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CYNTHIA TALLEY
Cynthia has type 2 diabetes

New diabetes screening guideline published by US Preventive Services Task Force

The US Preventive Services Task Force (USPSTF), an independent panel of experts in prevention and evidence-based medicine, released an updated final guideline on screening for type 2 diabetes on October 26, 2015.

The guideline recommends screening for abnormal blood glucose as part of cardiovascular risk assessment for all asymptomatic adults, aged 40-70, who are overweight or obese.¹ In addition, the "Clinical Considerations" section of the full Clinical Guideline published in *Annals of Internal Medicine* says that: "Persons who have a family history of diabetes, have a history of gestational diabetes or polycystic ovarian syndrome, or are members of certain racial and ethnic groups (that is, African Americans, American Indians or Alaskan Natives, Asian Americans, Hispanics or Latinos, or Native Hawaiians or Pacific Islanders) may be at increased risk for diabetes at a younger age or at a lower body mass index." The Task Force recommends that "Clinicians should consider screening earlier in persons with 1 or more of these characteristics."¹

This guideline is an improvement upon the 2008 version, which recommended screening only for those with hypertension. However, the guideline frames the value of diabetes screening in the context of cardiovascular disease risk assessment.¹ The guideline does recognize abnormal blood glucose (prediabetes) as a condition worth identifying. It also encourages providers to counsel and refer their patients with prediabetes to lifestyle change programs like the National Diabetes Prevention Program. Additionally, the guideline validates the A1C test for both screening and diagnosis.¹

You can access the final guideline [here](#).

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Study examines trends in diabetes prevalence

A study recently published in *JAMA*, with coauthors from NIH and CDC, looked at the prevalence and trends of diagnosed and undiagnosed diabetes in US adults from 1988-2012, using data from the National Health and Nutrition Examination Survey (NHANES). Diabetes and prediabetes were defined either by a previous diagnosis or, in the case of no previous diagnosis, by A1C, fasting plasma glucose (FPG), and 2-hour plasma glucose (PG) (if available). Because 2-hour PG was available only for some subsets of NHANES, estimates of prediabetes and diabetes varied.

Highlights from the research include:

- From 2011 to 2012, between 12% and 14% of Americans had diabetes, depending on what criteria were used to diagnose them. This percentage has remained stable since 2008²
- About half of all Americans have diabetes or prediabetes (14.3% with diabetes; 38% with prediabetes)²
- The proportion of people who had diabetes without knowing it decreased from 40.3% in 1998-1994 to 31% in 2011-2012²
- This decrease in undiagnosed diabetes was not seen across all racial and ethnic groups; the proportion of Mexican Americans who were undiagnosed was higher than their white and black counterparts, and this percentage did not decrease over time; the authors suggest this result may be due to a lower percentage of Mexican Americans with health insurance, leading to diminished access to health care²
- The authors also found that Asian Americans were more likely than any other racial group to have undiagnosed diabetes²
- Although diabetes prevalence increased between 1999-2010, prevalence plateaued between 2008-2012; the authors note that: "This plateauing of diabetes prevalence is consistent with obesity trends in the United States showing a leveling off around the same period"²
- More than half of non-Hispanic Asian study participants had not been previously diagnosed with diabetes; overall, 10.6% of Asian participants were estimated to have had undiagnosed diabetes using the hemoglobin A1C, which was higher than any other racial/ethnic group; according to the authors, this may be due, in part, to less frequent screening for diabetes because Asian individuals on average have lower BMIs. (The American Diabetes Association recommends Asian Americans get tested for diabetes at a BMI of 23 or higher, a lower BMI threshold than the general population)²

According to the study's senior author, Catherine Cowie, PhD, Director of the Diabetes Epidemiology Program at the National Institute of Health's National Institute of Diabetes and Digestive and Kidney Diseases, "The large proportion of people with undiagnosed diabetes points to both a greater need to test for type 2 diabetes and a need for more education on when to test for type 2 diabetes..."³

You can access the article [here](#).

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Results from 15-year follow-up to Diabetes Prevention Program published

Results from the 15-year follow-up to the Diabetes Prevention Program (DPP) were recently published online in *Lancet*. The study provides powerful evidence of the long-lasting effects of lifestyle intervention to prevent the onset of type 2 diabetes.

