

Healthy Community Design Baseline Indicators Project

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A Framework for Healthy Built Environments



Baseline project identified healthy community design indicators based around four features:

- Neighbourhood Design
- Transportation Networks
- Natural Environments
- Food Systems

(Adapted with permission from Healthy Built Environment Linkages Toolkit, BC Centre for Disease Control, 2018)

Objectives of Baseline Project

1. To assess **residents' preferences** related to community design and self-reported **active travel behaviour**;
2. To gain an understanding of **residents' knowledge** of the relationship between community design and health;
3. To collaborate with municipal planning departments to measure **physical features of community design**

↳ *Physical Form*



Baseline Data Collection

Partnered with three municipalities to collect:

1. **Survey data.** Used to collect resident perceptions about the link between community design and health. The survey also asked residents about their travel behaviours.
2. **Physical form data.** Existing data about the physical features of the community was collected, analyzed, and mapped.



Assessment Areas



- Each community was divided into smaller assessment areas based on:
 - Statistics Canada dissemination areas (DAs)
 - Population size
 - Existing neighbourhood characteristics
- Smaller communities were divided into two assessment areas

Neighbourhood Design Survey

- Population of three communities studied ranged between 20,000 – 130,000 residents
- Recruitment methods included:
 - Online, telephone and intercept surveys (in-person)
- Survey data was analyzed by assessment areas



Perception and Behaviour Indicators

- Perception of ability to travel actively to certain locations (e.g., work, school, trail, community garden, health care provider, friends or family, library, local stores, park, bus stops, etc.)
- Reported active travel behaviour



Resident Perception Indicators

Mixed-Use Imagery

Neighbourhood C has grocery stores, shops, services & a range of homes close together.



C

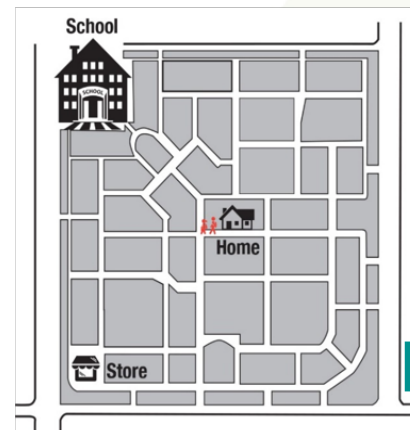
Neighbourhood D has grocery stores, shops & services further from homes.



D

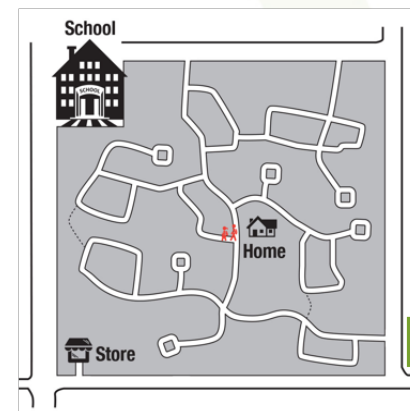
Connectivity Imagery

Neighbourhood E has streets in a grid pattern with sidewalks on both sides of the road.



E

Neighbourhood F has curved streets, with several cul-de-sacs and may have fewer sidewalks.



