Promoting Active Living and Active Commuting in Alberta's Workplaces



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Issue:

The World Health Organization estimates that approximately 6% of deaths worldwide are caused by an inactive lifestyle (1). This is concerning as physical inactivity and sedentary behaviour are risk factors for chronic disease and certain cancers. Physical activity refers to any movement with a substantial increase in energy expenditure. Sedentary behaviour, on the other hand, refers to "sitting and lounging activities during waking hours" (2), such as computer work or commuting by car (3). It is important to note that negative outcomes related to sedentary behaviour are different and independent from those associated with being physically inactive (4-6). Therefore, people can meet recommended guidelines for physical activity, but still engage in too much sedentary behaviour (2, 6).

According to the Canadian Health Measures Survey, 85% of all adult Canadians do not meet physical activity recommendations of 150 minutes per week (7). This is significant given that increased physical activity reduces the risk of developing various chronic diseases, cancer, and enhances overall well-being (8-10). Further, a 2011 study found that individuals who were active for just 92 minutes a week (lower than the recommended guidelines) had an increased life expectancy of three years when compared with inactive individuals (11). Not surprisingly, in a survey of more than 2000 people, the most commonly reported barrier to being physically active for employed Albertans was a lack of available time (46%) (12).

In addition to low rates of physical activity, increased sedentary behaviour in the workplace is a growing issue in Alberta. The majority of adults in Alberta spend a large portion of their time at work (13) and workplaces have become increasingly sedentary (14, 15). Moreover, almost a third of Albertans say that the time they would like to spend being physically active, they instead spend commuting (2, 12). In a study of office workers, sedentary time accounted for 82% of work hours, while light activity and moderate/vigorous physical activity accounted for 15% and 3% respectively (16). Further, the 2015 Alberta Physical Activity Survey found that on average, Albertans sit for almost nine hours per day (6). Considering this, the workplace and the time spent travelling to and from the workplace are important opportunities for integrating physical activity and reducing sedentary time in the daily lives of many Albertans (8, 17).

Improving Physical Activity and Reducing Sedentary Behaviour during the Workday

Active living has been defined as "the implementation into daily life of the physical activity needed to optimize health" (18, S7) and includes physical activity during leisure time, transportation, and labour purposes (19). Active commuting to and from work is an important component of active living because it increases the level of physical activity integrated into people's daily routines, thereby helping individuals reach and maintain their physical activity goals (20-22). Active commuting involves the use of any human-powered transportation to get to and from work, including walking, cycling, and the use of bus and light rail transit (20-22).

Integrating daily physical activity into the workday through activities, such as active commuting, is not always the 'easy choice' for Albertans. For example, workplaces with firm employee schedules, lack of storage space for bikes and onsite changing facilities, and strict dress codes can make physical activity difficult for Alberta employees (23-25). Moreover, built environment factors in the wider community (i.e. outdated design standards, urban sprawl) and environmental barriers (i.e. traffic congestion, safety hazards, lack of sidewalks, and inefficient bike paths) create significant deterrents to active commuting (23, 26, 27). Consequently, public policies and administrative procedures can help to reduce these barriers by creating supportive social and physical environments that encourage active living and active commuting (10, 24, 28, 29).

A 2015 systematic review by the Alberta Centre for Active Living (ACAL) identified four general types of workplace interventions to achieve better physical activity outcomes and reduce sedentary behaviours (2). These four types of interventions included challenges and competitions, information and counselling, organizational culture and norms, and access and the physical environment. According to the review, the most effective intervention for improving physical activity in the workplace activity was changing organizational culture and norms. Three examples include: flexible work hours to support physical activity participation (e.g. starting work earlier or later); encouraging periodic workplace physical activities (e.g. walking meetings, active breaks, walking lunch groups, and standing desk stretches); and reinforcing an organizational commitment to supporting a healthy workplace (e.g. safe places to store bikes or appealing staircases (2). The most effective workplace intervention to reduce sedentary behaviour was targeting changes in access and the physical environment (2). Two examples include rearranging the layout of the workplace (e.g. having a central printing station further away from workstations) and modifying workstations themselves (e.g. sit-stand workstations)(2). In addition, the authors of the systemic review recommend that interventions should involve an educational component to support employees in incorporating physical activity throughout their day (6).

