

Incidence rates of diabetes continue to increase in children, young adults

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Lynne E. Wagenknecht, Dr.P.H., professor and director of public health sciences at Wake Forest University School of Medicine. Credit: Wake Forest University School of Medicine

New findings from researchers at Wake Forest University School of

Medicine confirm that the rates of Type 1 and Type 2 diabetes continue to increase in children and young adults. Non-Hispanic Black and Hispanic children and young adults also had higher incidence rates of diabetes.

The study appears online in the current issue of *The Lancet Diabetes & Endocrinology*.

"Our research suggests a growing population of [young adults](#) with diabetes who are at risk of developing complications from the disease," said Lynne E. Wagenknecht, Dr.P.H., professor and director of public health sciences at Wake Forest University School of Medicine and principal investigator. "It's a troubling trend in [young people](#) whose health care needs will exceed those of their peers."

The findings are from the final report from the SEARCH for Diabetes in Youth study, the largest surveillance effort of diabetes among youth under the age of 20 conducted in the U.S. to date. Wake Forest University School of Medicine served as the coordinating center of the multi-site study, which was launched in 2000 and supported by the Centers for Disease Control and Prevention and the National Institutes of Health.

The research team identified more than 18,000 children and young people from infants to 19 years of age with a physician diagnosis of Type 1 diabetes and more than 5,200 young people between the ages of 10 and 19 with Type 2 diabetes at five centers in the U.S. between 2002 and 2018. The annual incidence of Type 1 diabetes was 22.2 per 100,000 in 2017–18 and 17.9 per 100,000 for Type 2 diabetes.

"In our 17-year analysis, we found that the incidence of Type 1 diabetes increased by 2% per year, and the incidence of Type 2 diabetes increased by 5.3% per year," Wagenknecht said.

The rates of increase were also higher among racial and [ethnic groups](#) than among non-Hispanic white children. Specifically, annual percentage increases for Type 1 diabetes and Type 2 diabetes were highest for Asian or Pacific Islander, Hispanic and non-Hispanic Black children and young people.

The peak age at diagnosis was 10 years for Type 1 diabetes and 16 years for Type 2 diabetes. Researchers also noted that the onset of Type 1 diabetes typically occurs in winter with a peak in January. Possible explanations for this seasonality include the fluctuation in daylight hours, lower levels of vitamin D and an increase in [viral infections](#).

For Type 2 diabetes, the peak onset was August. Researchers attribute this to the increase in sports physicals and routine health screenings that occur more frequently at the beginning of the academic school year.

"These findings will help guide focused [prevention efforts](#)," Wagenknecht said. "Now that we have a better understanding of risk factors, our next phase of research will be studying the underlying pathophysiology of youth-onset [diabetes](#)."

More information: Lynne E Wagenknecht et al, Trends in incidence of youth-onset type 1 and type 2 diabetes in the USA, 2002–18: results from the population-based SEARCH for Diabetes in Youth study, *The Lancet Diabetes & Endocrinology* (2023). [DOI: 10.1016/S2213-8587\(23\)00025-6](#)

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