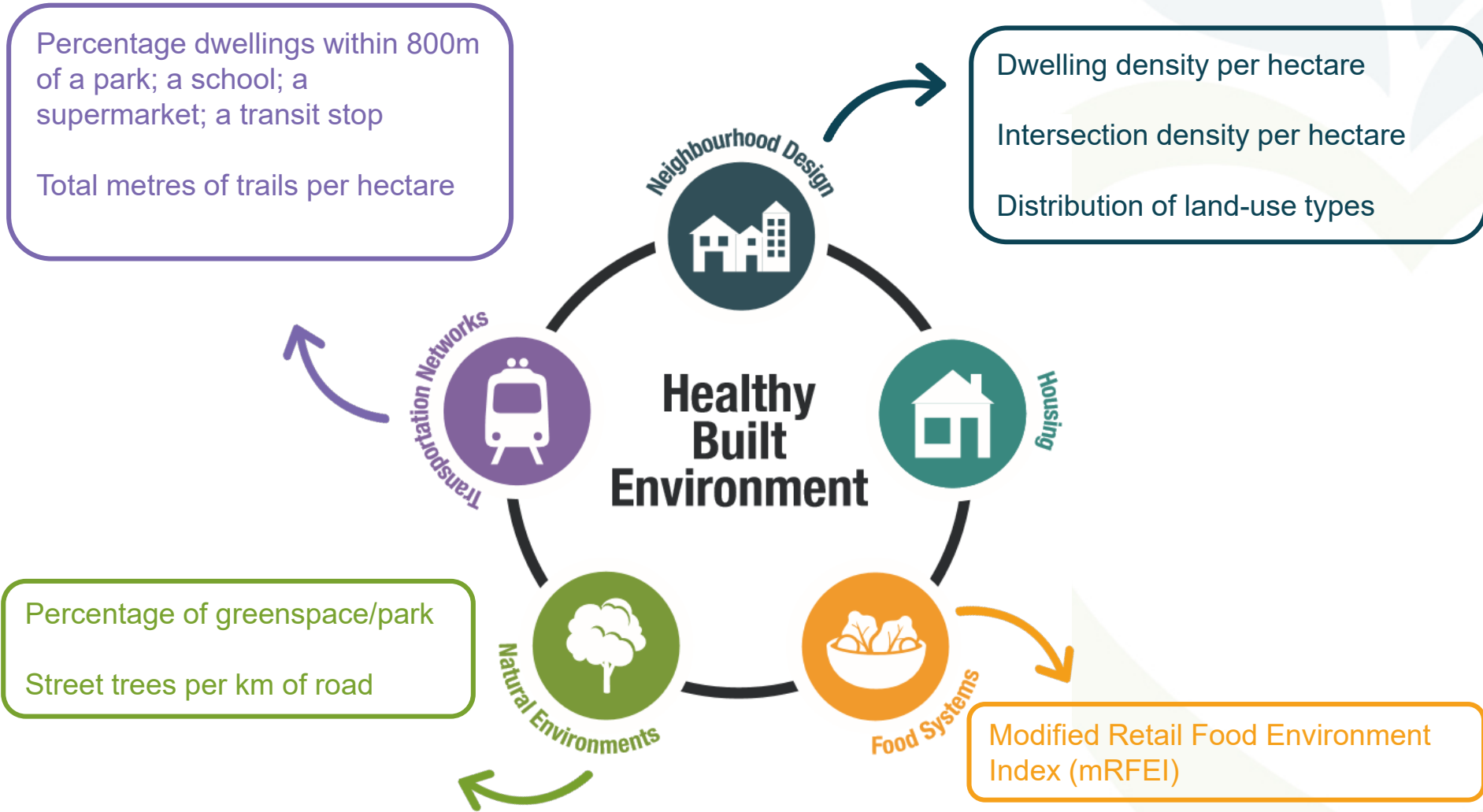
F

Data Collection

1. **Survey.** Used to collect resident perceptions about the link between community design and health. The survey also asked residents about their travel behaviours.
2. **Physical form data.** Existing data about the physical features of the community was collected, analyzed, and mapped.