Findings from a 2014 survey of Alberta policy-influencers in government, schools, workplaces, and the media indicate there is support for interventions that provide incentives for employers to develop physical activity policies (94%) and to improve access to physical activity facilities for workers (98%) (30). Providing education programs (99%), subsidizing activity costs (93%), and providing monetary incentives (93%) were also supported actions (30). Unfortunately, in 2007 most working Canadians (55%) reported that their employers were not very or not at all supportive of physical activity. However, Alberta employees were the most likely of those not receiving employer support to report that such support would encourage them to be more active (17).

Benefits to Taking Action:

For employees:

- Improved physical and mental health, as well as a better ability to cope and reduce workplace stress (9, 31-33).
- Improved productivity, morale, job satisfaction, and enhanced workplace social interaction (34-37). Other positive impacts include employee life satisfaction, increased positive mood states, presenteeism, and reduced body fat (2).
- Financial savings: A Canadian commuter who drives 25km to and from work each day is estimated to pay about \$1700 per year in vehicle operating costs (not including parking fees or car ownership costs such as insurance, licence, registration, etc.) (38), while transit typically costs on average \$1000 per year (39) and monthly transit passes qualify for a federal tax credit (40).
- Efficient use of time: Commute time can be used for productive purposes (reading or working while using transit) or physical activity if walking or cycling (20, 22).
- Improved workplace culture: Workplaces that allow flexible work hours and provide access to facilities, such as secure bike racks, may see reductions in sedentary behaviour (2).

For employers:

- Employee recruitment and retention: Supporting active commuting options may improve retention of employees and the recruitment of prospective employees who do not have a driver's licence, cannot afford a car or choose not to own one (41). Canadian employees (45%) indicated that physical activity opportunities (including programs and facilities) moderately or greatly influenced their decision to remain with a company (17).
- Reduced absenteeism: Physically active employees take 27% fewer days of sick leave (42).
- Productivity: By being physically active during the commute to work, employees will be more productive and focused during the work day (37).
- Reduced workplace injuries and worker's compensation costs: Per capita worker compensation costs can be reduced by 45 per cent if employees are regularly active (42).

For communities:

- Sustainable transportation: Reduced congestion of roads, increased air quality, decreased carbon emissions, and
 increased energy conservation (10, 43). A recent cost-benefit analysis in Copenhagen found that the cost to society
 of travelling by car (related to accidents, climate change, health, and travel time) is more than six times higher
 compared to cycling (44).
- An increased investment in active transportation will create more equitable mobility options for community members (10, 43, 45).
- Stimulate local economy: Enhancing environments for walking, cycling, and public transportation increases local economic activity as pedestrians and cyclists frequent local businesses more often (46, 47).

Considerations:

Albertans work in many different types of workplaces: small and large companies, rural and urban businesses, private and public operations, large institutions (e.g. education, health), and various levels of government. Some workplaces have stable workforces and some have workforces with regular employee turnover, resulting in clear differences between the health and work conditions of employees (48). Therefore, physical activity initiatives, programs, and policies should be suited to the particular type of workplace (17, 23, 49).

It is not always easy to be physically active at work. Employers and employees alike experience barriers to supporting and engaging in active living within the workplace. Lack of time at work is an important barrier to physical activity for employees (12, 17, 50). In addition, the time pressures and business demands faced by employers can act as a barrier to developing and implementing workplace initiatives. Furthermore, a lack of pleasant spaces near workplaces in which to walk, bicycle, or be active is cited by one in four working Canadians as a barrier to engaging in physical activity during work hours (17). The perceived safety of areas surrounding workplaces is also important as people are less likely to engage in physical activity if they perceive it to be unsafe, even if the actual risk is low (8, 51, 52). Likewise, the absence of on-site facilities (e.g. change rooms, showers, bike racks, equipment storage) and appropriate space (29, 50, 53, 54) create challenges for employees to engage in physical activity and active commuting during work hours.

