

# Taxing Sugar Sweetened Beverages: The Case for Public Health

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## Issue:

Chronic disease is a significant concern for population health in Canada. In 2016, an estimated 26% of the population in Alberta had diabetes or prediabetes, an alarming statistic considering that diabetes has the potential to reduce the lifespan by 5-15 years (1). On top of this, in 2014, 20% of adults were obese, while 6.2% of youth were obese and 17% were overweight (2, 3). Obesity is a serious chronic condition in its own right, which links to negative health outcomes including type 2 diabetes, high blood pressure, heart disease, stroke and cancer (4). In 2008, the direct and indirect economic costs of obesity were estimated to total between \$4.6 and \$7.1 billion (5).

Sugar-sweetened beverages (SSBs), defined as beverages that contain added sugar, corn syrup, or other caloric sweeteners, offer limited health benefits and have been linked to serious health risks, including overweight and obesity, type 2 diabetes and heart disease (6-8). Examples of SSBs include soft drinks, fruit drinks, sports and energy drinks, vitamin water, sweetened coffee and tea beverages, sweetened milks and milk alternatives, and any other beverage to which sugar has been added (7, 8).

According to data from the 2015 Canadian Community Health Survey, the average Albertan consumes almost 250 ml of SSBs per day (9), which is significantly higher than the Canadian average (10). Research suggests that regularly choosing water or other low-calorie beverages over SSBs can contribute to healthier weights over time, and decrease risk for type 2 diabetes and stroke (11). A large scale study of adults in the United States who were followed for 16-20 years concluded that drinking more water in place of SSBs or fruit juices was associated with lower weight gain over the long-term (12).

Government public health policies, including taxation, have proven to be effective tools for facilitating a healthy lifestyle. In the field of tobacco control, increasing taxes on tobacco products as part of a comprehensive strategy has contributed to a decrease in tobacco use in the province (13). Fiscal measures can also encourage healthy eating by creating financial disincentives for purchasing and consuming unhealthy foods and beverages. Over the past several years, there have been calls in Canada and internationally for a general junk food tax (14-16). However, unlike tobacco products, which have no safe level of use, the challenge of defining what constitutes 'junk food' has often stalled public health efforts to tax unhealthy foods and beverages. In contrast to other unhealthy foods, SSBs offer limited nutritional value other than calories, which are derived almost exclusively from simple sugars. Therefore, developing criteria for a tax on SSBs compared to other foods is a simpler and more feasible policy option.

Many jurisdictions around the world, including Finland, France, Hungary, Mexico, the Cook Islands, St. Helena, India, Chile, Belgium, and the American cities of Berkley and Philadelphia, have already implemented some form of SSB tax (17, 18). A tax on SSBs has also been endorsed by the World Health Organization (19). In the Canadian context, many civil society organizations, such as Chronic Disease Prevention Alliance of Canada (CDPAC), Dietitians of Canada, Heart and Stroke, Canadian Diabetes Association, Quebec Weight Coalition, Childhood Obesity Foundation and the British Columbia Healthy Living Alliance (17, 20-25), are calling for government action to implement a tax on SSBs as a way to address obesity and chronic diseases in Canada. Moreover, among Canadian jurisdictions, the Government of the NWT recently announced plans to investigate the introduction of an SSB tax by 2018-2019 (26).

There are a number of different taxation models for a tax on SSBs (e.g. sales taxes, excise taxes and special taxes). Sales taxes are applied as a percentage of the product's price and are reflected at the cash register (17). In contrast, excise

taxes tend to be levied on the manufacturer as a fixed amount per volume (17). Another policy option is implementation of a special tax (% of product price or per volume) at the retail level, similar to certain tobacco and alcohol special tax models in Canada (17).

Overall, per volume taxes have a number of benefits over those applied as a percentage of the product price. For example, their impact does not fluctuate with price, they are easier to administer because the tax is based on volume and are less susceptible to industry manipulation (17, 27). In Canada, many organizations have recommended an excise tax at the federal level. However, implementation of a special tax may be more feasible for provinces and territories (17). It is also important to note that for an SSB tax to have an impact on purchasing behaviour, research suggests that a substantial difference in price is needed (28-32). Specifically, experts recommend a minimum tax of about 20% of the price, as a current tax of 7% in the US has not produced the desired effect on weight outcomes (33).