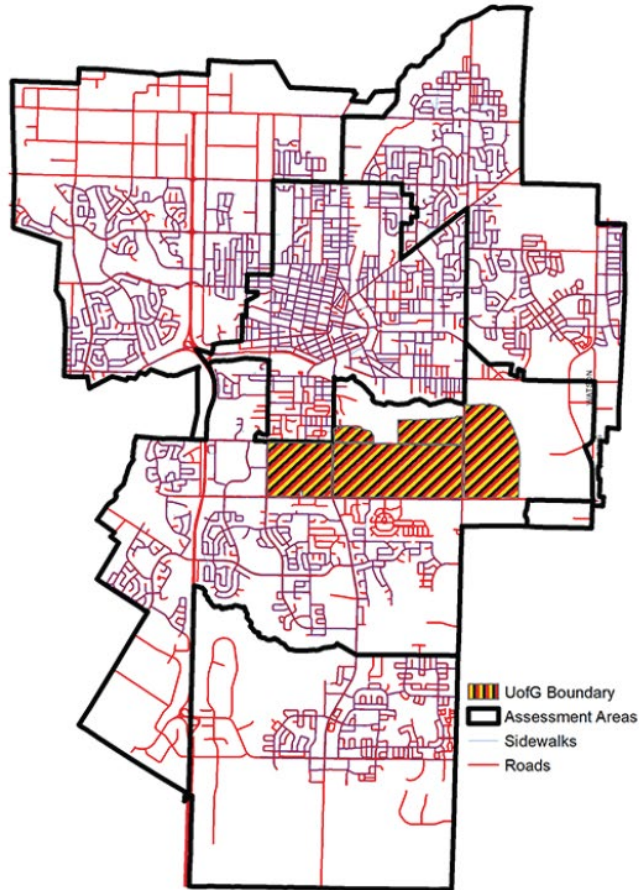
Physical Form Indicators



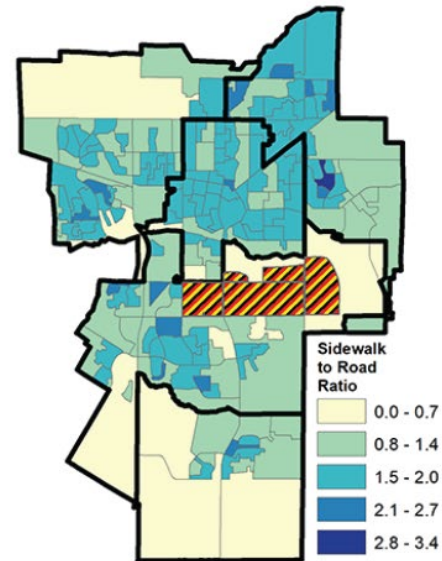
(Adapted with permission from Healthy Built Environment Linkages Toolkit, BC Centre for Disease Control, 2018)



Mapping Physical Form Indicators



Assessment Area	Sidewalk / Road Ratio
North-East	1.55
North-West	1.13
Older Built-up Area	1.47
South	0.84
South-Central	1.00