Highlights include the following:

- After 15 years of follow-up from participants in the [original Diabetes Prevention Program clinical trial](#), **new cases of type 2 diabetes were 27% lower in adults in the original lifestyle intervention** compared with those in the placebo group⁴
- New cases of type 2 diabetes were 18% lower in adults taking metformin, compared with placebo⁴



- “The lifestyle intervention was more powerful in preventing or delaying diabetes development during the original three-year Diabetes Prevention Program and remains more powerful over the entire 15-year study,” said professor David M. Nathan, a coauthor of the new paper, quoted in a [Reuters news](#) article by Kathryn Doyle⁵

You can access the study abstract [here](#).

Gestational diabetes can be prevented by lifestyle intervention

The Finnish Gestational Diabetes Prevention Study (RADIEL), published online in July 2015 in *Diabetes Care*, found that moderate individualized lifestyle intervention can reduce the incidence of gestational diabetes mellitus (GDM) in high-risk pregnant women.⁶

The randomized controlled trial focused on high-risk pregnant women at <20 weeks of gestation. It provided participants in the intervention group with 3 sessions of lifestyle counseling with nurses and dietitians, tailored to each participant, and individualized to the stage of the pregnancy. The sessions promoted moderate physical activity and provided dietary intervention.

The dietary index score, an indicator of diet quality based on food consumption, improved more in the intervention group than in the control group.

Additionally, median weekly physical activity increased among the women in the intervention group, and more of these women met the physical activity goal, compared to those in the control group.

In fact, **the lifestyle intervention reduced the overall incidence of GDM by 39%**. Preventing GDM may have major health consequences for both the mother and the child.⁶

Researchers note that “the results are encouraging and are similar to findings from major type 2 diabetes prevention studies.”⁶

Click [here](#) for the full study in *Diabetes Care*.

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JESSE CRUMPLER
Jesse has type 2 diabetes

Risk factor control in older adults with diabetes is suboptimal

A study by the Johns Hopkins Bloomberg School of Public Health, published in the July issue of *Diabetes Care*, used data from the Atherosclerosis Risk in Communities Study (ARIC) and found that in patients with diabetes, only 1 in 3 meet the ADA targets for HbA1c, blood pressure, and LDL cholesterol. The study also found a high prevalence of racial disparities in risk factor control. Diabetes that is not well managed can lead to complications and long-term health problems.⁷

Among individuals with diabetes, percentages of those who met targets were 72% for A1C (<7%), 63% for cholesterol (LDL <100 mg/dL), 73% for blood pressure (<140/90 mm Hg), and 35% for control of all three risk factors. Less stringent targets were met by a larger percentage of older adults with diabetes, which may be expected as older adults may have less stringent targets. Overall, whites were more likely than blacks to meet targets for all three risk factors. Greater racial disparities were seen among women, as compared to men. Lead researcher Elizabeth Selvin, PhD, MPH, of the Bloomberg School, said, "This research gives us a good picture of diabetes control in older adults and gets us thinking about what it means that older Americans are not meeting clinical targets and how we should address this from a public health perspective."⁸

Researchers concluded that more research should be done to determine what the best control targets are in an older population and what can be done to improve care in ethnic minorities, noting that "each patient needs to be carefully considered individually."⁸

Click [here](#) to read the entire study.

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Trends in health care expenditure in US adults with diabetes