A lack of employer awareness of the benefits of a healthy work environment can also be a barrier to supporting active living in the workplace. According to a policy statement released by the Alberta Chambers of Commerce in 2008, the findings of a survey conducted in Calgary, Alberta showed that most businesses are not convinced or aware of the benefits of healthy work environments (55). Further, many employers are not aware of the commuting characteristics of their employees or the levels of services available for active commuting (e.g. transit stops, bike paths, etc.) at or near their worksite (56). Workplaces would be best served if employers were to audit their environment and survey their employees to determine what barriers to active living and active commuting exist (57, 58). These audits could inform the planning, constraints, and scale of physical activity initiatives most appropriate for the specific workplace (2). Such barriers may include distance, traffic and neighbourhood safety, climate and weather conditions, and inadequate support facilities (showers and/or lockers) (20, 29, 51). In addition, the provision of financial incentives (e.g. subsidies for footwear, biking equipment, etc.) to encourage active commuting could produce both health and environmental benefits (29, 59-63).

APCCP Priorities for Action:

 Advocate for policies promoting active commuting and active living environments in all government, public, and private sector workplaces in Alberta.

References:

- 1. World Health Organization. Global recommendations on physical activity for health [Internet]. Geneva, Switzerland 2010.
- 2. Nora Johnston BL, Christina Loitz, Nicole McLeod, Jeremy Potter, Jeremy Potter, Increasing physical activity and decreasing sedentary behaviour in the workplace. Edmonton, Canada: Alberta Centre for Active Living2015.
- 3. Sedentary Behaviour Research Network. Letter to the editor: standardized use of the terms "sedentary" and "sedentary behaviours". Appl Physiol Nutr Metab. 2012 2012/06/01;37(3):540-2.
- 4. Tremblay MS, Colley RC, Saunders TJ, Healy GN, Owen N. Physiological and health implications of a sedentary lifestyle. Appl Physiol Nutr Metab. 2010;35(6):725-40.
- 5. Thorp AA, Owen N, Neuhaus M, Dunstan DW. Sedentary behaviors and subsequent health outcomes in adults: a systematic review of longitudinal studies, 1996–2011. Am J Prev Med. 2011;41(2):207-15.
- 6. Alberta Centre for Active Living. 2015 Alberta survey on physical activity. Edmonton: University of Alberta 2015.
- Statistics Canada. Directly measured physical activity of Canadian adults, 2007 to 2011. Health Fact Sheets. Ottawa: Statistics Canada Catalogue no. 82-625-X; 2013.
- 8. World Cancer Research Fund/American Institute for Cancer Research. Policy and action for cancer prevention -Food, nutrition, and physical activity: a global perspective. Washington 2009.
- 9. Canadian Society for Exercise Physiology. Canadian physical activity guidelines: 2011 scientific statements. Canadian Society for Exercise Physiology; 2011. p. 1-4.
- 10. Global Advocacy Council for Physical Activity. The Toronto charter for physical activity: a global call for action. International Society for Physical Activity and Health; 2010 May.
- 11. Wen CP, Wai JPM, Tsai MK, Yang YC, Cheng TYD, Lee MC, et al. Minimum amount of physical activity for reduced mortality and extended life expectancy: a prospective cohort study. Lancet. 2011.
- 12. Heart and Stroke Foundation. Time crunch is stealing healthy years from Canadians. 2011 [cited 2012 August 14]; Available from: <u>http://www.heartandstroke.com/atf/cf/%7B99452D8B-E7F1-4BD6-A57D-B136CE6C95BF%7D/HSF_ReportNov2011_ENG_LR.pdf</u>.
- 13. Thorp AA, Healy GN, Winkler E, Clark BK, Gardiner PA, Owen N, et al. Prolonged sedentary time and physical activity in workplace and non-work contexts: a cross-sectional study of office, customer service and call centre employees. International Journal of Behavioral Nutrition and Physical Activity. 2012;9(1):128.
- 14. Statistics Canada. Labour force characteristics, seasonally adjusted, by province (monthly) (Saskatchewan, Alberta, British Columbia). Ottawa2015.
- 15. Statistics Canada. Employment by age, sex, type of work, class of worker and province (monthly) (Alberta). Ottawa2015.
- 16. Parry S, Straker L. The contribution of office work to sedentary behaviour associated risk. BMC public health. 2013;13(1):296.
- 17. Cragg S, Wolfe R, Griffiths JM, Cameron C. Physical activity among Canadian workers: trends 2001-2006. Ottawa, ON: Canadian Fitness and Lifestyle Research Institute; 2007.
- 18. Tremblay MS, Shephard RJ, Brawley LR. Research that informs Canada's physical activity guides: an introduction. Appl Physiol Nutr Metab. 2007;32:S1-S8.
- 19. Sallis JF, Linton L, Kraft MK. The first active living research conference: growth of a transdisciplinary field. Am J Prev Med. 2005;28(2):93-5.
- 20. Wener RE, Evans GW. A morning stroll levels of physical activity in car and mass transit commuting. Environ Behav. 2007;39(1):62-74.
- 21. Saelens BE, Vernez Moudon A, Kang B, Hurvitz PM, Zhou C. Relation between higher physical activity and public transit use. Am J Public Health. 2014;104(5):854-9.
- 22. Merom D, Miller YD, van der Ploeg HP, Bauman A. Predictors of initiating and maintaining active commuting to work using transport and public health perspectives in Australia. Prev Med. 2008;47(3):342-6.
- 23. Bopp M, Kaczynski AT, Campbell ME. Social ecological influences on work-related active commuting among adults. Am J Health Behav. 2013;37(4):543-54.

