

Obesity Policy: The Way Forward

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I. Complex Problem, Complex Answers

The causes of our current obesity problem are complex and interrelated and stem, fundamentally, from the fact that the modern world is obesogenic – it promotes excessive weight gain. The challenge is to alter obesogenic environments and enable healthier behaviours. This requires multi-pronged strategies involving the food and beverage industry, media and advertisers, schools, workplaces, local communities, governments and, of course, individuals (Institute of Medicine, 2013). Unfortunately, to date, there are few policy strategies that have a solid evidence base to suggest they will have a significant impact in reducing population level obesity, particularly in the near future. As noted in a 2014 comprehensive systematic analysis “no national success stories have been reported in the past 33 years” (Ng et al., 2014). Indeed, some regulatory approaches that seem, intuitively, like a logical approach, such as placing calorie information on menus in chain restaurants, have been found to be less effective than anticipated (Swartz et al., 2011). Most people who become obese struggle to lose weight and keep it off (Dombrowski et al, 2014) and obese children almost inevitably become obese adults with a lifelong burden of chronic disease (Reilly & Kelly, 2011).

This serious public health problem demands action and preventing childhood obesity is a key priority. Evidence-based legal measures – which we discuss below – are one component of a comprehensive approach to tackle factors that promote unhealthy weight gain. This is not meant to be a comprehensive review. Rather, we seek to highlight the type of legal strategies that might be considered priorities in order to stimulate policy action.

II. Evidence-based Legal Measures

Law is an important public health tool. Indeed, legal measures have been vital components in public health campaigns to control smoking and alcohol misuse and show promise in dealing with obesity (Ries & von Tigerstrom, 2010; von Tigerstrom, 2014). In the face of a serious public health problem, many citizens support legal measures, especially where the anticipated health benefits are perceived to outweigh restrictions on liberties (Morain & Mello, 2013; Simon et al, 2014).

As priorities, we advocate two key legal measures: restricting food and beverage marketing to children and increasing taxes on sugar-sweetened beverages and other low-nutrition, high-calorie foods.

Restricting marketing to children

Food and beverage companies use various media, including television, movies, online games and social networking tools, to promote low-nutrition and high-calorie products to children and adolescents. Routine exposure to child-directed marketing influences young people's consumption choices and is associated with obesity prevalence; indeed, TV advertising alone is estimated to contribute to up to 40% of child obesity cases in the US, nearly 30% in Australia and almost 20% in the UK (Goris et al, 2011). Food and beverage companies in Canada and other countries have promised to change their marketing practices, but self-regulation does not work. Companies continue to target young people in marketing of products with low nutritional value (Potvin et al, 2014). Legislated restrictions on child-directed food and beverage marketing are needed to control commercial conduct that adversely impacts the health of young people (Raine, et al., 2013).

Taxing sugar-sweetened beverages and other products

Dramatic increase in the consumption of sugar-sweetened beverages (SSB) is a key contributor to rising obesity rates, especially among children (Malik et al, 2013). Taxes on SSBs and other high-calorie, low nutrition foods are a means to reduce consumption of these products. To be effective, however, price increases must be high enough to influence purchasing decisions and consumers must be deterred from shifting their consumption choices to other unhealthy products (Cabrera Escobar et al, 2013). Importantly, revenue generated through such taxation can support other government-funded obesity control programs (Andreyeva et al, 2011).

Other strategies to promote healthy food environments

Legal measures can be used in other ways to promote healthy food environments (Olstad and Raine, 2013). Canadian law already requires mandatory nutrition labeling on packaged foods and beverages, though studies suggest consumer understanding and use of such labels is low (Temple & Fraser, 2014). Some jurisdictions are implementing front-of-package labels (e.g. traffic lights symbols, star ratings) to give consumers at-a-glance information about the nutritional content of the product (Maubach et al, 2014). Others, including medical professional groups, advocate for warning labels on products of low nutritional value that are high in fat, sugar or salt (Ontario Medical Association, 2012). At a community level, some local governments may use commercial licensing and zoning powers to limit the location and number of fast food shops (e.g. near schools) and increase fresh food markets (Cohen, 2010; Browning et al, 2013; Ni Mhurchu et al, 2013).

