin to reduce their purchases of these foods. Changing the price signals (making unhealthy foods relatively more expensive and healthier foods relatively cheaper) can encourage consumers to substitute away from processed foods towards more nutritious whole foods (i.e. fruits and vegetables). While in theory using taxes to change consumer behavior sounds good, whether or not these policies will



actually have the intended effect depends on the elasticity of demand for the foods in question.<sup>127</sup> In order estimate the values for the price elasticity of demand for children's processed foods, data was taken from a study by Andreyeva et al. (2010) that had conducted a systematic review of 160 studies in the US in order to estimate the price elasticity of demand for twelve different food categories.<sup>128</sup> The systematic review revealed that food prices in general are relatively inelastic. For example, Andreyeva et al. found that the price elasticities of the twelve food groups ranged from 0.27 to 0.81.<sup>129</sup> However, it was clear that certain food groups (such as fruits, vegetables, and soda pop) were higher in elasticity than others. The greater the price elasticity of demand a food has, the more likely population purchases will shift in response to changes in that particular food's price.<sup>130</sup>

Anticipating how consumers will respond to price increases on children's food products poses a challenge, as children's processed foods do not fit neatly into any of the twelve food categories studied by Andreyeva et al. In her analysis of children's foods, Elliott (2008) found that dry goods comprised a large proportion (61%) of children's foods.<sup>131</sup> Based on this information, the cereals category with an average price elasticity of demand of 0.60 was used to estimate the impact of a tax on the

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<sup>127</sup> N. Gregory Manikew, Ron Kneebone, and Ken McKenzie, *Principles of Microeconomics*, Fifth ed. (Toronto: Nelson Publishing, 2011), 96-99.

<sup>128</sup> Tatiana Andreyeva, Michael Long and Kelly Brownell, "The Impact of Food Prices on Consumption: A Systematic Review of Research on the Price Elasticity of Demand for Food", *American Journal of Public Health* 100, no. 2 (February 2010): 216-222, <http://web.ebscohost.com.ezproxy.lib.ucalgary.ca/ehost/detail?vid=3&sid=d94394eb-82e2-4b0f-9cf0-1e937da8885c%40sessionmgr12&hid=19&bdata=JnNpdGU9ZWWhvc3QtbGl2ZQ%3d%3d#db=a9h&AN=47521813>

<sup>129</sup> Tatiana Andreyeva et al., "The Impact of Food Prices on Consumption: A Systematic Review of Research on the Price Elasticity of Demand for Food", *American Journal of Public Health* 100, no. 2 (February 2010): 216- 222.

<sup>130</sup> N. Gregory Manikew et al, *Principles of Microeconomics*, Fifth ed. (Toronto: Nelson Publishing, 2011), 96-99.

<sup>131</sup> Charlene Elliott, "Marketing fun foods", 259-273.

consumption of children's processed foods.<sup>132</sup> Applying a 10% tax to processed children's foods (the majority of which contained in the dry goods category) could potentially lead to a 6% reduction in the consumption of these foods (and applying a 20% tax could potentially lead to a 12% reduction). On the other hand, Elliot reported that the majority (89%) of the children's foods studied could be classified as being of poor nutritional quality due to their high levels of sugar, fat, and sodium.<sup>133</sup> Due to their high sugar, fat, and salt content, processed children's foods (especially sugary cereals) might indeed be best compared to addictive substances such as soda pop and cigarettes, both of which have already been extensively researched. If this is the case, then there is a good chance that parents might respond to a tax imposed on these processed foods. For example, taxes on cigarettes have had the impact of reducing smoking prevalence.<sup>134</sup> Furthermore, it has been estimated that a 10% tax on soda pop (which as a price elasticity of 0.78) would lead to an 8 to 10% reduction in soda pop purchases.<sup>135</sup> If we assume that children's processed foods exhibit a similar elasticity of demand, then a 10% tax on processed children's foods could potentially reduce consumption levels by 8 to 10% (and a 20% tax could reduce consumption levels by 16 to 20%).

## **Conclusion**

Concerned by the high rates of obesity, the federal and provincial Ministers of Health released a framework to address childhood obesity in 2010 entitled *Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights*.<sup>136</sup> The framework identified three policy priorities: 'Creating

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<sup>132</sup> Tatiana Andreyeva et al., "The Impact of Food Prices on Consumption," 216- 222.

<sup>133</sup> Charlene Elliott, "Marketing Fun Foods," 259-273.

<sup>134</sup> Tatiana Andreyeva et al., "The Impact of Food Prices on Consumption," 216- 222.

<sup>135</sup> Kelly Brownell and M. Frieden, "Ounces of Prevention – The Public Policy Case for Taxes on Sugared Beverages," *The New England Journal of Medicine* 360, no.18 (2009): 1805-1808.

