

# Screening some patients sooner may reduce racial and ethnic disparities in diabetes diagnosis, researchers show

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Diabetes is a leading cause of death and disability in the United States, affecting more than 34 million adults and generating \$330 billion in

annual healthcare expenditures. Excess body weight is one risk factor that increases one's odds of developing diabetes, and federal guidelines recommend starting screening at age 35 for all overweight adults—defined as those who have a body mass index (BMI) of 25 or higher.

However, Asian, Hispanic, and Black Americans are at increased risk for [diabetes](#) at lower weights and younger ages than white Americans. In a new study published in the *Annals of Internal Medicine*, a team of physician-scientists at the Smith Center for Outcomes Research in Cardiology at Beth Israel Deaconess Medical Center (BIDMC) sought to reduce racial and [ethnic disparities](#) in diabetes diagnosis. The team used statistical modeling to determine the BMI levels and age at which the prevalence of diabetes in racial and ethnic [minority populations](#) in the United States is equivalent to the prevalence of diabetes in white Americans considered at risk of diabetes. The team's findings suggest that [screening](#) Asian, Hispanic, and Black Americans for diabetes at lower BMI and younger ages than white Americans has the potential to reduce the rate of undiagnosed diabetes in these groups, and as a result, improve health equity in diabetes care.

"The simplicity of a single screening threshold for all Americans is alluring, but it is deeply inequitable," said senior author Dhruv Kazi, MD, MSc, MS, associate director of the Smith Center and associate professor of medicine at Harvard Medical School. "Our findings suggest that Asian, Hispanic, and Black Americans may need to get screened at lower BMI or younger ages than white Americans. If the current thresholds are universally applied, without accounting for differential risk in racial/ethnic groups, clinicians may underdiagnose diabetes in Asian, Hispanic, and Black Americans. On the other hand, applying a more tailored approach may allow [us to] reduce rates of undiagnosed diabetes and produce population wide improvements in diabetes care."

Kazi and colleagues used a long-running, nationally representative survey from the Centers for Disease Control and Prevention called the National Health and Nutrition Examination Survey (NHANES) to examine the prevalence of diabetes by race/ethnicity, body mass index (BMI), and age. Then, the scientists used regression modeling to determine the BMI at which the prevalence of diabetes in 35-year-old Asian Americans, Black Americans and Hispanic Americans, respectively, is equivalent to the prevalence of diabetes in 35-year-old white Americans with a BMI of 25 kg/m<sup>2</sup>.

"We found that a more equitable approach would be to offer screening starting at a BMI of 20kg/m<sup>2</sup> to Asian Americans ages 35 to 70, and at 18.5 kg/m<sup>2</sup> in Hispanic and Black Americans in this age group," said first author Rahul Aggarwal, MD, an internal medicine resident at BIDMC.

"We also found that among individuals from racial and ethnic minority populations with [overweight](#) or obesity, it would be equitable to offer diabetes screening starting in the early 20s rather than waiting till they are 35 years old. Delayed diagnosis and inadequate treatment of diabetes can produce catastrophic consequences, jeopardizing one's heart, kidney, eyes, and limbs. But it doesn't affect all of us equally—there are striking disparities that are largely the legacy of structural racism. Fixing the health disparities for Americans with diabetes will require a range of strategic investments in health care and efforts to reduce structural inequities. Making screening more equitable is a place to start, as it ensures that individuals with diabetes can receive preventive care and treatment in a timely manner and avert the most catastrophic consequences of diabetes."

Co-authors included Rahul Aggarwal, MD; Robert W. Yeh, MD, MSc; Nicholas Chiu, MD, MPH; Rishi Wadhwa, MD, MPP, MPhil; and Changyu Shen, Ph.D. of the Richard A. and Susan F. Smith Center for

Outcomes Research in Cardiology, BIDMC; Yang Song, MS, of Harvard Medical School; and Kirsten Bibbins-Domingo of University of California, San Francisco.

**More information:** Diabetes Screening by Race and Ethnicity in the United States: Equivalent Body Mass Index and Age Thresholds, *Annals of Internal Medicine* (2022). DOI: 10.7326/M20-8079

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