- 24. Wen LM, Kite J, Rissel C. Is there a role for workplaces in reducing employees' driving to work? Findings from a cross-sectional survey from inner-west Sydney, Australia. BMC public health. 2010;10(1):50.
- 25. Prinsen R. Active transportation--you and your community. Edmonton: Centre for Active Living; 2012 [cited 2012 August 14]; Available from: <u>http://www.centre4activeliving.ca/media/filer_public/7a/87/7a8715ac-b615-4dd7-97e2-463eec7de083/2012-jun-active-transportation.pdf</u>.
- 26. Heart and Stroke Foundation. Shaping active, healthy communities: a heart and stroke foundation built environment toolkit for change. 2010. p. 50.
- 27. Seliske L, Pickett W, Janssen I. Urban sprawl and its relationship with active transportation, physical activity and obesity in Canadian youth. Health Rep. 2012;23(2):17-25.
- 28. Kaczynski AT, Bopp MJ, Wittman P. Peer reviewed: association of workplace supports with active commuting. Prev Chronic Dis. 2010;7(6).
- 29. Bopp M, Gayah VV, Campbell ME. Examining the link between public transit use and active commuting. Int J Environ Res Public Health. 2015;12(4):4256-74.
- 30. Nykiforuk CIJ, Raine KD, Wild C, the Alberta Policy Coalition for Chronic Disease Prevention team. Knowledge, attitudes and beliefs survey 2011. Edmonton, AB: School of Public Health, University of Alberta; 2011.
- 31. Toker S, Biron M. Job burnout and depression: unraveling their temporal relationship and considering the role of physical. J Appl Psychol. 2012;97(3):699-710.
- 32. Chu A, Koh D, Moy F, Müller-Riemenschneider F. Do workplace physical activity interventions improve mental health outcomes? Occupational Medicine. 2014;64(4):235-45.
- 33. Merrill RM, Aldana SG, Garrett J, Ross C. Effectiveness of a workplace wellness program for maintaining health and promoting healthy behaviors. J Occup Environ Med. 2011;53(7):782-7.
- 34. Conn VS, Hafdahl AR, Cooper PS, Brown LM, Lusk SL. Meta-analysis of workplace physical activity interventions. Am J Prev Med. 2009;37(4):330-9.
- 35. Taylor WC, King KE, Shegog R, Paxton RJ, Evans-Hudnall GL, Rempel DM, et al. Booster Breaks in the workplace: participants' perspectives on health-promoting work breaks. Health Educ Res. 2013:cyt001.
- 36. Cancelliere C, Cassidy JD, Ammendolia C, Côté P. Are workplace health promotion programs effective at improving presenteeism in workers? A systematic review and best evidence synthesis of the literature. BMC public health. 2011;11(1):395.
- 37. Public Health Agency of Canada. Business case for active living at work. 2010 [cited 2010 August 23].
- 38. Canadian Automobile Association. Driving costs beyond the price tag: understanding your vehicle's expenses. Ottawa: Canadian Automobile Association; 2013. p. 12.
- 39. CBC Edmonton. The cost of a ticket to ride2013 [cited 2015 April 30]: Available from: http://www.cbc.ca/edmonton/interactive/transit-prices/.
- 40. Canada Revenue Agency. You've earned it: claim it. Canada Revenue Agency; 2009 [updated 2009-02-16; cited 2010 September 22]; Description of Government of Canada income tax relief measures, including transit passes]. Available from: <u>http://www.cra-arc.gc.ca/nwsrm/fctshts/2009/m02/fs090216-eng.html</u>.
- 41. Federation of Canadian Municipalities. Improving travel options with transportation demand management (TDM). Ottawa: Federation of Canadian Municipalities; 2008. p. 14.
- 42. Alberta Centre for Active Living. Bottom-line benefits of physical activity at work. 2010 [cited 2010 August, 23]; Available from: <u>http://www.ualberta.ca/~active/workplace/beforestart/benefits-bottom-line.html</u>.
- 43. Healthy Spaces and Places. Healthy spaces and places: a national guide to active living. Australian Local Government Association, the National Heart Foundation of Australia, and the Planning Institute of Australia 2009; Available from: <u>http://www.healthyplaces.org.au/userfiles/file/HS&P%20An%20overview.pdf</u>.
- 44. Gössling S, Choi AS. Transport transitions in Copenhagen: comparing the cost of cars and bicycles. Ecological Economics. 2015;113:106-13.
- 45. U.S. Environmental Protection Agency. Guide to sustainable transportation performance measures. In: ICF International, editor.2011.
- 46. Litman T. Economic value of walkability. World Transport Policy & Practice. 2004;10(1):5-14.
- 47. Tolley R. Good for busine\$\$: the benefits of making streets more walking and cycling friendly. In: Australia CbHFS, editor.: National Heart Foundation of Australia; 2011.
- 48. Aronsson G, Gustafsson K, Dallner M. Work environment and health in different types of temporary jobs. Eur J Work Organ Psy. 2002;11(2):151-75.

