

Neighborhood environments and risk for type 2 diabetes

June 29 2015



Credit: Darren Lewis/public domain

Neighborhood resources to support greater physical activity and, to a lesser extent, healthy diets appear to be associated with a lower incidence of type 2 diabetes, although the results vary by the method of measurement used, according to an article published online by *JAMA Internal Medicine*.

Type 2 diabetes mellitus (T2DM) is an important cause of death and disability worldwide. Prevention of T2DM has focused largely on

behavioral modification. However, the extent to which behavioral modifications will succeed in unsupportive environments remains unknown.

Researcher Paul J. Christine, M.P.H., of the University of Michigan, Ann Arbor, and co-authors investigated whether long-term exposures to neighborhood physical and social environments, including the availability of healthy foods, physical activity resources, and levels of social cohesion and safety, were associated with the development of T2DM during a 10-year period.

The authors used data from the Multi-Ethnic Study of Atherosclerosis and had a group of 5,124 individuals who were free of T2DM at baseline and who underwent follow-up examinations from 2000 to 2012. The authors collected information on neighborhood [healthy food](#) and physical activity resources in two ways: there were geographic information system (GIS)-based measures of access to food stores more likely to sell healthier foods and access to recreational facilities, as well as survey information about the availability of healthy foods, the walking environment and the social environment for safety and [social cohesion](#).

During a median follow-up of nearly nine years, the authors found 616 of 5,124 participants developed T2DM (12 percent). The new cases of T2DM were more likely to be found in individuals who were black or Hispanic, had lower income, fewer years of education, less healthy diets, lower levels of moderate and [vigorous physical activity](#), a higher BMI, and a family history of T2DM.

After accounting for a number of patient-related factors, a lower risk for developing T2DM was associated with greater cumulative exposure to neighborhood healthy food (12 percent) and physical activity resources (21 percent). However, the results varied based on the method of measurement used with the associations primarily found with survey-

based, not GIS-based, information. Neighborhood social environment was not associated with new cases of T2DM.

"Our results suggest that modifying specific features of neighborhood environments, including increasing the availability of healthy foods and PA [[physical activity](#)] resources, may help to mitigate the risk for T2DM although additional intervention studies with measures of multiple neighborhood features are needed. Such approaches may be especially important for addressing disparities in T2DM given the concentration of low-income and minority populations in [neighborhoods](#) with fewer health-promoting resources," the study concludes.

In a related commentary, Nancy E. Adler, Ph.D., and Aric A. Prather, Ph.D., of the University of California, San Francisco, write: "In sum, the findings by Christine et al point to the impact of perceived neighborhood resources. Having markets and recreational facilities located nearby may be necessary but not sufficient to enable healthy behaviors. Building more facilities in neighborhoods that lack them is a component of an overall strategy to address the national rise in obesity, but this strategy needs to be informed by an understanding of when such facilities are actually used and the characteristics of the individuals who use them. In brief, the risk for T2DM is a combination of both person and place, and our national strategies need to understand and intervene across these levels."

More information: *JAMA Intern Med.* Published online June 29, 2015. [DOI: 10.1001/jamainternmed.2015.2691](https://doi.org/10.1001/jamainternmed.2015.2691)

JAMA Intern Med. Published online June 29, 2015. [DOI: 10.1001/jamainternmed.2015.2701](https://doi.org/10.1001/jamainternmed.2015.2701)

Provided by The JAMA Network Journals

Citation: Neighborhood environments and risk for type 2 diabetes (2015, June 29) retrieved 26 April 2024 from

<https://medicalxpress.com/news/2015-06-neighborhood-environments-diabetes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.