

Study finds high rates of type 1 diabetes near food swamps

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Hotspots of type 1 diabetes in New York City are found in food swamps, areas with a higher proportion of fast food restaurants, for children and adults with type 1 diabetes, according to a new study published in the Endocrine Society's *Journal of the Endocrine Society*.

Patients with type 1 and type 2 [diabetes](#) share the same problem of [high blood sugar](#) levels, but the cause and development of the conditions are quite different. Type 1 diabetes is an autoimmune disease in which the body's immune system attacks the cells in the pancreas that make insulin, and it [currently affects over 1.3 million U.S. adults](#). Type 2 diabetes results from a combination of insulin resistance and deficiency, and is the more common of the two, affecting more than 21 million U.S. adults. Patients with type 1 diabetes need insulin to survive, while those with type 2 diabetes also may use diet, exercise and oral medication to help manage the condition.

"Traditionally, we've associated type 1 diabetes with genetics and type 2 diabetes with obesity," said one of the study's authors, David C. Lee, M.D., M.S., of New York University School of Medicine in New York. "Our research suggests that an adverse food environment has an important influence in type 1 diabetes, and a more thorough investigation of genetics, health behaviors and cultural influences should be considered for type 2 diabetes."

In the retrospective cohort study, researchers from New York University School of Medicine used emergency claims data to locate New York

City residents who visited a New York State emergency department at least once between 2009 and 2013 and had a history of type 1 or type 2 diabetes. Geospatial analysis was used to estimate diabetes prevalence among adults and children by census tract.

The researchers leveraged data from the city restaurant inspections and state retail food store inspections to determine which census tracts had a higher proportion of [fast food restaurants](#) and small convenience stores, which tend to offer fewer healthy food options than large grocery stores.

The researchers found higher rates of all forms of diabetes in [food swamps](#) except for children with type 2 diabetes. Those cases of pediatric type 2 diabetes were concentrated in neighborhoods with a higher proportion of black residents, suggesting there could be a genetic component at work.

"Future studies should seek to further validate these methods of estimating type 1 and type 2 diabetes prevalence among adults and children using alternative data sources," Lee said. "Factors like cultural dietary patterns and engrained patterns of belief around how one develops diabetes should be explored to determine what causes certain neighborhoods to face a much higher burden of disease."

More information: "Identifying Geographic Disparities in Diabetes Prevalence among Adults and Children Using Emergency Claims Data," *Journal of the Endocrine Society*, [DOI: 10.1210/js.2018-00001](https://doi.org/10.1210/js.2018-00001)

Provided by The Endocrine Society

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