

# Promoting Healthy Food Environments in Alberta Schools

June 2019

## Issue:

Creating healthy food environments for all Albertans is a significant challenge across the province. Many young Albertans do not have consistent access to healthy food and many of the settings where children spend their time offer foods that are energy-dense and nutrient poor (1-3). As a result, nearly three-quarters of children and youth do not eat the recommended number of fruits and vegetables each day (4) and are consuming large amounts of processed foods, high in calories, sugar and saturated fats. This, in turn, impairs energy levels, memory, learning, and academic performance (5), and increases the risk of developing chronic conditions and diseases moving into adulthood (6, 7). Poor eating habits developed in youth may also persist into adulthood (8).

Ensuring that all Alberta children have access to healthy food requires a comprehensive approach. Public institutions, such as schools, can play an important role in such an approach by creating environments that support healthy eating habits among young people (9, 10). Not only do young people spend a significant amount of time in the school setting, but schools have the potential to reach the diversity of the child and youth population across Alberta (11). To date, many Alberta schools have implemented policies, programs and initiatives aimed at improving healthy eating in the school setting. However, these activities are often ad-hoc, voluntary in nature, and lack sustainable funding (12). As a result, the effectiveness of such activities varies and does not benefit all students in Alberta.

To help ensure all students across Alberta benefit from a healthy food environment, the Alberta Policy Coalition for Chronic Disease Prevention (APCCP) supports progress on school-based recommendations from Alberta's 2018 Nutrition Report Card on Food Environments for Children and Youth (3). Produced annually by researchers at the University of Alberta School of Public Health, the report card is an assessment of how Alberta's current food environment and nutrition policies support or create barriers to improving children's eating behaviours and body weights. For 2018, Alberta received a C+ for the following indicators related to schools: 1) high availability of healthy food in school settings and 2) subsidized fruit and vegetable subscription programs in schools (3).

To improve the school food environment across Alberta, key recommendations include:

- Support the implementation of mandatory rather than voluntary school nutrition policies
- Commit sustainable government funding to fruit and vegetable subscription programs across Alberta and designate funding to increase reach across Alberta
- Foster relationships between schools and local food producers, and consider the development of local food procurement policies when feasible
- Monitor school food policies and foods offered on an annual basis

## Benefits to Taking Action:

- The World Health Organization has identified schools as an important setting for global action to promote public health (9). The World Health Organization's 2017 Report of the Commission on Ending Childhood Obesity recommends that settings such as schools work to create healthy food environments as part of a comprehensive approach to improve young people's intake of healthy food and reduce their intake of unhealthy foods (9).
- School nutrition policies aimed at increasing the availability of healthy food and decreasing the availability of unhealthy food can have a positive impact on students' food choices and preferences, diet quality, and nutrition knowledge, particularly when part of multi-component initiatives involving additional strategies such as education, food provision, and parent involvement (13-17). Fruit and vegetable subscription programs have also been found to have a positive impact on children's fruit and vegetable intake, and have illustrated effectiveness among socio-economically disadvantaged populations (13, 18).

- Providing access to healthy food in school settings through meal and snack programs may support student performance at school. Research suggests that school breakfast programs can have a positive impact on student learning outcomes (19, 20) and that diet quality impacts academic performance (5, 20, 21).
- Increasing the proportion of locally grown food available in school settings has the potential to create new markets for farmers (22) and reduce the environmental impact of food production (23, 24). It may also help to reduce the distance food travels from where it is produced to where it is consumed (22). Connecting schools to local food through initiatives like Farm to School may have a number of positive benefits, such as improving fruit and vegetable consumption, increasing knowledge about food, growing, and agriculture, and building community connections with local producers (25, 26).
- Monitoring and evaluation of school food policies and initiatives in Alberta is essential to gauge implementation of provincial strategies for healthy diets and their impacts (3).