### **Benefits to Taking Action:**

- Taxation has the potential to reduce consumption of SSBs in Alberta and increase intake of more nutritious beverages (34-39). Although taxation has not yet been implemented in Canada, economic models suggest that a 10% increase in the price of SSBs would reduce consumption of these beverages by 12-13% (40). A recent 2017 study of Mexico's 1 peso per litre tax on SSBs found that the volume of taxed beverage purchases decreased by 5.5 percent in 2014 and by 9.7 percent in 2015 (41). In contrast, sales of untaxed beverages increased by 2.1 percent on average over the course of the study (41). Further, a study exploring the short-term impacts of Berkley's \$0.01/ounce soda tax found that, in low-income neighbourhoods, SSB consumption declined by 21% over a 1-year period from before the tax to after the tax (42).
- Simulation modeling research from the University of Waterloo estimated that over the next 25 years, a 20% tax on SSBs (equivalent to 50 cents per litre) in Alberta could postpone 1,200 deaths in the province and avert 46,200 disability-adjusted life years. Findings from this research also indicated that, over a 25-year period, a 20% tax could prevent 61,300 cases of overweight and obesity, 21,700 cases of type 2 diabetes, 5,700 cases of ischemic heart diseases, 2,100 cancer cases and 750 stroke cases (10).
- Taxation would be applied in the general retail environment. Thus, the impact of taxation would be felt beyond specific food settings (e.g. schools, workplaces) and could achieve a greater effect on the overall consumption of SSBs at the population level. This broad-based policy intervention could create an environment where drinking water or healthier beverages becomes a relatively easier choice for individuals, and the price of purchasing SSBs effectively becomes a barrier to consumption.
- Taxation is a cost-effective intervention for governments and taxpayers to reduce SSB consumption and the related costs from obesity and chronic disease, while providing new government revenue. Research from the University of Waterloo projected that a 20% tax on SSBs (equivalent to 50 cents per litre) could produce almost \$1.1 billion in health care savings and \$3.5 billion in tax revenue over a 25-year period (10).
- Government should invest revenue generated from taxation of SSBs into funding for obesity and chronic disease through the creation of a levy. Over time, investing in prevention will contribute to direct financial gain for government by helping to reduce future healthcare costs. Evidence suggests that a \$1 investment in health promotion can be expected to result in a minimum of \$4-5 cost savings (43).

### **Considerations:**

There are criticisms of using taxation as a policy tool. A common argument against SSB taxation is that such a policy intervention would be regressive, causing harm to individuals experiencing low-income. However, experts have not found robust empirical evidence of this (40, 44). It is also important to note that SSBs themselves are regressive, with

negative health impacts disproportionately affecting low-income individuals (45). Along these lines, an SSB tax stands to benefit this population the most by promoting the consumption of healthier, non-taxed alternatives, such as water and milk. In addition, revenue generated from an SSB tax should be used to fund health promotion initiatives that reach vulnerable populations (45).

A tax on SSBs has the potential to play a critical role in obesity and chronic disease prevention by reducing SSB consumption and generating revenue for prevention. Nevertheless, it is important to recognize that a tax is not a magic bullet (46). Indeed, to be effective, an SSB tax must be implemented as part of a comprehensive approach to obesity and chronic disease prevention. This includes the use of multi-faceted strategies, such as initiatives to increase access to drinking water, SSB warning labels, limits on the serving size of beverages, restrictions on food and beverage marketing, and nutrition education (46). In turn, revenue generated from an SSB tax could be used to support implementation of these strategies.

Finally, public opinion polling indicates that there is support for action on SSBs. According to a 2013 Ipsos Reid poll of Canadians, 88% agree that large servings of SSBs can lead to poor health or have negative consequences on one's health and 94% consider over consumption of these drinks to be an important contributor to obesity among Canadians (47). Further, a 2016 survey administered to 1,200 people in Alberta, found that the majority of respondents (58%) would support a tax on soft drinks and energy drinks (48). When government revenue from taxes is reinvested in health, the general public appears to be even more supportive of taxation as a means to encourage healthy lifestyles. A poll in New York found that support for a soft drink tax increased from 52% to 72% when respondents were informed that the revenue would be directed to obesity prevention efforts (49).