It is important to monitor and evaluate the effectiveness of interventions, especially to assess longer-term impacts on body weight. This will require a resource commitment to research. We have stressed the need for evidence-based interventions. Before implementing a new policy, there should be some evidence that it will have intended effects (and not have adverse unwanted effects). This evidence may come from pilot

projects or modeling analyses that forecast impacts. Studies to monitor the effects of new interventions enable governments to adapt or expand measures in response to findings.

III. Clarify the Message and Keep It Simple and Accurate

There are many inaccurate or misleading ideas about how to deal with obesity and bring about weight loss – we discuss three examples below. The diet industry, the research community (who publish and publicize conflicting nutrition and diet studies), and the popular media all play a role in the creation of distorted messages. These messages confuse people about their eating choices and health decisions (IFIC Foundation, 2012; Nagler, 2014), and may also impede the development of effective policies. Public health officials should strive to disseminate a simple, evidence-based message (Sparling et al., 2013) about what constitutes a health promoting lifestyle (Freeland-Graves & Nitzke, 2013).

Promotion of exercise for weight loss

The role of exercise as a weight loss strategy is often misunderstood and misrepresented (Kirk, Penney & Freedhoff, 2010). There is no doubt that a lack of exercise is relevant to weight gain and health. But while exercise is one of the single best things you can do for your health – and the low rates of exercise is also a significant health concern – the promotion of more exercise seems unlikely to be an effective obesity control strategy (Caulfield, 2012). For example, people greatly overestimate the number of calories they burn from exercise and, at the same time, underestimate the number of calories in the food they eat. Research has consistently shown that it is very difficult to use exercise to create a calorie deficit that will result in long-term and sustained weight loss (e.g., Hankinson, et al., 2010; Seabra AC, et al., 2014). Some studies have found that, contrary to the hoped for outcome of the program, children who participated in afterschool sports programs experienced an increase in the consumption of sugary drinks and junk food and more calories overall (Nelson, 2011). The exercise myth hurts policy development as it creates a belief that you can eat what you want, so long as you balance your consumption with exercise or that you can treat yourself after short bouts of exercise (e.g., giving kids treats after sport activities).

The use of genetic information and other “personalized” strategies

There has been a great deal of interest in the idea of personalized medicine and the use of genetics to tailor individual strategies for weight loss (El-Sayed Moustafa, 2013). But despite the enthusiasm for and momentum behind the personalized approach, there is very little evidence to support the idea – particularly as a way to address the obesity dilemma. First, genetic information is not very predictive of obesity (Tan et al., 2014). Despite a large volume of research on point, existing genetic markers cannot accurately predict who will become obese. Second, and more importantly in the context of policy, there is no evidence to support the idea that there is a benefit to individualizing weight loss advice (Caulfield, 2015). On the contrary, existing data suggests that genetically informed advice does not

promote behaviour change (Caulfield, 2014; Vassy, 2013; Loos, 2012). And framing the obesity problem as a genetic issue may have an adverse impact on policy, by emphasizing the individual over the need for social change (Barry, 2009). This is particularly problematic when you consider the emerging research that suggests that “tailored lifestyle interventions” – which are the core philosophy behind personalized medicine – are not particularly helpful (e.g., Grant, et al, 2013; Harle et al., 2012). This point is nicely summarized in the conclusion of a large study from Cambridge University that examined the value of the use of genetic markers in the context of diabetes prevention. The study found little value in the use of genetics as part of prevention and concluded that the work “highlights the importance of universal rather than targeted approaches to lifestyle intervention” (Langenberg, et al., 2014).

