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### **One-third of adults with diabetes still don't know they have it**

The prevalence of diagnosed diabetes in U.S. adults age 20 and older has risen from about 5.1 percent to 6.5 percent, according to researchers at the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), who analyzed national survey data from two periods--1988 to 1994 and 1999 to 2002. However, the percentage of adults with undiagnosed diabetes did not change significantly over the years studied. About 2.8 percent of U.S. adult--one-third of those with diabete--still don't know they have it. The study, published in the June 2006 issue of *Diabetes Care*, notes that type 2 diabetes accounts for up to 95 percent of all diabetes cases and virtually all undiagnosed diabetes cases. Diabetes is a group of diseases marked by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. It is the most common cause of blindness, kidney failure, and amputations in adults and a major cause of heart disease and stroke.

Over the years studied, about 26 percent of adults age 20 and older continued to have impaired fasting glucose (IFG), a form of pre-diabetes. IFG, in which blood glucose measured after an overnight fast is high but not yet diagnostic of diabetes, increases the risk of heart disease as well as the risk of developing type 2 diabetes.

"It's important to know if you have pre-diabetes or undiagnosed type 2 diabetes," said Dr. Larry Blonde, chair of the National Diabetes Education Program (NDEP), jointly sponsored by the NIH, CDC, and 200 partner organizations. "You should talk to your health care professional about your risk. If your blood glucose is high but not high enough to be diagnosed as diabetes, losing weight and increasing physical activity will greatly lower your risk of getting type 2 diabetes. If you have diabetes, controlling your blood glucose, blood pressure, and cholesterol will prevent or delay the complications of diabetes."

The researchers also found that:

- nearly 22 percent of people age 65 and older had diabetes.

- about 13 percent of non-Hispanic blacks age 20 and older had diabetes. Diabetes was twice as common in non-Hispanic blacks compared to non-Hispanic whites.
- about 8 percent of Mexican Americans age 20 and older had diabetes. Because the average age of Mexican Americans is younger than for other groups, the age-and sex-adjusted prevalence of diabetes in Mexican Americans is twice that of non-Hispanic whites and about equal to that of non-Hispanic blacks.
- IFG and undiagnosed diabetes were about 70 percent more common in men than in women, especially in non-Hispanic white men.
- nearly 40 percent of people age 65 and older had IFG, which becomes more common with age.

In the study, the researchers compared two slices of data, one from 1988 to 1994 and the other from 1999 to 2002. The data were derived from a national sample of U.S. adults age 20 years and older who took part in the National Health and Nutrition Examination Survey (NHANES) conducted by the CDC's National Center for Health Statistics. Survey participants were interviewed in their homes and received a physical exam with a blood test, which included a glucose reading taken after an overnight fast. The NHANES is unique because it includes a blood test that detects undiagnosed diabetes and IFG.

"This study updates and generally corroborates earlier analyses that were based on 2 years of NHANES data," said lead author Catherine Cowie, Ph.D., of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). "We're seeing a rising prevalence of diagnosed diabetes that is not substantially offset by a drop in the rate of undiagnosed--about one-third of adults with diabetes still don't know they have it. Another 26 percent of adults have a form of pre-diabetes."

Pre-diabetes, which usually causes no symptoms, is serious because many people with the condition develop type 2 diabetes in the next 10 years. Also, pre-diabetes substantially raises the risk of a heart attack or stroke even if type 2 diabetes does not develop.

People with pre-diabetes may have IFG or impaired glucose tolerance (IGT) or both.

- In IFG, blood glucose is high (100 to 125 milligrams per deciliter or mg/dL) after an overnight fast but not high enough to be diagnostic of diabetes.
- In IGT, blood glucose is high (140 to 199 mg/dL) 2 hours after drinking a sugary drink in an oral glucose tolerance test but not high enough to be diagnostic of diabetes.

In the current study, researchers did not assess the prevalence of IGT because an oral glucose tolerance test was not a part of the survey.

People with pre-diabetes can often prevent or delay diabetes if they lose a modest amount of weight by cutting calories in their diet and increasing physical activity (for example, walking 30 minutes a day 5 days a week). A major study of people with IGT has shown that lifestyle changes leading to a 5 to 7 percent weight loss lowered diabetes onset by 58 percent.

If you are over age 45, you should consult your health care provider about testing for pre-diabetes or diabetes. If you are younger than 45, overweight, and have another risk factor, you should ask about testing. You are at greater risk of developing pre-diabetes and type 2 diabetes if you:

- are age 45 or older
- have a family history of diabetes
- are overweight
- have an inactive lifestyle (exercise less than three times a week)
- are members of a high-risk ethnic population (e.g., African American, Hispanic/Latino American, American Indian and Alaska Native, Asian American, Pacific Islander)
- have high blood pressure: 140/90 mm/Hg or higher
- have an HDL cholesterol less than 35 mg/dL or a triglyceride level 250 mg/dL or higher
- have had diabetes that developed during pregnancy (gestational diabetes) or have given birth to a baby weighing more than 9 pounds
- have polycystic ovary syndrome, a metabolic disorder that affects the female reproductive system
- have acanthosis nigricans (dark, thickened skin around neck or armpits)
- have a history of disease of the blood vessels to the heart, brain, or legs

- have had IFG or IGT on previous testing.

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In its "Small Steps. Big Rewards. Prevent Type 2 Diabetes" campaign, the NDEP ([www.ndep.nih.gov/](http://www.ndep.nih.gov/)) is reaching out to people at risk for type 2 diabetes with the message that they have the power to turn the tide against this disease. The NDEP campaign, "Control Your Diabetes for Life," encourages people with diabetes to control their blood glucose as well as their blood pressure and cholesterol. By keeping all three as close to normal as possible, people with diabetes can prevent or delay the development and progression of diabetes complications, which affect the heart, eyes, nerves, kidneys, and blood vessels.

For more diabetes statistics, see

<http://diabetes.niddk.nih.gov/dm/pubs/statistics/index.htm>

The NIH and the CDC are agencies of the U.S. Department of Health and Human Services. The NIH, which includes 27 Institutes and Centers, is the primary Federal agency for conducting and supporting basic, clinical, and translational medical research, and investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, see <http://www.nih.gov/>. For information about CDC and its programs, see <http://www.cdc.gov/>.