<sup>136</sup> Public Health Agency of Canada, *Curbing Childhood Obesity: A Federal Provincial and Territorial Framework for Action to Promote Healthy Weights* (Ottawa: 2010), <http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/framework-cadre/index-eng.php#an>

supportive social and physical environments that promote healthy eating', the 'early identification of children who are at risk of developing obesity', and 'increasing the accessibility and availability of nutritious foods'.<sup>137</sup> In addition, the *Curbing Childhood Obesity* framework has specifically identified the marketing of foods high in sugar, fat, and sodium to children as one of the major contributors to childhood obesity. Creating environments that make healthy eating an easy choice to make is critical to promoting healthy weights.<sup>138</sup> If we want parents and children to make better food choices then healthy food choices need to be an easily recognizable option. Unfortunately, the current food environment often seems to promote the opposite; that is healthy food choices are becoming increasingly difficult to make. The abundance of high sugar, fat, and sodium foods now available in grocery stores, along with the proliferation of misleading claims and industry front of package logos designed to market these unhealthy foods, has made selecting healthy foods very difficult for consumers. In order to tackle childhood obesity, we need to begin targeting areas in the food environment that create obstacles to healthy eating. Reducing exposure to the marketing of foods high in sugar, fat, and sodium and arming parents with accurate information to make healthy food choices for their children are critical strategies in order to tackle childhood obesity.

The time has come for the government to take bold steps to tackle the rising childhood obesity levels in order to prevent the diet related diseases and the exorbitant costs that they will inflict upon an already unsustainable health care system. The government needs to begin targeting two important sources of asymmetric information: regulated claims and unregulated front of package (FOP) labels. Strengthening the *Food and Drugs Regulations* to prohibit foods high in sugar, fat, and sodium from carrying health and nutrition claims and mandating standardized front of package labels that clearly communicate the healthfulness of foods (by evaluating the sugar, fat, and sodium levels in foods) will enable parents to more accurately judge the quality of the foods they are purchasing for their children. Such regulatory changes may even encourage food

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<sup>137</sup> Public Health Agency of Canada, *Curbing Childhood Obesity*.

<sup>138</sup> Ibid.

manufacturers to reformulate their products and deliver healthier children's food products to the marketplace.

If the misleading messages on food packaging cannot be eliminated by setting more stringent criteria for health and nutrition claims (prohibiting foods high in sugar, fat, and sodium from carrying claims) or by implementing a mandatory standardized FOP label, then the only way to get rid of the inaccurate signals is to completely ban all nutrition claims and FOP labels on children's foods. Banning FOP labels and nutrition claims will disrupt the faulty signaling system and encourage consumers to judge the quality of the food based on the Nutrition Facts table (which will need revisions in order to be more useful and understandable to consumers). If all nutrition claims, FOP labels, and iconography were removed from children's processed food packages (and food was presented in a plain brown box) perhaps these foods would lose their appeal and vibrantly coloured fruits and vegetables would become more attractive to children and their parents. While these policy recommendations seem straightforward, they would likely face major legal challenges from a self-interested food industry, as front of package claims are an important source of marketing. The government would be wise to prepare for future legal challenges by scouring the research literature and examining labeling practices in other countries for evidence that can be used to satisfy the criteria of the Oakes Test. In the end, if attempts at regulating the packaging of children's foods fail then the government should implement a tax to alert consumers to the poor quality of these processed foods. Taxing processed children's foods at the point of purchase would signal to parents that these foods are unhealthy (as is done with junk foods).

Despite the challenges ahead, the time has come for the government to take a strong stance against the food industry's misleading labeling practices before childhood obesity levels become unmanageable. We already have a critical mass of children in Canada who are obese (on quarter of Canadian children are obese or overweight), placing them on the trajectory of becoming obese adults, developing chronic diseases, and placing future strains on our health care system, not to mention the personal

suffering these individuals will endure in the face of chronic diseases.<sup>139</sup> The government has inadvertently contributed to the obesity problem by creating policies that subsidize the soy and corn industry, making calorie dense foods (high in sugar, fat, and sodium) cheaper to consume than fruits, and vegetables.<sup>140</sup> It is now time for the government to be a part of the solution, either by more stringently regulating front of package labels or by sending price signals to parents about the quality of children's processed foods. If we want Canadian children to eat well and we care about their health, then the government needs to address the confusing and misleading labeling practices on children's foods and make selecting healthy food products an easier choice for parents to make.

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<sup>139</sup> Public Health Agency of Canada, *Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights*.

<sup>140</sup> Eric Finkelstein and Kiersten Strombotne. "The Economics of Obesity". *American Journal of Clinical Nutrition* 91, no. 5 (2010): 1520s-1524s.

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