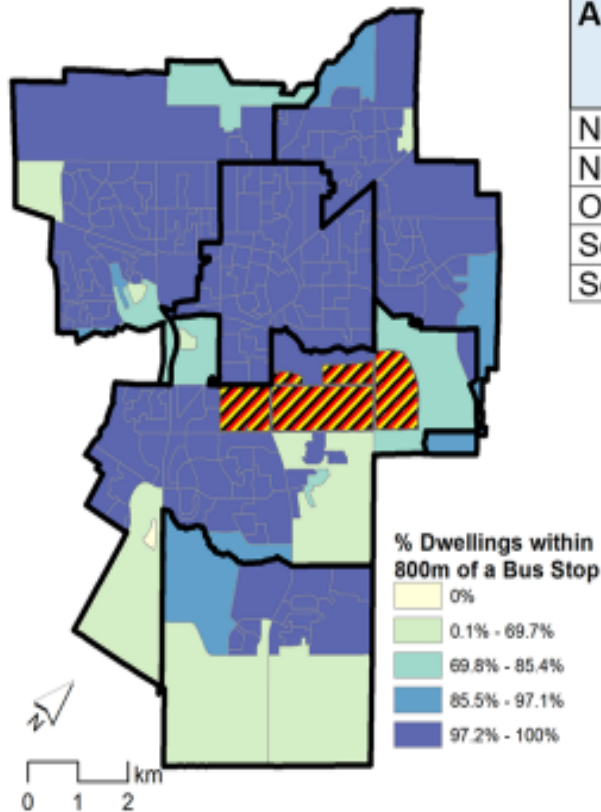
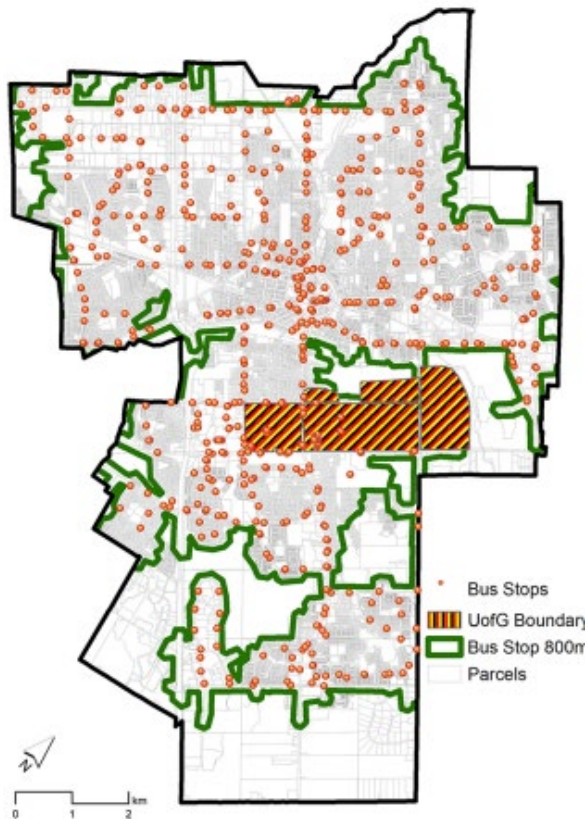


Findings

NDS Survey: 93% of residents reported they could travel actively to a bus stop

Physical form indicator:

96% of dwellings within 800m of a bus stop

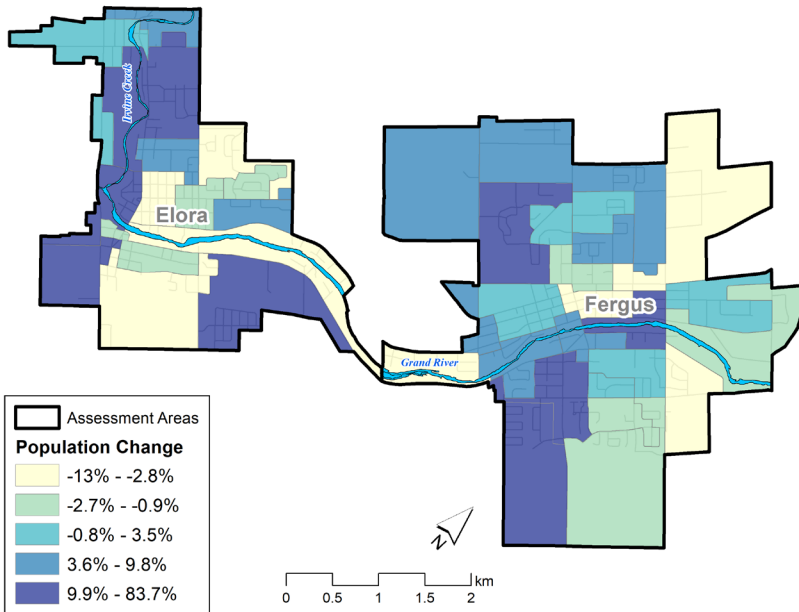


Assessment Area	% Dwellings Within 800m of Bus Stop
North-East	98.5%
North-West	96.0%
Older Built-up Area	100.0%
South	93.3%
South-Central	90.7%