## Considerations:

- From an equity perspective, school nutrition policies and programs should be developed with enough flexibility to allow for tailoring to the school culture and community (e.g. age, gender, ethnicity, socio-economic status) (18, 27). Meal and snack programs should also be made universally available to all students at the school level to prevent stigma that can arise from targeting participation based on socio-economic status (28).
- To encourage effectiveness, school nutrition policies and programs should be implemented as part of comprehensive and multi-component initiatives (10, 18). School principals and superintendents play a key role in championing and facilitating the adoption of such initiatives (29-31). Initiatives should also appropriately engage community partners, particularly when working with schools that serve First Nations, Inuit, and Métis communities in Alberta (32, 33).
- In 2016/2017, the Government of Alberta implemented the School Nutrition Program, which aims to provide participating schools with a daily nutritious meal that follows the Alberta Nutrition Guidelines for Children and Youth. In its first year, the province piloted the program in 14 school authorities with an initial investment of \$3.5 million and a reach of over 5000 students. In 2018/2019, the program was expanded to all 62 public, separate and francophone school authorities with a \$15.5 million investment and an estimated reach of over 30,000 students (3). While this increase in reach is significant, many of the province's almost 73,000 students from K-12 (2018/2019) are still not benefiting (34).
- There is strong evidence that fruit and vegetable subscription programs are an effective strategy for improving student dietary intake (15). With this in mind, the Government of Alberta should consider modifying and expanding on the School Nutrition Program to offer a free fruit and vegetable subscription program. Not only would this provide an opportunity to reach a broader range of students from K-12, it could also create linkages to Alberta agriculture and local producers across the province (25).
- Policies and programming should be implemented consistently for at least one year to produce sustainable changes (17). Repetition in food provision and education reinforces behaviour changes and knowledge acquisition for students. Parents can also play a role in modeling healthy eating behaviours and promoting nutritious foods to reinforce concepts for their children (17).
- There is public and policy-influencer support for action to promote healthy school food environments in Alberta. According to a 2017 survey administered to 1,200 people in Alberta, the majority of respondents support mandating policies for healthy food and beverages at schools (90%). Further, a 2017 survey of policy-influencers indicates that 87% support providing fruit and vegetable subscription programs at schools, 77% support mandating policies for healthy food and beverages at schools, and 80% support monitoring and evaluating school food and beverage initiatives (35).
- Cost is a barrier to the implementation of healthy food environments in schools. To fund school nutrition policies and programs, the Government of Alberta is encouraged to implement a levy on sugary drinks in the province. Sugary drinks offer no nutritional benefit and their consumption is linked to serious health risks (36). Considering this, the Heart and Stroke Foundation, Dietitians of Canada, and the Canadian Senate recommend a tax on sugary drinks (2,

37, 38). Research indicates that a 20% tax on sugary drinks in Alberta would generate \$174.6 million in revenue annually, and would result in \$1.3 billion in health care savings over the next 25 years (39). A tax on sugary drinks would also reduce consumption of these drinks, resulting in an additional health benefit (39-43).

- Investing in prevention makes economic sense. Research indicates that a \$1 investment in health promotion interventions can result in \$14 cost savings (44).

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

- Advocate for the implementation of mandatory rather than voluntary student nutrition policies, as well as enhanced monitoring of school food policies
- Advocate for sustainable government funding for fruit and vegetable subscription programs and designate funding to increase reach across Alberta
- Encourage the development of local food procurement policies and programs in schools when feasible