The use of special diets, foods or supplements

There is a never-ending stream of special diets and supplements that promise to promote weight loss, including gluten-free, low carb, high protein, etc. Despite the ubiquity of these diets, there is little or no evidence to suggest that any particular diet approach is better for long-term and sustained weight loss. The sad truth, as noted, is that over the long-term all diets fare about the same: poorly. The government should consider being more vocal about what the evidence says about these products and approaches – including using existing regulatory tools (e.g., truth in advertising laws) – to promote a more consistent and evidence-based message about nutrition and weight loss.

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References

T Andreyeva, FJ Chaloupka & KD Brownell, “Estimating the Potential of Taxes on Sugar-Sweetened Beverages to Reduce Consumption and Generate Revenue” (2011) 52:6 *Prev Med* 413.

Colleen L Barry, “Obesity Metaphors: How Beliefs about the Causes of Obesity Affect Support for Public Policy” (2009) 87:1 *Milbank Q.* 7.

HF Browning, RE Laxer & I Janssen, “Food and Eating Environments: in Canadian Schools” (2013) 74:4 *Can J Diet Pract Res* 160.

Maria A Cabrera Escobar et al, "Evidence that a Tax on Sugar Sweetened Beverages Reduces the Obesity Rate: A Meta-analysis" (2013) 13 BMC Public Health 1072.

Timothy Caulfield, *The Cure For Everything* (Toronto: Penguin Canada, 2012).

Timothy Caulfield, "It's Not all in the Genes" (2014) 35:4 Policy Options 56.

Timothy Caulfield, "The Obesity Gene and the (Misplaced) Search for a Personalized Approach to Our Weight Gain Problems" (2015) Wake Forest Journal of Law and Policy (forthcoming).

L Cohen, "Zoning for Health? Impact of Fast-Food Moratoriums" (2010) 29:1 Health Aff (Millwood) 219.

SU Dombrowski et al, "Long Term Maintenance of Weight Loss with Non-surgical Interventions in Obese Adults: Systematic Review and Meta-analyses of Randomised Controlled Trials" (2014) 348 BMJ g2646.

Julia S El-Sayed Moustafa & Philippe Froguel, "From Obesity Genetics to the Future of Personalized Obesity Therapy" (2013) 9 Nat Rev Endocrin 402.

Jeanne H Freeland Graves & Susan Nitzke, "Position of the Academy of Nutrition and Dietetics: Total Diet Approach to Healthy Eating" (2013) 113 J Acad Nutr Diet 307.

JM Goris et al, "Television Food Advertising and the Prevalence of Childhood Overweight and Obesity: A Multicountry Comparison" (2010) 13:7 Public Health Nutr 1003.

Richard W Grant et al, "Personalized Genetic Risk Counseling to Motivate Diabetes Prevention: A Randomized Trial" (2013) 36:1 Diabetes Care 13.

A Hankinson et al, "Maintaining a High Physical Activity Level over 20 Years and Weight Gain" (2010) 304:23 JAMA: The Journal of the American Medical Association 2603.

CA Harle, JS Downs & R Padman, "Effectiveness of Personalized and Interactive Health Risk Calculators: A Randomized Trial" (2012) 32:4 Med Decis Making 594.

IFIC Foundation, *2012 Food & Health Survey: Executive Summary*, online: International Food Information Council Foundation
<<http://www.foodinsight.org/Content/3840/FINAL%202012%20Food%20and%20Health%20Exec%20Summary.pdf>>.

Institute of Medicine, *Evaluating Obesity Prevention Efforts: A Plan for Measuring Progress* (Washington, DC: National Academies Press, 2013).

Sara FL Kirk, Tarra L Penney & Yoni Freedhoff, “Running Away with the Facts on Food and Fatness” (2010) 13:1 Public Health Nutrition 147.

C Langenberg et al, “Gene-Lifestyle Interaction and Type 2 Diabetes: The EPIC InterAct Case-Cohort Study” (2014) 11:5 PLoS Med e1001647.

Ruth JF Loos, “Genetic Determinants of Common Obesity and Their Value in Prediction” (2012) 26:2 Best Pract Res Clin Endocrinol Metab 211.

VS Malik et al, “Sugar-Sweetened Beverages and Weight Gain in Children and Adults: A Systematic Review and Meta-Analysis” (2013) 98:4 Am J Clin Nutr 1084.