- 49. Heath GW, Parra DC, Sarmiento OL, Andersen LB, Owen N, Goenka S, et al. Evidence-based intervention in physical activity: lessons from around the world. Lancet. 2012;380(9838):272-81.
- 50. Dugdill L, Brettle A, Hulme C, McCluskey S, Long A. Workplace physical activity interventions: a systematic review. Int J Workplace Health Manag [Internet]. 2008;1(1):20-40.
- 51. Cutumisu N, Spence JC. Using local sports facilities more effectively to promote physical activity. Research Update. Edmonton, AB: Alberta Centre for Active Living; 2011. p. 1-4.
- 52. Pan SY, Cameron C, DesMeules M, Morrison H, Craig CL, Jiang X. Individual, social, environmental, and physical environmental correlates with physical activity among Canadians: a cross-sectional study. BMC public health. 2009;9(1):21.
- 53. Poon P, Zuck N, Plotnikoff R, Horne T. Workplace active living in Alberta: a needs assessment. Edmonton, AB: Alberta Centre for Well-Being; 2000. p. 35.
- 54. Canadian Fitness and Lifestyle Research Institute. Workplace physical activity: a summary from the Canadian Fitness and Lifestyle Research Institute and ParticipACTION. Web-based report: Canadian Fitness and Lifestyle Research Institute 2009 May 2009.
- 55. Alberta Chambers of Commerce. Policies: 2010, 2009, 2008 Edmonton, AB.2010.
- 56. Transport Canada. Commuter options: the complete guide for Canadian employers. Ottawa, ON.2002.
- 57. Plotnikoff R, Fein A, Milton L, Prodaniuk T, Mayes V. Workplace physical activity framework. Health Reports: Alberta Centre for Active Living; 2003.
- 58. Phipps E, Madison N, Pomerantz SC, Klein MG. Identifying and assessing interests and concerns of priority populations for work-site programs to promote physical activity. Health Promotion Practice. 2010;11(1):71-8.
- 59. National Preventive Health Taskforce. Australia: the healthiest country by 2020. Australia: Australian Government; 2009.
- 60. Huang TT. Solution-oriented research converging efforts of promoting environmental sustainability and obesity prevention. Am J Prev Med. 2009 Feb;36(2 Suppl):S60-2.
- 61. Stanton R. Who will take responsibility for obesity in Australia? Public Health. 2009;123(3):280-2.
- 62. Swinburn BA. Obesity prevention: the role of policies, laws and regulations. Aust New Zealand Health Policy. [Editorial]. 2008;5:12.
- 63. Insall P. Can we achieve evidence-based policy and practice on active travel? J Public Health Policy. 2009;30 Suppl 1:S21-5.