

Building awareness of barriers to exercise in rural and remote areas

Expanding awareness of the facilitators and barriers to physical activity in rural communities can lead to more effective physical activity promotion in primary care settings.

Cara L. McCulloch, MD, Alanna Koopmans, BHSc, Sandra Allison, MD, FRCPC, MPH, Chelsea A. Pelletier, PhD

Rates of chronic disease have increased drastically over the past century, putting enormous strain on the global health care system.¹ Physical activity is a well-established and highly effective preventive treatment, showing results for primary and secondary prevention of over 30 chronic health conditions.²⁻⁴ The World Health Organization indicates lack of physical activity to be the fourth-leading risk factor for mortality, responsible for 6% of deaths globally, and a projected economic burden of US\$300 billion by 2030.^{5,6} In Canada, rates of physical activity are low, with only one in five Canadians meeting

the recommended 150 minutes per week of moderate to vigorous physical activity.⁷

In the *BCMJ* there have been discussions about physicians' roles in promoting physical activity and the associated systemic challenges in physical activity counseling and prescribing practices.^{8,9} It is important to include the experiences of rural, remote, and northern communities in these discussions. Rates of participation in physical activities are often lower among persons living in rural areas, which contributes to overall worse health outcomes compared with their urban-dwelling peers.¹⁰⁻¹² Understanding barriers to physical activity for rural populations is an important step to addressing physical inactivity and physical activity inequities.

Researchers have examined barriers to physical activity in rural populations around the world and identified fewer available resources and formal organizations promoting physical activity in these areas; long distances to participate in formal physical activity, weather, and perceptions of safety due to wildlife have been documented as barriers.¹³⁻¹⁵ For example, a study of adults in rural Saskatchewan found that adverse weather conditions, including fear of falling on ice, were a major barrier to engaging in physical activities.¹⁶ The presence or absence of indoor facilities, access to trails or parks, proximity to compelling destinations, and pleasing neighborhood aesthetics have also been found to influence rates of physical activity.^{13,17,18} These factors highlight how the built and natural environments can lead

to either increased or decreased rates of physical activity.

Although research has indicated that rural residents have less social support and fewer opportunities to be physically active, rural residents are more likely to prefer and enjoy physical activity than urban residents.¹⁹ Rural locations also have unique factors that can facilitate activity, such as the diversity of physical activity options in natural settings.²⁰ Working to address barriers to physical activity and incorporate communities' strengths may enable rural health practitioners and patients to meet physical activity guidelines.

In 2017, primary care practitioners from the Northern Health region were asked about their physical activity counseling and prescribing practices. Responses to this survey indicated that practitioners do not have enough time to properly discuss physical activity with patients; exercise may slip to the bottom of the priority list of things to discuss. The demand on primary care providers' time is likely exacerbated for rural practitioners, who tend to have a relatively broader scope of practice.^{21,22} Appointment time constraints become particularly salient for practitioners treating patients with comorbid conditions, where adding an additional factor to discuss in an already full appointment may be overwhelming. When practitioners do have capacity to discuss physical activity with patients, they indicate the need for better methods or protocols to communicate exercise recommendations.

Dr McCulloch is a resident physician in emergency medicine at the University of Calgary and a graduate of the University of British Columbia Northern Medical Program. Ms Koopmans is a medical student in the UBC Northern Medical Program and a graduate of the University of Northern British Columbia Bachelor of Health Sciences (Honours) program. Dr Allison is the medical health officer for the Vancouver Island Health Authority and a clinical associate professor in the School of Population and Public Health at UBC. Dr Pelletier is an associate professor in the School of Health Sciences at UNBC and an affiliate associate professor with the Department of Family Practice, Faculty of Medicine, at UBC.

This article has been peer reviewed.

In the 2017 survey, we assessed practitioners' perceptions of barriers to physical activity for rural and remote patients. Some clinicians expressed concern that the population of patients they served was too frail or may not have the ability to participate in physical activity, as well as a lack of motivation or time for patients to meet Canada's physical activity guidelines. Some practitioners also assumed patients would not be interested in a physical activity prescription. Socioeconomic factors such as the costs associated with equipment, winter clothing, fitness classes, and gym memberships were identified as perceived barriers for patients. Environmental factors impacting physical activity participation were also highlighted, including icy weather conditions, limited daylight hours, and few sidewalks.

We further probed practitioners on their perceptions of facilitators to physical activity in the communities they serve. Community infrastructure was discussed as an important facilitator to physical activity engagement, particularly in towns and communities with accessible facilities year-round, such as indoor gyms, swimming pools, and community centres. Responses indicated that engagement in physical activity was facilitated in certain communities in conjunction with adequate infrastructure in that region (e.g., walking trails, cross-country skiing facilities, mountain biking trails, hiking paths). Practitioners highlighted that in some communities there is a culture of fitness, which they saw as an important facilitator to physical activity engagement.

Primary care providers remain an important means of connecting patients to the health care system. Creating awareness of the facilitators and barriers to physical activity in rural populations will lead to more effective promotion of physical activity in primary care in the rural, remote, and northern communities of BC. Understanding these barriers will also facilitate referral to other health and exercise professionals (e.g., kinesiologists, physiotherapists, personal trainers) trained in physical activity promotion to meet patient goals.^{23,24}

As demonstrated in our 2017 survey, lack of time can affect a clinician's ability to discuss and promote physical activity with patients, and when we are able to discuss physical activity participation with patients, it is essential we are aware of the potential barriers they face.

