



Built environment and health

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Background

Recent decades have seen an unprecedented rise in the global burden of obesity and diabetes. In North America and many other regions, these trends have coincided with changes in urban design that favour sprawling, car-oriented communities with few destinations reachable on foot. In the search for population approaches to curb the rise in obesity, public health officials have turned their interest to the “built” environment—which includes elements of urban and suburban design such as buildings, streets, parks and transportation systems—as a potential target for public health policies.

Objective

To identify whether walkable, urban neighbourhoods in Canada are associated with lower levels of overweight, obesity and diabetes than less walkable ones and to explore the potential impact of policies that promote walkable urban design on the rate of vector-borne diseases (VBDs) in cities.

Narrative

Neighbourhoods built following WW II are characterized by high levels of urban sprawl, fewer connections between streets and zoning laws that separate residential lands from local stores and other amenities. Residents of suburban areas spend, on average, more time per day in cars and have lower rates of walking, cycling and public transit use, and a lower likelihood of meeting physical activity guidelines (1-5). People living in car-oriented communities not only lose opportunities for physical activity but may be exposed to more pollutants while driving (6).

Growing evidence that includes a large, observational Canadian study shows that neighbourhoods that provide more opportunities for walking and cycling have lower rates of obesity and diabetes (1,7-11). The co-development of residential and commercial areas generally increases walkability scores. Zoning laws that permit this type of development are extremely important in building connected and walkable cities. Other factors that may promote physical activity include the expansion of public transit options as well as parks, recreational spaces, trails and cycling paths. However, if VBD infection rates continue to grow in urban areas, the theoretical increased risk of these diseases from increased outdoor exposure will need

to be managed. Efforts to create urban green spaces that foster physical activity will also need to consider how to reduce their potential as a breeding ground for mosquitoes and other vectors.

Conclusion

Research suggests a relationship between the built environment and obesity-related diseases. The design of urban neighbourhoods may be an additional consideration in the emergence of VBDs.

Conflict of interest

None.

References

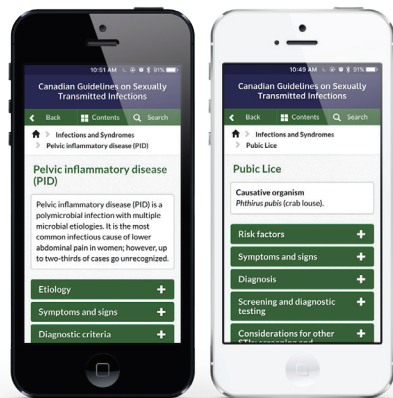
1. Creatore MI, Glazier RH, Moineddin R, Fazli GS, Johns A, Gozdyra G, Matheson FI, Kaufman-Shriqui V, Rosella LC, Manuel DG, Booth GL. Association of neighborhood walkability with change in overweight, obesity, and diabetes. *JAMA*. 2016;315(20):2211-20.
2. Sallis JF, Cerin E, Conway TL, Adams MA, Frank LD, Pratt M, Salvo D, Schipperijn J, Smith G, Cain KL, Davey R, Kerr J, Lai PC, Mitas J, Reis R, Sarmiento OL, Schofield G, Troelsen J, van Dyck D, De Bourdeaudhuij I, Owen N. Physical activity in relation to urban environments in 14 cities worldwide: a cross-sectional study. *Lancet*. 2016;387(10034):2207-17.
3. Hajna S, Ross NA, Brazeau AS, Bélisle P, Joseph L, Dasgupta K. Associations between neighbourhood walkability and daily steps in adults: a systematic review and meta-analysis. *BMC Public Health*. 2015;15:7684.
4. Sallis JF, Conway TL, Dillon LI, Frank LD, Adams MA, Cain KL, Saelens BE. Environmental and demographic correlates of bicycling. *Prev Med*. 2013;57:456-60.
5. Carlson JA, Saelens BE, Kerr J, Schipperijn J, Conway TL, Frank LD, Chapman JE, Glanz K, Cain KL, Sallis JF. Association between neighborhood walkability and GPS-measured walking, bicycling and vehicle time in adolescents. *Health Place*. 2015;32:1-7.



6. [Health impacts of cars in London](#). London (UK): Greater London Authority. 2015 Sep. https://www.london.gov.uk/sites/default/files/health_impact_of_cars_in_london-sept_2015_final.pdf
7. Booth GL, Creatore MI, Moineddin R, Gozdyra P, Weyman J, Matheson FI, Glazier RH. Unwalkable neighborhoods, poverty and the risk of diabetes among recent immigrants to Canada compared to long-term residents. *Diabetes Care*. 2013;36:302-8
8. Glazier RH, Creatore MI, Weyman JT, Fazli G, Matheson FI, Gozdyra P, Moineddin R, Kaufman-Shruiqui K, Booth GL. Density, destinations or both? A comparison of measures of walkability in relation to transportation behaviors, obesity and diabetes in Toronto, Canada. *PLoS One*. 2014;9:e85295.
9. Wasfi RA, Dasgupta K, Orpana H, Ross NA. Neighborhood walkability and body mass index trajectories: Longitudinal study of Canadians. *Am J Public Health*. 2016;106(5):934-40.
10. Berry TR, Spence JC, Blanchard C, Cutumisu N, Edwards J, Nykiforuk C. Changes in BMI over 6 years: the role of demographic and neighborhood characteristics. *Int J Obes (Lond)*. 2010;34(8):1275-83.
11. McCormack GR, Virk JS. Driving towards obesity: a systematized literature review on the association between motor vehicle travel time and distance and weight status in adults. *Prev Med*. 2014;66:49-55.

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