## References:

1. World Health Organization. Obesity: Preventing and managing the global epidemic. Geneva: World Health Organization; 2000; Available from: [http://www.who.int/nutrition/publications/obesity/WHO\\_TRS\\_894/en/](http://www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/).
2. The Standing Senate Committee on Social Affairs Science and Technology. Obesity in Canada: a whole-of-society approach for a healthier Canada. 2016; 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)
3. Benchmarking Food Environments Project. Alberta's 2018 Nutrition Report Card on Food Environments for Children and Youth: University of Alberta 2018.
4. Statistics Canada. Table 13-10-0096-01 Health characteristics, annual estimates. 2017 [cited 2019 May 15]; Available from: <https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1310009601>.
5. Rausch R. Nutrition and academic performance in school-age children; The relation to obesity and food insufficiency. *J Nutr Food Sci.* 2013;3(2):190.
6. Health Canada. Let's eat healthy Canada! . 2017 [cited 2019 May 15]; Available from: <https://www.canada.ca/content/dam/hc-sc/documents/services/publications/food-nutrition/infographic-lets-eat-healthy-canada/infographic-lets-eat-healthy-canada.pdf>.
7. Moubarac J. Ultra-processed foods in Canada: consumption, impact on diet quality and policy implications. Montréal: TRANSNUT, University of Montreal; 2017; Available from: <http://www.heartandstroke.ca/-/media/pdf-files/canada/media-centre/hs-report-upp-moubarac-dec-5-2017.ashx>.
8. Scaglioni S, De Cosmi V, Ciappolino V, Parazzini F, Brambilla P, Agostoni C. Factors influencing children's eating behaviours. *Nutrients.* 2018 Jun;10(6).
9. World Health Organization. Report of the commission on ending childhood obesity 2016 [cited 2019 May 15]; Available from: <https://www.who.int/end-childhood-obesity/publications/echo-report/en/>.
10. Pan-Canadian Joint Consortium for School Health. Comprehensive school health framework. 2016 [cited 2019 May 16]; Available from: <http://www.jcsh-cces.ca/index.php/about/comprehensive-school-health>.
11. Storey KE, Montemurro G, Flynn J, Schwartz M, Wright E, Osler J, et al. Essential conditions for the implementation of comprehensive school health to achieve changes in school culture and improvements in health behaviours of students. *BMC Public Health.* 2016;16(1):1-11.
12. Alberta Policy Coalition for Chronic Disease Prevention. Principals' perceptions of the school food environment in Alberta. 2015; Available from: <http://abpolicycoalitionforprevention.ca/portfolio-posts/survey-principals-perceptions-of-the-school-food-environment-in-alberta/>.
13. Micha R, Karageorgou D, Bakogianni I, Trichia E, Whitsel LP, Story M, et al. Effectiveness of school food environment policies on children's dietary behaviors: A systematic review and meta-analysis. *PLoS ONE.* 2018;13(3):e0194555.
14. Williams AJ, Henley WE, Williams CA, Hurst AJ, Logan S, Wyatt KM. Systematic review and meta-analysis of the association between childhood overweight and obesity and primary school diet and physical activity policies. *Int.* 2013;10:101.
15. Policy Opportunity Windows Enhancing Research Uptake in Practice (POWER UP!), Coalition Linking Action and Science for Prevention (CLASP). Evidence synthesis: The influence of school food policies on fruit and vegetable intake and body weight. 2015; Available from: [https://powerupforhealth.files.wordpress.com/2015/03/school\\_food\\_policies\\_february\\_final.pdf](https://powerupforhealth.files.wordpress.com/2015/03/school_food_policies_february_final.pdf).
16. Fung C, McIsaac J-LD, Kuhle S, Kirk SFL, Veugelers PJ. The impact of a population-level school food and nutrition policy on dietary intake and body weights of Canadian children. *Preventive Medicine.* 2013;57(6):934-40.
17. Colley P, Myer B, Seabrook J, Gilliland J. The impact of Canadian school food programs on children's nutrition and health: A systematic review. *Can J Diet Pract Res.* 2019;80(2):79-86.
18. Olstad DL, Ancilotto R, Teychenne M, Minaker LM, Taber DR, Raine KD, et al. Can targeted policies reduce obesity and improve obesity-related behaviours in socioeconomically disadvantaged populations? A systematic review. *Obesity reviews : an official journal of the International Association for the Study of Obesity.* 2017 Jul;18(7):791-807.
19. Pucher KK. School health promotion interventions targeting physical activity and nutrition can improve academic performance in primary- and middle school children. *Health Education (0965-4283).* 2013;113(5):372-91.