As clinicians, it is important we evaluate our perceptions of what is preventing patients from participating in physical activities; we may find our perceptions do not align with patients' realities. Research on rural and remote health continues to build, yet gaps remain in our understanding of specific factors that support community-based physical activity interventions in rural, remote, and northern communities.¹² Ultimately, strategies to increase physical activity in patients living in rural and Northern British Columbia need to focus on the unique aspects of each community and patient. ■

References

1. Elmslie K. Against the growing burden of disease. Public Health Agency of Canada, 2016. Accessed 31 January 2023. <https://cagh-acsm.org/sites/default/files/resources/2016/10/elmslie.pdf>.
2. Hoffmann TC, Maher CG, Briffa T, et al. Prescribing exercise interventions for patients with chronic conditions. *CMAJ* 2016;188:510-518.
3. Pedersen BK, Saltin B. Exercise as medicine—Evidence for prescribing exercise as therapy in 26 different chronic diseases. *Scand J Med Sci Sports* 2015;25(Suppl 3):1-72.
4. Warburton DE, Charlesworth S, Ivey A, et al. A systematic review of the evidence for Canada's physical activity guidelines for adults. *Int J Behav Nutr Phys Act* 2010;7:39.
5. World Health Organization. Global recommendations on physical activity for health. 2010. Accessed 31 January 2023. http://apps.who.int/iris/bitstream/handle/10665/44399/9789241599979_eng.pdf.
6. World Health Organization. Global status report on physical activity 2022. 2022. Accessed 31 January 2023. www.who.int/publications/i/item/9789240059153.
7. Statistics Canada. Directly measured physical activity of adults, 2012 and 2013. Health Fact Sheet. Last updated 27 November 2015. Accessed 17 April 2021. www150.statcan.gc.ca/n1/pub/82-625-x/2015001/article/14135-eng.htm.
8. Poussette A. Re-embracing physical activity after COVID-19: What is the physician's role? *BCM J* 2021;63:298.
9. Horton L. Re: Re-embracing physical activity after COVID-19. *BCM J* 2021;63:408.
10. DesMeules M, Pong R. How healthy are rural Canadians: An assessment of their health status and health determinants. Canadian Institute for Health Information, 2006. Accessed 31 January 2023. https://secure.cihi.ca/free_products/rural_canadians_2006_report_e.pdf.
11. Martin SL, Kirkner GJ, Mayo K, et al. Urban, rural, and regional variations in physical activity. *J Rural Health* 2005;21:239-244.
12. Pelletier CA, Poussette A, Ward K, et al. Implementation of physical activity interventions in rural, remote, and northern communities: A scoping review. *Inquiry* 2020;57:0046958020935662.
13. Gilbert AS, Duncan DD, Beck AM, et al. A qualitative study identifying barriers and facilitators of physical activity in rural communities. *J Environ Public Health* 2019;2019:7298692.
14. Paluck EC, Allerdings M, Kealy K, Dorgan H. Health promotion needs of women living in rural areas: An exploratory study. *Can J Rural Med* 2006;11:111-116.
15. Button BLG, Tillmann S, Gilliland J. Exploring children's perceptions of barriers and facilitators to physical activity in rural Northwestern Ontario, Canada. *Rural Remote Health* 2020;20:5791.
16. Schmidt L, Rempel G, Murray TC, et al. Exploring beliefs around physical activity among older adults in rural Canada. *Int J Qual Stud Health Well-being*. 2016;11:32914.
17. Edwards N, Hooper P, Knuiam M, et al. Associations between park features and adolescent park use for physical activity. *Int J Behav Nutr Phys Act* 2015;12:21.
18. Winters M, Barnes R, Venners S, et al. Older adults' outdoor walking and the built environment: Does income matter? *BMC Public Health* 2015;15:876.
19. Pelletier CA, White N, Duchesne A, Sluggett L. Barriers to physical activity for adults in rural and urban Canada: A cross-sectional comparison. *SSM Popul Health* 2021;16:100964.
20. Cleland V, Hughes C, Thornton L, et al. Environmental barriers and enablers to physical activity participation among rural adults: A qualitative study. *Health Promot J Austr* 2015;26:99-104.
21. Wenghofer EF, Timony PE, Gauthier NJ. "Rural" doesn't mean "uniform": Northern vs southern rural family physicians' workload and practice structures in Ontario. *Rural Remote Health* 2014;14:2720.
22. Wong E, Stewart M. Predicting the scope of practice of family physicians. *Can Fam Physician* 2010; 56:219-225.
23. Wattanapisit A, Wattanapisit S, Wongsiri S. Overview of physical activity counseling in primary care. *Korean J Fam Med* 2021;42:260-268.
24. Klepac Pogrmilovic B, Linke S, Craike M. Blending an implementation science framework with principles of proportionate universalism to support physical activity promotion in primary health-care while addressing health inequities. *Health Res Policy Syst* 2021;19:6.