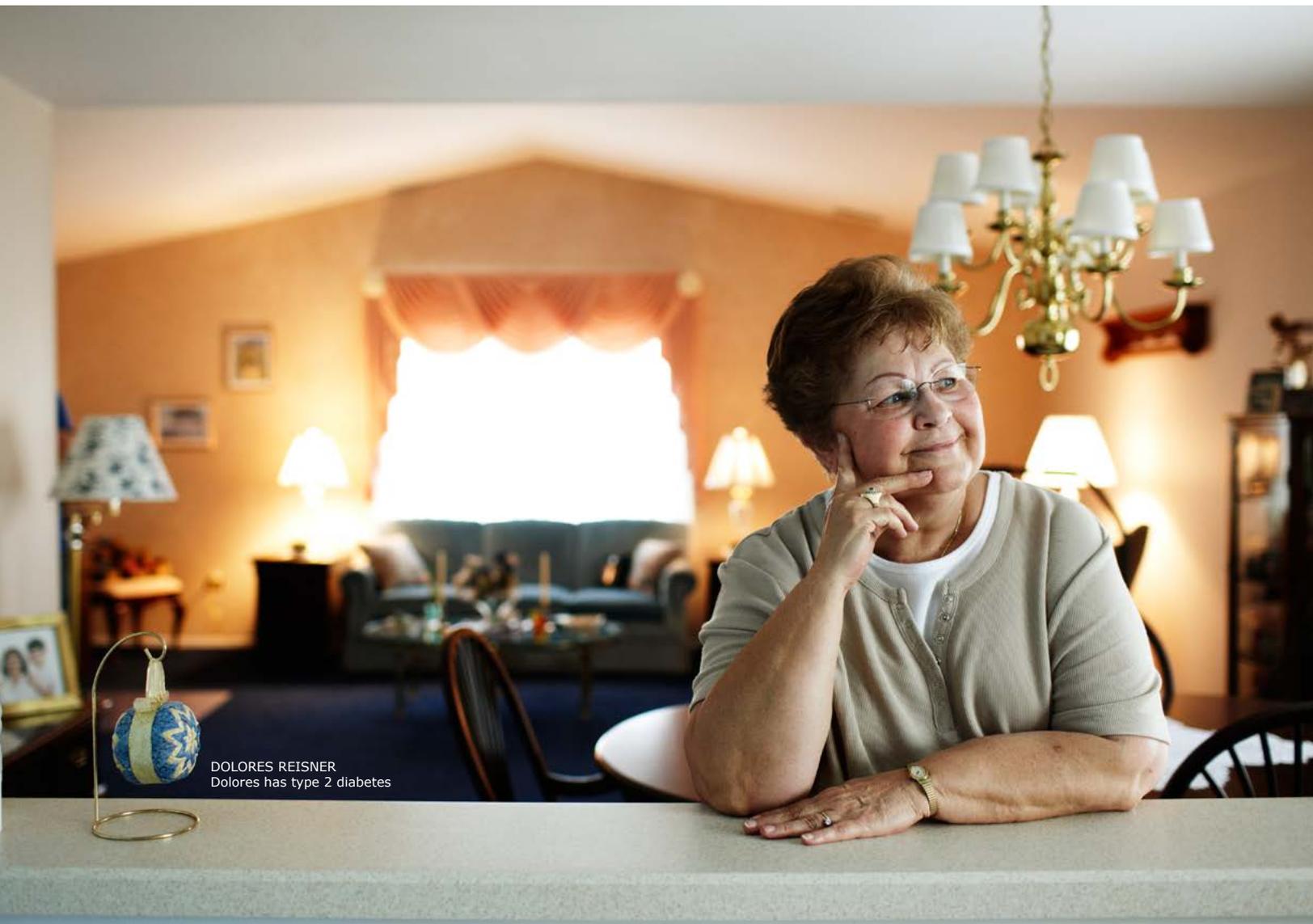
A study published online in *Diabetes Care*, based on data from the Medical Expenditure Panel Survey from 2002 to 2011, found that compared to individuals without diabetes, individuals with diabetes had significantly higher health expenditures.⁹

After adjusting for relevant covariates, on average, individuals with diabetes had \$2,558 higher expenditures compared with those without diabetes. Individuals with diabetes had total direct health care expenditures that were more than two times higher than for

those without diabetes.⁹ Based on the average yearly estimates, the unadjusted total direct health care expenditures for diabetes in the US population were \$218.6 billion per year and the adjusted total expenditures were approximately \$46 billion each year.⁹

The researchers concluded that, "These figures represent potential savings from interventions to improve prevention and management of diabetes in the US civilian population."⁹

The full article can be found in *Diabetes Care* [here](#).



DOLORES REISNER
Dolores has type 2 diabetes

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Update on primary prevention of cardiovascular disease in people with diabetes mellitus

The American Heart Association (AHA) and the American Diabetes Association (ADA) issued an updated scientific statement regarding prevention of cardiovascular disease (CVD) in people with diabetes mellitus, published online in September in *Diabetes Care*. The goal of this update is better primary prevention of CVD in all patients with diabetes mellitus.