20. Adolphus K, Lawton C, Dye L. The effects of breakfast on behavior and academic performance in children and adolescents. *Frontiers in Human Neuroscience*. [10.3389/fnhum.2013.00425]. 2013;7:425.
21. Faught EL, Montemurro G, Storey KE, Veugelers PJ. Adherence to dietary recommendations supports Canadian children's academic achievement. *Canadian journal of dietetic practice and research : a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique : une publication des Dietetistes du Canada*. 2017;78(3):102-8.
22. Sustain Ontario. Local sustainable food procurement for municipalities and the broader public sector toolkit. Toronto 2015; Available from: [http://sustainontario.com/wp2011/wp-content/uploads/2015/12/Toolkit\\_Final25-11.pdf](http://sustainontario.com/wp2011/wp-content/uploads/2015/12/Toolkit_Final25-11.pdf).
23. Kubursi A, Cummings, Harry., MacRay, Rod., Kanaroglou, Pavlos. Dollars and sense: Opportunities to strengthen Southern Ontario's food system. Toronto, Ontario: Greenbelt Association, J. W. McConnell Family Foundation, Metcalf Foundation; 2015.
24. Raine KD, Atkey K, Olstad DL, Ferdinands AR, Beaulieu D, Buhler S, et al. Healthy food procurement and nutrition standards in public facilities: evidence synthesis and consensus policy recommendations. *Health Promot Chronic Dis Prev Can*. 2018;38(1):6-17.
25. Moss A, Smith S, Null D, Long Roth S, Tragoudas U. Farm to school and nutrition education: Positively affecting elementary school-aged children's nutrition knowledge and consumption behavior. *Childhood Obesity*. 2013;9(1):51-6.
26. Policy Opportunity Windows Enhancing Research Uptake in Practice (POWER UP!), Coalition Linking Action and Science for Prevention (CLASP). Evidence synthesis: Community gardens and local food procurement: Exploring impact on physical activity and nutrition for obesity prevention. 2016; Available from: [http://abpolicycoalitionforprevention.ca/wp-content/uploads/2016/09/final\\_communitygardenslocalfoodprocurement.pdf](http://abpolicycoalitionforprevention.ca/wp-content/uploads/2016/09/final_communitygardenslocalfoodprocurement.pdf).
27. Ickes MJ, McMullen J, Haider T, Sharma M. Global school-based childhood obesity interventions: a review. *International journal of environmental research and public health*. 2014 Aug 28;11(9):8940-61.
28. Leos-Urbel J, Schwartz AE, Weinstein M, Corcoran S. Not just for poor kids: The impact of universal free school breakfast on meal participation and student outcomes. *Economics of Education Review*. 2013;36:88-107.
29. Quintanilha M, Downs S, Liefers J, Berry T, Farmer A, McCargar LJ. Factors and barriers associated with early adoption of nutrition guidelines in Alberta, Canada. *Journal of Nutrition Education and Behavior*. 2013;45(6):510-7.
30. Roberts E, McLeod N, Montemurro G, Veugelers PJ, Gleddie D, Storey KE. Implementing Comprehensive School Health in Alberta, Canada: The principal's role. *Health Promotion International*. 2016;31(4):915-24.
31. McIsaac J-L, Storey K, Veugelers PJ, Kirk SFL. Applying theoretical components to the implementation of health-promoting schools. *Health Education Journal*. 2015;74(2):131-43.
32. Godin K, Leatherdale ST, Elton-Marshall T. A systematic review of the effectiveness of school-based obesity prevention programmes for First Nations, Inuit and Metis youth in Canada. *Clin*. 2015;5(3):103-15.
33. Towns C, Cooke M, Rysdale L, Wilk P. Healthy weights interventions in Aboriginal children and youth: A review of the literature. *Canadian journal of dietetic practice and research : a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique : une publication des Dietetistes du Canada*. 2014 Sep;75(3):125-31.
34. Alberta Education. Student population statistics. 2019 [cited 2019 May 16]; Available from: <https://www.alberta.ca/student-population-statistics.aspx>.
35. Alberta Policy Coalition for Chronic Disease Prevention. 2017 Chronic Disease Prevention Survey Data Summary: Student Nutrition School of Public Health, University of Alberta; 2018.
36. 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. *Canadian journal of diabetes*. 2013;37(2):97-102.
37. 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>.
38. Dietitians of Canada. Taxation and sugar-sweetened beverages. February 2016 [cited 2016 March]; Available from: <http://www.dietitians.ca/Downloads/Public/DC-Position-SSBs-and-taxation.aspx>.

39. Jones A, Hammond D. The health and economic impact of a tax on sugary drinks in Alberta. 2017; Available from: <http://abpolicycoalitionforprevention.ca/wp-content/uploads/2016/08/2017-sugary-drink-tax-provincial-estimates-reports-alberta-final.pdf>.
40. Cabrera Escobar MA, 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*. [journal article]. 2013 November 13;13(1):1072.
41. Falbe J, Thompson HR, Becker CM, Rojas N, McCulloch CE, Madsen KA. Impact of the Berkeley excise tax on sugar-sweetened beverage consumption. *Am J Public Health*. 2016;106(10):1865-71.
42. Colchero MA, Rivera-Dommarco J, Popkin BM, Ng SW. In Mexico, evidence of sustained consumer response two years after implementing a sugar-sweetened beverage tax. *Health Affairs*. 2017;36(3):564-71.
43. Roberto CA, Lawman HG, LeVasseur MT, Mitra N, Peterhans A, Herring B, et al. Association of a beverage tax on sugar-sweetened and artificially sweetened beverages with changes in beverage prices and sales at chain retailers in large urban setting. *JAMA*. 2019;321(18):1799-810.
44. Masters R, Anwar E, Collins B, Cookson R, Capewell S. Return on investment of public health interventions: a systematic review. *Journal of Epidemiology and Community Health*. 2017;71(8):827-34.