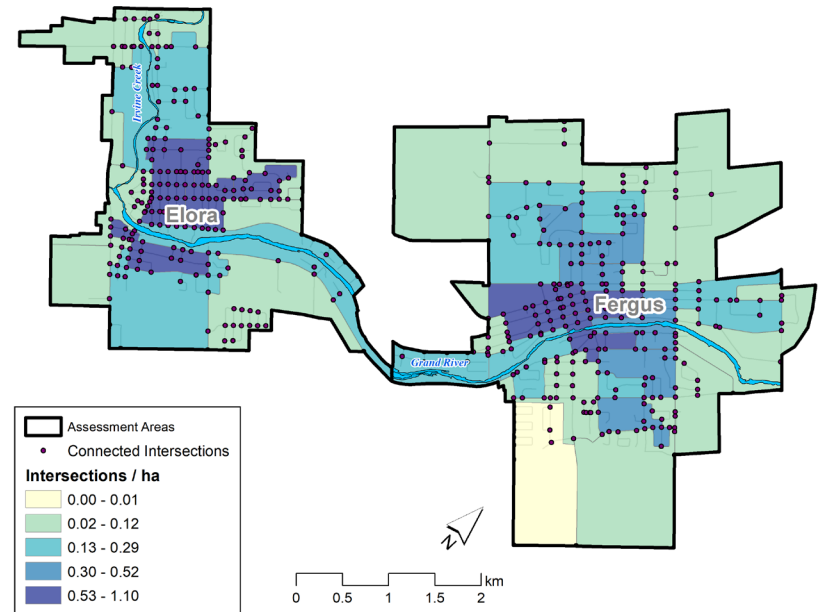
Findings

NDS Survey: 76% of residents felt that connected neighbourhood design would encourage healthy behaviours

Population Change Indicators (2011-2016)



Intersection Density (Connectivity) Indicators



Findings

72% of Core residents felt they could travel actively to at least 5 of the 13 locations.



85%: a school



77%: a bus stop



74%: a park or greenspace

78% of External residents felt they could travel actively to at least 5 of the 13 locations.



88%: a school



87%: a park or greenspace



79%: a bus stop

Percentage of residents who reported actively travelling to at least two-thirds of the locations they had reported as being accessible by active modes of travel.

