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## Diabetes increasing in youths

### At a Glance

- An analysis of data from 2002-2012 revealed a rise in the rate of new cases of diabetes in youths under the age of 20.
- The biggest increases were for certain racial and ethnic minority groups.
- Research to learn why certain youths are more at risk of developing diabetes may help inform future prevention and treatment efforts.

People with diabetes have blood sugar (glucose) levels that are too high. Over time, high levels of blood glucose can cause health problems. Too much glucose can damage your blood vessels, nerves, kidneys, and eyes.

In type 1 diabetes, the body doesn't make enough of the hormone insulin. Without enough insulin, cells lose the ability to take in glucose from blood. In type 2 diabetes, the body doesn't make or use insulin well. Type 1 diabetes is more common in children than type 2. In adults, the reverse is true.

The SEARCH for Diabetes in Youth study examined new cases of diabetes diagnosed in youths under the age of 20. The researchers analyzed cases occurring from 2002 to 2012 among about 4.9 million youths at five clinical centers across the country. The study was funded by NIH's National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the Centers for Disease Control and Prevention (CDC). Results appeared on April 13, 2017, in the *New England Journal of Medicine*.

The investigators identified more than 11,000 youths under 20 who were diagnosed with type 1 diabetes and 2,800 youths aged 10 to 19 with type 2 diabetes. Too few cases of type 2 diabetes were diagnosed at ages younger than 10 to be included in the analysis. Youths from all five major racial and ethnic groups in the U.S were included: non-Hispanic whites, non-Hispanic blacks, Hispanics, Asian Americans/Pacific Islanders, and Native Americans.

For both type 1 and type 2 diabetes, the rates of new cases increased. For each year, the rate of new cases of type 1 diabetes increased by about 1.8% and the rate of new cases of type 2 diabetes increased by 4.8%.

The rate of new cases of type 1 diabetes increased by 4.2% per year in Hispanic youth, 2.2% in non-Hispanic blacks, and 1.2% in non-Hispanic whites. The researchers did not find statistically significant increases for Asian Americans/Pacific Islanders or Native Americans in the study.



The study found a rise in the rate of new cases of diabetes in youths under the age of 20. *MarkHatfield/iStock/Thinkstock*

For type 2 diabetes, the rate of new cases rose by 8.5% per year in Asian Americans/Pacific Islanders, 6.3% in non-Hispanic blacks, and 3.1% in Hispanics. For whites, the rate didn't increase significantly. The rate rose 8.9% annually in Native Americans. However, this result can't be generalized to Native American youth nationwide, as those in the study were from selected Native American reservations in Arizona and New Mexico.

The researchers observed differences between genders as well. For type 1 diabetes, the rate rose more among males (2.2% annual increase) than females (1.4%). For type 2 diabetes, the rate rose more among females (6.2%) than males (3.7%).

"The differences among racial and ethnic groups and between genders raise many questions," says Dr. Barbara Linder, NIDDK's senior advisor for childhood diabetes research. "We need to understand why the increase in rates of diabetes development varies so greatly and is so concentrated in specific racial and ethnic groups."

NIH-funded studies are now examining which factors may increase the risk of diabetes, and how to prevent and treat the disease.

## Related Links

- [Diabetes in the U.S. Population](https://www.nih.gov/news-events/nih-research-matters/diabetes-us-population) (https://www.nih.gov/news-events/nih-research-matters/diabetes-us-population)
- [Preventing Type 2 Diabetes](https://newsinhealth.nih.gov/issue/Nov2014/Feature1) (https://newsinhealth.nih.gov/issue/Nov2014/Feature1)
- [4 Steps to Manage Your Diabetes for Life](https://newsinhealth.nih.gov/issue/feb2017/capsule2) (https://newsinhealth.nih.gov/issue/feb2017/capsule2)
- [Diabetes](https://www.niddk.nih.gov/health-information/diabetes) (https://www.niddk.nih.gov/health-information/diabetes)

**References:** [Incidence Trends of Type 1 and Type 2 Diabetes among Youths, 2002-2012](#). Mayer-Davis EJ, Lawrence JM, Dabelea D, Divers J, Isom S, Dolan L, Imperatore G, Linder B, Marcovina S, Pettitt DJ, Pihoker C, Saydah S, Wagenknecht L; SEARCH for Diabetes in Youth Study. *N Engl J Med*. 2017 Apr 13;376(15):1419-1429. doi: 10.1056/NEJMoa1610187. PMID: 28402773.

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