### **APCCP Priorities for Action:**

- Advocate for a 50 cent per litre levy on SSBs in Alberta. Revenue generated from a tax should be invested into health promotion initiatives aimed at keeping Albertans healthy and out of the hospital.
- Support national and territorial efforts to implement SSB tax strategies in order to reduce consumption of SSBs and generate funding for prevention.

## References:

1. Canadian Diabetes Association. Diabetes in Alberta 2015 [cited 2017 May ]; Available from: <https://www.diabetes.ca/getmedia/5efbfb1b-6acd-4169-938d-59f24400e2cf/alberta-election-diabetes-stats.pdf.aspx>.
2. Statistics Canada. Overweight and obese adults (self-reported), 2014. 2015 [cited 2017 January 20]; Available from: <http://www.statcan.gc.ca/pub/82-625-x/2015001/article/14185-eng.htm>.
3. Statistics Canada. Overweight and obese youth (self-reported), 2014. 2015 [cited 2017 January 20]; Available from: <http://www.statcan.gc.ca/pub/82-625-x/2015001/article/14186-eng.htm>.
4. Canadian Obesity Network. Report card on access to obesity treatment for adults in Canada 2017. 2017 [cited 2017 May ]; Available from: <http://www.obesitynetwork.ca/reportcard>.
5. Ogilvie K, Eggleton A. Obesity in Canada. A whole-of-society approach for a healthier Canada. 2016 [cited 2017 January 20]; Available from: [http://www.parl.gc.ca/content/sen/committee/421/SOCI/Reports/2016-02-25\\_Revised\\_report\\_Obesity\\_in\\_Canada\\_e.pdf](http://www.parl.gc.ca/content/sen/committee/421/SOCI/Reports/2016-02-25_Revised_report_Obesity_in_Canada_e.pdf).
6. Buhler S, Raine KD. Reducing consumption of sugar sweetened beverages: does taxation have a role? Current Issues: Dietitians of Canada Online Resource; 2010.
7. Brownell KD, Frieden TR. Ounces of prevention: the public policy case for taxes on sugared beverages. The New England Journal of Medicine. 2009 Apr 30;360(18):1805-8.
8. Bremer A, Lustig R. Effects of sugar-sweetened beverages on children. *Pediatr Ann*. 2012 January;41(1):26-30.
9. Canada S. Canadian Community Health Survey (CCHS) - Nutrition: User Guide. Ottawa: Statistics Canada 2015.
10. Jones AC, Hammond, D The health and economic impact of a tax on sugary drinks in Alberta. November 2017.
11. Zheng M, Allman-Farinelli M, Heitmann BL, Rangan A. Substitution of sugar-sweetened beverages with other beverage alternatives: a review of long-term health outcomes. *J Acad Nutr Diet*. 2015 May;115(5):767-79.
12. Pan A, Malik VS, Hao T, Willett WC, Mozaffarian D, Hu FB. Changes in water and beverage intake and long-term weight changes: results from three prospective cohort studies. *Int J Obes*. [Multicenter Study Research Support, N.I.H., Extramural]. 2013 Oct;37(10):1378-85.
13. Campaign for a Smoke-Free Alberta (CSFA). Alberta's tobacco reduction report card: 2012-2017. Edmonton, AB2008 [cited 2017 June ]; Available from: <http://smokefreealberta.com/uploads/csfa%20report%20card%202017.pdf>.
14. Canadian Cancer Society Manitoba Division. Evidence-based nutrition policies: Canadian Cancer Society Manitoba Division2008.
15. Connolly C. Interventions related to obesity - a state of the evidence review: Heart and Stroke Foundation of Canada 2005.
16. Thow AM, Jan S, Leeder S, Swinburn B. The effect of fiscal policy on diet, obesity and chronic disease: a systematic review. *Bulletin of the World Health Organization*2010. p. 561-640.
17. Le Bodo Y, Paquette M-C, De Wals P. Taxing soda for public health: a Canadian perspective: Springer; 2016.
18. Erb KP. Judge dismisses soda tax lawsuit against City of Philadelphia. *Forbes*; 2016; Available from: <http://www.forbes.com/sites/kellyphillipserb/2016/12/19/judge-dismisses-soda-tax-lawsuit-against-city-of-philadelphia/#56e3799156e6>.
19. World Health Organization. WHO urges global action to curtail consumption and health impacts of sugary drinks. 2016 [cited 2016 December]; Available from: <http://www.who.int/mediacentre/news/releases/2016/curtail-sugary-drinks/en/>.
20. Chronic Disease Prevention Alliance of Canada. Extra sugar, extra calories, extra weight, more chronic disease: the case for a sugar-sweetened beverage tax. Ottawa, Canada2011; Available from: <http://www.cdpac.ca/media.php?mid=1170>.
21. Quebec Coalition on Weight-Related Problems. Position of the weight coalition. 2012 [cited 2012 August 14]; Available from: <http://www.cqpp.qc.ca/en/priorities/tax-on-soft-and-energy-drinks/position-of-the-weight-coalition>.
22. Dietitians of Canada. Sugar-sweetened beverages and taxation. 2016 [cited 2017 January 20]; Available from: <http://www.dietitians.ca/Dietitians-Views/Sugar-sweetened-Beverages-and-Taxation.aspx>.