56%
Core



65%
External

Findings

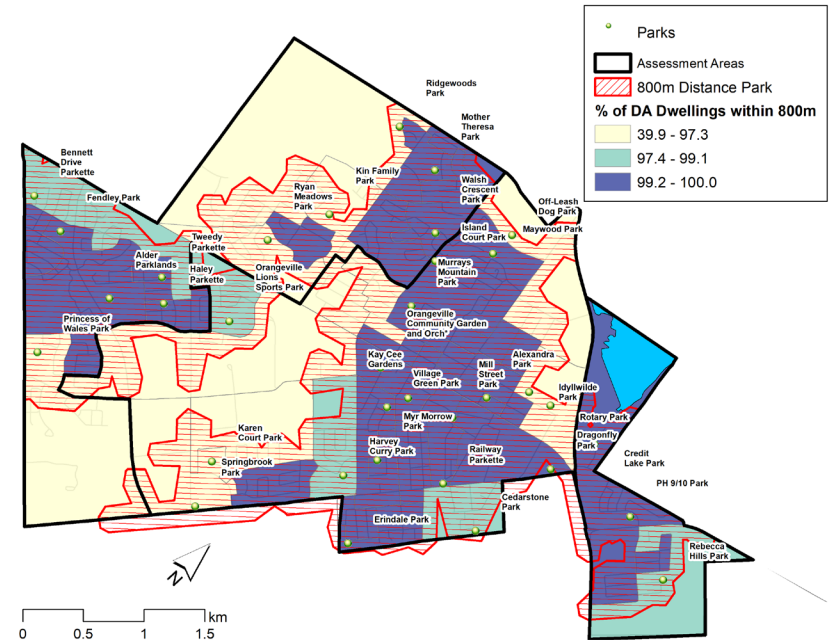
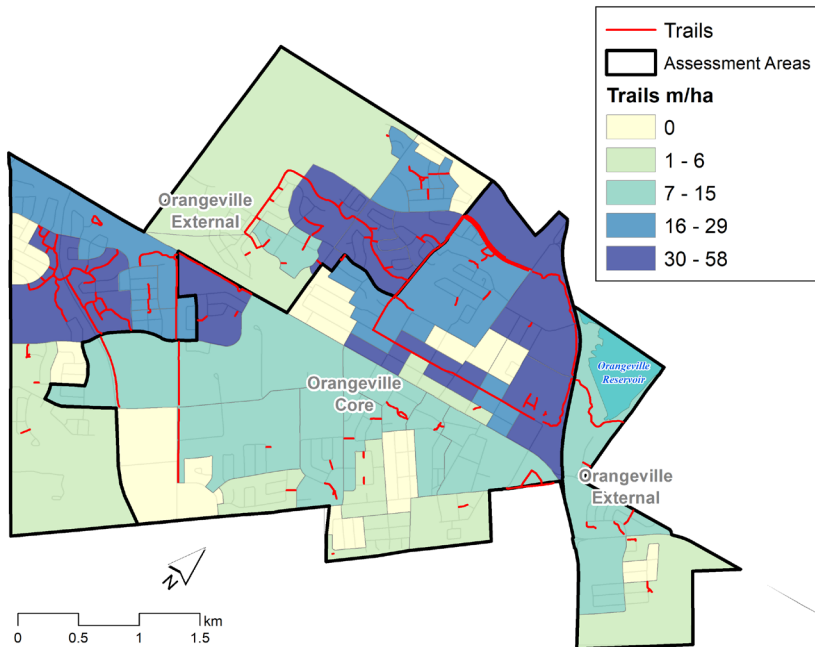
NDS Survey: 64% of residents felt it was important to be able to travel actively to outdoor recreation destinations

Total meters of trail per hectare of area

External: 14.5 m/ha

Core: 10.5 m/ha

% of dwellings within 800m of a park/greenspace



Next Steps



- Work with municipalities on implementing the recommendations from Baseline Project.
- Use findings to inform policy documents (e.g., official plans, master plans, strategic plans, community plans etc.), advise municipal leaders, and support healthy built environment initiatives within local communities.
- Explore connections of indicator data with other public health data (e.g., injury rates, chronic disease rates, social determinants of health, climate change).

The Built for Health Index

- **MARS Healthy Neighbourhood Data Challenge**
 - challenges.marsdd.com/challenge/hndc/
 - Challenged participants to use data to better understand the physical environment and to support designing healthier neighbourhoods.
- **Built for Health Index (BHI)** measures whether a community is designed to encourage healthy behaviours



Is your community built for health?

Challenges and Mitigation Strategies

- Creation of the survey tool
- Representative sample
- Comprehensiveness
- Limitations associated with datasets and spatial analysis methods



Summary

- The Baseline Project provided 3 local communities with a baseline measure of their built environments.
- Identified strengths in each community's design as well as elements that could be improved or enhanced.
- Strengthened partnerships, engagement, and collaboration with municipal planning departments





Healthy Community Design Baseline Project:

Neighbourhood Design Survey and Physical-Form Indicators

Orangeville



Healthy Community Design Baseline Project:

Neighbourhood Design Survey and Physical-Form Indicators

Centre Wellington



Healthy Community Design Baseline Project:

Neighbourhood Design Survey and Physical-Form Indicators

Guelph



wdgpublichealth.ca/HCDBaseline

Petrina, B., Cheyne, B., Scales, A. & Estill, A. Using healthy community design data to monitor and inform planning and public policy. *Can J Public Health* **112**, 1051–1058 (2021). <https://doi.org/10.17269/s41997-021-00523-6>

Questions?

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