Key recommendations include:

- Lifestyle management should be a key component of clinical care with diagnosed type 2 diabetes mellitus; a 3%-5% weight loss that can be sustained over time can be associated with health benefits¹⁰
- Bariatric or metabolic surgery can improve outcomes in individuals with a BMI ≥ 40 or a BMI ≥ 35 with significant obesity-related comorbidities¹⁰
- Patients should lower A1C levels to $\leq 7.0\%$ to reduce the incidence of microvascular disease; more or less stringent goals are appropriate for certain patients¹⁰
- Low-dose aspirin is recommended for those with a 10-year CVD risk of at least 10% and in adults with diabetes mellitus with 10-year CVD risk of 5%-10%¹⁰
- A key goal of diabetes mellitus management is avoidance of hypoglycemia to prevent CVD events and mortality¹⁰
- Most individuals with diabetes mellitus should achieve a blood pressure goal of $<140/90$ mm Hg¹⁰
- Moderate intensity statins should be used to treat patients with diabetes mellitus between 40-75 years old with LDL-C between 70 and 189 mg/dL¹⁰

Key areas of controversy that require further research include: antihyperglycemic therapy, bariatric surgery, hypoglycemia, blood pressure lowering, cholesterol lowering, and imaging for subclinical CVD assessment.¹⁰

The full statement can be read [here](#).



JAGRUTI PANDYA
Jagruti has type 2 diabetes

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Health Affairs study examines impact of insurance on chronic disease diagnoses and management

A global research team analyzed data for 1999–2012 from the National Health and Nutrition Examination Survey to evaluate relationships between health insurance and the diagnosis and management of diabetes, hypercholesterolemia, and hypertension. They found that people with insurance had significantly higher probabilities of diagnosis than matched uninsured people: 14% higher for diabetes and hypercholesterolemia and 9% higher for hypertension. Among those with existing diagnoses, insurance was associated with significantly lower A1C (-0.58%), total cholesterol (-8.0 mg/dL), and systolic blood pressure (-2.9 mm Hg).¹¹

According to the authors, if the number of non-elderly Americans without health insurance were reduced by half, they estimate that there would be 1.5 million more people with a diagnosis of one or more of these chronic conditions and 659,000 fewer people with uncontrolled cases. They conclude, "Our findings suggest that the Affordable Care Act could have significant effects on chronic disease identification and management, but policymakers need to consider the possible implications of those effects for the demand for health care services and spending for chronic disease."¹¹

You can access the abstract [here](#).



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CDC Chronic Disease Calculator

The CDC developed the Chronic Disease Cost Calculator (CDCC) to estimate state-level costs for diabetes, among other chronic diseases, using state-specific payer populations, treated population prevalence, per-person medical and absenteeism costs, and medical cost projections. For each state, payer, chronic disease, and subpopulation selected, the CDCC generates a standardized report presenting the number of people treated for the disease, annual payer and absenteeism costs attributable to the disease (per-person and total), and 10-year medical cost projections for all payers combined. These estimates supplement other disease burden measures of chronic disease impact (eg, prevalence) and may identify opportunities for targeting prevention programs to reduce risk factors and chronic diseases.

- Between 2004 and 2008, **states' median medical costs for diabetes were \$1.8 billion** (\$1,780,000,000) with an additional \$72 million in absenteeism costs¹²
 - Medicaid and Medicare medical costs represented 40.1% of overall state medical costs¹²
- The findings "highlight possible areas of cost savings achievable through targeted prevention efforts or research into new interventions and treatments"¹²
 - These findings do not account for changes with ACA implementation, but provide a useful baseline for gauging the impact of current policies and may inform budgetary allocations for chronic disease prevention¹²
- The data only attempts to estimate costs for persons with the disease that are attributed to the disease



- Results are not comparable across states
- Possibilities with CDCC: "CDCC users can also generate customized state-level cost estimates for selected chronic diseases by modifying key inputs. For example, the financial impact of prevention programs could be simulated by inputting treated population prevalence from other sources"¹²

You can access a FAQ on the CDCC [here](#).

You can download the CDCC [here](#).

You can download a User Guide for the CDCC [here](#).

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