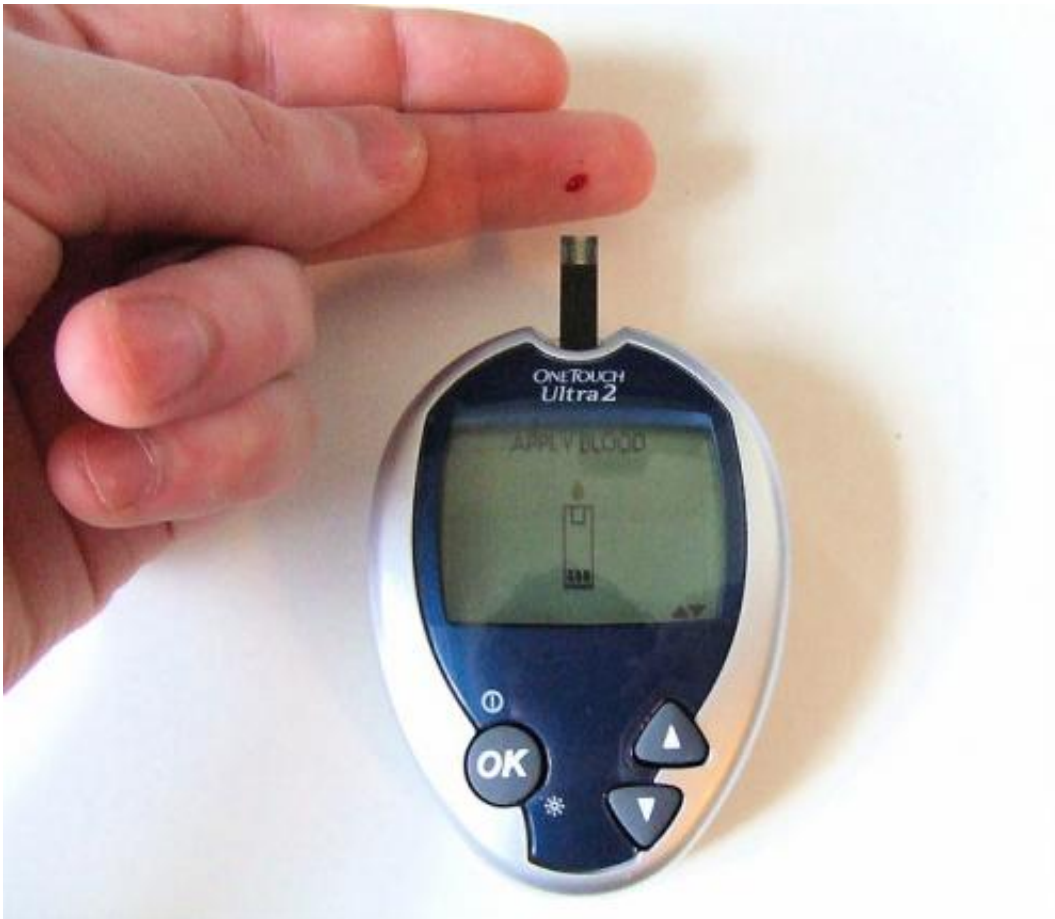


Diabetes still on rise, but new study suggests major progress in screening and diagnosis

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Blood glucose monitoring. Credit: Wikipedia

A study that compared total U.S. diabetes diagnoses over a 26-year period found that while the prevalence nearly doubled, from 5.5 to 10.8

percent, the proportion of missed cases of diabetes dropped significantly during the same period, from 16.3 to 10.9 percent. The study, led by researchers at the Johns Hopkins Bloomberg School of Public Health, suggests that increased screening by primary health care providers is yielding a bigger proportion of diagnoses and, as such, more opportunities for treatment.

Some estimates put as many as one-quarter to one-third of [diabetes](#) cases as undiagnosed, a worrisome gap considering the growing number of diabetes cases in the U.S and around the globe. These estimates are thought to overstate the number of undiagnosed diabetes cases, because they tend to use definitions that are not consistent with American Diabetes Association guidelines for diagnosing diabetes, which require a "confirmatory" blood test.

The study will appear in the *Annals of Internal Medicine* on October 24.

Diabetes, a chronic condition that affects the way the body processes sugar, can lead to life-threatening complications, including cardiovascular disease and kidney damage, if it goes untreated. When it is diagnosed, diabetes is manageable, with medical supervision, primarily through medication, weight management and diet.

The study suggests that in 2015 the total number of U.S. adults with diabetes was approximately 25.5 million, up from 21.4 million adults in 2010, with approximately 11 percent of diabetes cases being undiagnosed. In contrast, the Centers for Disease Control and Prevention (CDC), which does not use a confirmatory standard, estimates there currently are 30.1 million adults with diabetes in the U.S., and 23.8 percent are undiagnosed.

The study found that the majority of undiagnosed diabetes cases included those who were overweight or obese, and were more likely to

be ethnic minorities, including Asian Americans, as well as those who had no health insurance and had not had a recent health care visit.

"Understanding the proportion of diabetes cases that are actually undiagnosed, and who those patient groups are, is really critical to allocation of [public health](#) resources," says Elizabeth Selvin, PhD, a professor in the Bloomberg School's Department of Epidemiology and the study's lead author. "Our results suggest that targeted screening in these populations and increasing health coverage could help make sure that persons who have diabetes receive a diagnosis and get the appropriate treatment that they need."

For their study, the researchers used data from two sets of the National Health and Nutrition Examination Surveys III (NHANES), the first from 1988 to 1994, with 7,385 participants, and 4-year cycles within the 1999 through 2014 period, with 17,045 participants.

To identify which patients met the diabetes threshold, Selvin and her team used a definition of undiagnosed diabetes consistent with ADA guidelines, which require a second test to confirm that the patient tested positive for diabetes. If confirmation is not used, this can lead to false positives and inflate estimates of the number of people with undiagnosed diabetes in the population.

The study found that the percentage of undiagnosed diabetes cases decreased over time, from 16.3 percent in 1988 to 1994, to the current 10.9 percent.

Selvin hopes that the findings will make clear which populations should be targeted with screening programs to further decrease the percentage of undiagnosed diabetes cases in the U.S. Age and body mass index are, the researchers note, the most important risk factors. The findings support current screening recommendations for middle-aged and older

adults, starting at age 45, as well as those who are in high-risk groups and persons with a family history of diabetes.

The problem isn't the clinicians, she emphasizes, it's getting people into doctors' offices.

"If we're thinking about screening programs, these findings suggest that health care providers are doing a good job at diagnosing people when they're coming in contact with the [health](#) care system," says Selvin. "It's those people who are not coming in contact with the [health care](#) system that need to be a focus of our efforts to ensure cases of diabetes are not missed."

Provided by Johns Hopkins University Bloomberg School of Public Health

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