N Maubach, J Hoek & D Mather, “Interpretive Front-of-Pack Nutrition Labels. Comparing Competing Recommendations” (2014) 82 Appetite 67.

Stephanie Morain & Michelle Mello, “Survey Finds Public Support For Legal Interventions Directed At Health Behavior To Fight Noncommunicable Disease” (2013) 32 Health Aff 486.

Rebekah H Nagler, “Adverse Outcomes Associated With Media Exposure to Contradictory Nutrition Messages” (2014) 19 J Health Commun 24.

TF Nelson et al, “Do Youth Sports Prevent Pediatric Obesity? A Systematic Review and Commentary” (2011) 10:6 Current sports medicine reports 360.

Marie Ng et al, “Global, Regional, and National Prevalence of Overweight and Obesity in Children and Adults During 1980—2013: A Systematic Analysis for the Global Burden of Disease Study 2013” (2014) 384:9945 The Lancet 766.

C Ni Mhurchu et al, “Monitoring the Availability of Healthy and Unhealthy Foods and Non-Alcoholic Beverages in Community and Consumer Retail Food Environments Globally” (2013) 14:S1 Obes Rev 108.

Dana Lee Olstad & Kim D Raine, “Profit Versus Public Health: The Need to Improve the Food Environment in Recreational Facilities” (2013) 104:2 Can J Public Health e167

Ontario Medical Association, *OMA Policy Paper: Applying lessons learned from anti-tobacco campaigns to the prevention of obesity* (2012), online: Ontario Medical Association <<https://www.oma.org/Resources/Documents/Obesity%20Prevention.pdf>>.

Monique Potvin Kent, Cherie L Martin & Emily A Kent, “Changes in the Volume, Power and Nutritional Quality of Foods Marketed to Children on Television in Canada” (2014) 22:9 Obesity 2053.

JJ Reilly & J Kelly, “Long-Term Impact of Overweight and Obesity in Childhood and Adolescence on Morbidity and Premature Mortality in Adulthood: Systematic Review” (2011) 35:7 Int J Obes 891.

Kim Raine et al, “Restricting Marketing to Children: Consensus on Policy Interventions to Address Obesity” (2013) 34:2 J Public Health Policy 239.

Nola M Ries & Barbara von Tigerstrom, “Roadblocks to Laws for Healthy Eating and Activity” (2010) 182:7 CMAJ 687.

AC Seabra et al, “Effects of a 5-Month Football Program on Perceived Psychological Status and Body Composition of Overweight Boys” (2014) 24:S1 Scand J Med Sci Sports 10.

PA Simon et al, “Public Opinion on Nutrition-Related Policies to Combat Child Obesity, Los Angeles County, 2011” (2014) 11 Prev Chronic Dis, doi:
<http://dx.doi.org/10.5888/pcd11.140005>.

Phillip Sparling et al, “Energy Balance: The Key to a Unified Message on Diet and Physical Activity” (2013) 33 J Cardiopulm Rehabil Prev 12.

JJ Swartz, D Braxton & AJ Viera, “Calorie Menu Labeling on Quick-Service Restaurant Menus: An Updated Systematic Review of the Literature” (2011) 8:8 Int J Behav Nutr Phys Act 135.

Li-Jun Tan et al. “Replication of 6 Obesity Genes in a Meta-Analysis of Genome-Wide Association Studies from Diverse Ancestries” (2014) 9 Plos One e96149.

NJ Temple & J Fraser, “Food Labels: A Critical Assessment” (2014) 30:3 Nutrition 257.

Jason L Vassy, “Can Genetic Information Change Patient Behavior to Reduce Type 2 Diabetes Risk?” (2013) 10:1 Personalized Medicine 9.

B von Tigerstrom, “Canada” in T Voon, A Mitchell & J Liberman, eds, *Regulating Tobacco, Alcohol and Unhealthy Foods: The Legal Issues* (New York: Routledge, 2014) 212.