23. Canadian Diabetes Association. Canadian Diabetes Association's position on sugars. 2017 [cited 2017 January 21st ]; Available from: <http://www.diabetes.ca/about-cda/public-policy-position-statements/sugars>.
24. British Columbia Healthy Living Alliance. Getting to the sweet spot –it's time to tax sugary drinks. 2015; Available from: <http://www.bchealthyliving.ca/getting-to-the-sweet-spot-its-time-to-tax-sugary-drinks/>.
25. Heart and Stroke Foundation. Sugar, heart disease and stroke 2014 [cited 2015 January 23]; Available from: <http://www.heartandstroke.com/atf/cf/%7B99452D8B-E7F1-4BD6-A57D-B136CE6C95BF%7D/Sugar-Eng.pdf>.
26. McLeod C. Budget address 2017-2018 Northwest Territories. Government of Northwest Territories 2017 [cited 2017 June]; Available from: <http://www.gov.nt.ca/newsroom/news/robert-c-mcleod-budget-address-2017-2018-northwest-territories>.
27. Chriqui JF, Chaloupka FJ, Powell LM, Eidson SS. A typology of beverage taxation: multiple approaches for obesity prevention and obesity prevention-related revenue generation. *Journal of public health policy*. 2013;34(3):403-23.
28. Caraher M, Cowburn G. Taxing food: implications for public health nutrition. *Public Health Nutr. [Meta-Analysis Review]*. 2005 Dec;8(8):1242-9.
29. Cash SB, Lacañilao RD. Taxing food to improve health: economic evidence and arguments. *Agricultural and Resource Economics Review*. 2007;36(2).
30. Powell LM, Chaloupka FJ. Food prices and obesity: evidence and policy implications for taxes and subsidies. *Milbank Q. [Research Support, Non-U.S. Gov't Review]*. 2009 Mar;87(1):229-57.
31. Epstein LH, Dearing KK, Roba LG, Finkelstein E. The influence of taxes and subsidies on energy purchased in an experimental purchasing study. *Psychological Science*. 2010.
32. Sturm R, Powell LM, Chriqui JF, Chaloupka FJ. Soda taxes, soft drink consumption, and children's body mass index. *Health Aff (Millwood)*. 2010 May;29(5):1052-8.
33. Faulkner G, Grootendorst P, Nguyen VH, Ferrence R, Mendelson R, Donnelly P, et al. Economic policy, obesity and health: a scoping review. *Heart and Stroke Foundation of Canada*; 2010.
34. Buhler S, Raine KD, Arango M, Pellerin S, Neary NE. Building a strategy for obesity prevention one piece at a time: the case of sugar-sweetened beverage taxation. *Can J Diabetes*. 2013;37(2):97-102.
35. Erratum. Building a strategy for obesity prevention one piece at a time: the case of sugar-sweetened beverage taxation. *Canadian journal of diabetes*. 2014;38(4):285.
36. Mekonnen TA, Odden MC, Coxson PG, Guzman D, Lightwood J, Wang YC, et al. Health benefits of reducing sugar-sweetened beverage intake in high risk populations of California: results from the cardiovascular disease (CVD) policy model. *PLoS one*. 2013;8(12):e81723.
37. Escobar MAC, Veerman JL, Tollman SM, Bertram MY, Hofman KJ. Evidence that a tax on sugar sweetened beverages reduces the obesity rate: a meta-analysis. *BMC public health*. 2013;13(1):1072.
38. Eyles H, Mhurchu CN, Nghiem N, Blakely T. Food pricing strategies, population diets, and non-communicable disease: a systematic review of simulation studies. *PLoS Med*. 2012;9(12):e1001353.
39. Powell LM, Chriqui JF, Khan T, Wada R, Chaloupka FJ. Assessing the potential effectiveness of food and beverage taxes and subsidies for improving public health: a systematic review of prices, demand and body weight outcomes. *Obesity reviews : an official journal of the International Association for the Study of Obesity*. 2013;14(2):110-28.
40. Policy Opportunity Windows Enhancing Research Uptake in Practice (POWER UP!) Coalition Linking Action and Science for Prevention (CLASP). Evidence synthesis: the influence of taxing sugar sweetened beverages on beverage consumption and body weight. 2014; Available from: <http://abpolicycoalitionforprevention.ca/evidence/>.
41. Cochero M, Rivera-Dommarco J, Popkin B, Ng S. In Mexico, evidence of sustained consumer response two years after implementing a sugar-sweetened beverage tax. *Health Aff (Millwood)*. 2017;10.1377/hlthaff.2016.1231.
42. Falbe J, Thompson HR, Becker CM, Rojas N, McCulloch CE, Madsen KA. Impact of the Berkeley excise tax on sugar-sweetened beverage consumption. *Journal Information*. 2016;106(10).
43. Aldana SG. Financial impact of health promotion programs: a comprehensive review of the literature. *American journal of health promotion : AJHP*. 2001;15(5):296-320.

