

Obesity rising in least walkable Ontario neighborhoods

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Obesity rates in Southern Ontario cities have remained stable for more than a decade in highly walkable neighborhoods but continued to rise in less walkable ones, a new study has found. Neighbourhoods that were designed to be more walking-friendly also experienced a fall in the rate of new cases of diabetes.

The study, led by Dr. Gillian Booth, an endocrinologist and researcher at St. Michael's Hospital and an adjunct scientist at the Institute for Clinical Evaluative Sciences, was published today in the journal *JAMA*.

The study, the largest of its kind, looked at patterns of obesity, diabetes and transportation across 9,000 neighbourhoods with different levels of walkability over a dozen years and involved 3 million people in 15 municipalities in Southern Ontario. The study looked at adults ages 30-64, a group that has experienced a rapid increase in obesity-related conditions, including diabetes.

Previous studies on this topic have been much smaller and most were cross-sectional in their design (focusing on a single point in time), meaning they were unable to follow people over time for their future risk of disease.

"Our study illustrates the important role that neighbourhoods play in keeping us healthy," Dr. Booth said. "The best designed communities make it easy for people to walk, which helps protect them against obesity and diabetes. Neighbourhoods that require people to drive

everywhere are worst off in terms of obesity and diabetes."

The global increase in obesity is a major health problem. Being overweight increases the chance a person will develop Type 2 diabetes. An estimated 3.4 million Canadians have diabetes, or almost one in 10. Diabetes is a leading cause of vision loss, kidney failure, limb amputations and cardiovascular disease. It's estimated that diabetes will cost the Canadian healthcare system \$16.9 billion each year by 2020.

Despite public health efforts to reduce obesity through diet and exercise, rates of being overweight, obese and developing diabetes remain high. Aside from encouraging healthy eating, an approach gaining interest is to redesign communities to be more walkable, lessening dependence on cars and increasing opportunities for physical activity.

Highly walkable neighbourhoods are those with high population densities and high numbers of destinations within walking distance of residential areas (stores, banks, schools, etc.), along with well-connected streets.

The researchers measured walkability using an index that included data from the 2001 Canadian Census and information on the layout of streets and locations of retail outlets, services and other amenities from 2003 DMTI Spatial Inc., a private company that provides location analytics. Neighborhoods were then ranked and classified into five groups, from lowest to highest walkability.

Weight trends:

In 2001, the first year for which Dr. Booth examined data in this study, the prevalence of being overweight or obese was 10 per cent lower in the most walkable neighborhoods compared to the least walkable (43 per cent vs. 53 per cent). By 2012, the prevalence of being overweight or obese increased in the three categories of least walkable neighbourhoods,

while there was no significant change in areas of higher walkability. The difference in prevalence between the most and least walkable areas widened to 13.5 percentage points (45.5 per cent vs. 59).

Diabetes:

In 2001, the number of new cases of [diabetes](#) in the most walkable areas was lower than the other areas. By 2012, the rate actually dropped in the two most walkable areas from 8.7 per 1,000 residents to 7.6, while not changing significantly in the least walkable neighbourhoods.

Foot vs. car traffic:

Rates of walking, cycling and public transit use remained significantly higher and car use lower in the most walkable neighbourhoods, although the frequency of daily walking or cycling increased only modestly from 2001 to 2011 in highly walkable areas. Leisure time [physical activity](#), diet and smoking patterns did not vary by walkability.

More information: *JAMA*, [DOI: 10.1001/jama.2016.5898](https://doi.org/10.1001/jama.2016.5898)

Provided by St. Michael's Hospital

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