44. Faulkner G, Grootendorst P, Nguyen VH, Andreyeva T, Arbour-Nicitopoulos K, Auld MC, et al. Economic instruments for obesity prevention: results of a scoping review and modified delphi survey. *Int J Behav Nutr Phys Act.* 2011;8(1):109.
45. Yale Rudd Center. Sugar-sweetened beverage taxes October 2012 [cited 2017 May]; Available from: [http://www.uconnruddcenter.org/files/Pdfs/Rudd\\_Policy\\_Brief\\_Sugar\\_Sweetened\\_Beverage\\_Taxes.pdf](http://www.uconnruddcenter.org/files/Pdfs/Rudd_Policy_Brief_Sugar_Sweetened_Beverage_Taxes.pdf).
46. Lamb K. Will a sugary drinks levy benefit Canadians? New research says yes. 2017 [cited 2017 March]; Available from: <http://www.newswire.ca/news-releases/will-a-sugary-drinks-levy-benefit-canadians-new-research-says-yes-616295794.html>.
47. Ipsos Reid. Sugary drinks poll: Commissioned by Heart and Stroke Foundation. 2013.
48. Policy Opportunity Windows Enhancing Research Uptake in Practice (POWER UP!) Coalition Linking Action and Science for Prevention (CLASP). Knowledge, attitudes, and beliefs (KAB) survey. Edmonton, AB: School of Public Health, University of Alberta; 2016.
49. Beck Research LLC. Voter preferences for closing the New York State budget gap. New York: Citizen's Committee for Children of New York, Inc; 2008 [cited 2010 October 4]; Public Opinion Survey]. Available from: [www.cccnewyork.org/publications/12-12-08CCCPoll.pdf](http://www.cccnewyork.org/publications/12-12-08CCCPoll.pdf).