

# BRFSS Brief

Number 1710

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual statewide telephone survey of adults developed by the Centers for Disease Control and Prevention and administered by the New York State Department of Health. The BRFSS is designed to provide information on behaviors, risk factors, and utilization of preventive services related to the leading causes of chronic and infectious diseases, disability, injury, and death among the noninstitutionalized, civilian population aged 18 years and older.

## Prevalence of Prediabetes and Testing for High Blood Sugar New York State Adults, 2015

### Introduction and Key Findings

In New York State, diabetes rates have almost tripled over the past two decades, contributing to reductions in quality of life for over 1.5 million New Yorkers, and significant costs to government, employers and private citizens. Unless significant changes are made, more than half of all Americans are projected to have diabetes (15%) or prediabetes (37%) by the year 2020.<sup>1</sup>

Prediabetes is a condition in which an individual's blood glucose levels are higher than normal, but not high enough to be diagnosed as diabetes. The CDC estimates that 86 million US adults have prediabetes, but most adults who have prediabetes don't know it.<sup>2</sup> Without intervention, 15% to 30% of people with prediabetes will develop type 2 diabetes within 5 years and are also at increased risk of developing heart disease, stroke and eye disease.<sup>2,3</sup> Fortunately, lifestyle intervention programs aimed at increasing physical activity and producing a 5–7% loss of body weight, and certain pharmacological agents have been demonstrated to prevent or delay the development of diabetes in people with prediabetes.<sup>4,5</sup>

Early detection and treatment of prediabetes are critical and can prevent or delay the onset of type 2 diabetes. Blood glucose testing (also referred to as blood sugar testing) to screen for type 2 diabetes and prediabetes is appropriate for adults over age 45 or who have one or more risk factors, such as obesity, hypertension, elevated blood cholesterol or a family history of type 2 diabetes.<sup>6</sup> The Prevention Agenda 2013-2018, New York State's Health Improvement Plan, includes an objective to increase the percentage of adults 18 years and older who had a test for high blood sugar or diabetes within the past 3 years by 5% from 58.8% (2011) to 61.7% by 2018.

#### Key Findings

An estimated 1.3 million adult New Yorkers (8.2%) have been diagnosed with prediabetes. Adults who are obese are significantly more likely to report being diagnosed with prediabetes (13.3%) compared to adults who are neither overweight nor obese (4.8%). Prediabetes is also more common among older adults, adults with lower household incomes, and among adults living with a disability. In addition, the prevalence of prediabetes is higher among adults who were tested for high blood glucose in the past 3 years (12%) than among those who were not tested in the past 3 years (3.6%). Younger adults and adults without health insurance coverage are less likely to have had blood glucose testing.

### BRFSS Questions – Prediabetes Module

#### Testing for High Blood Sugar

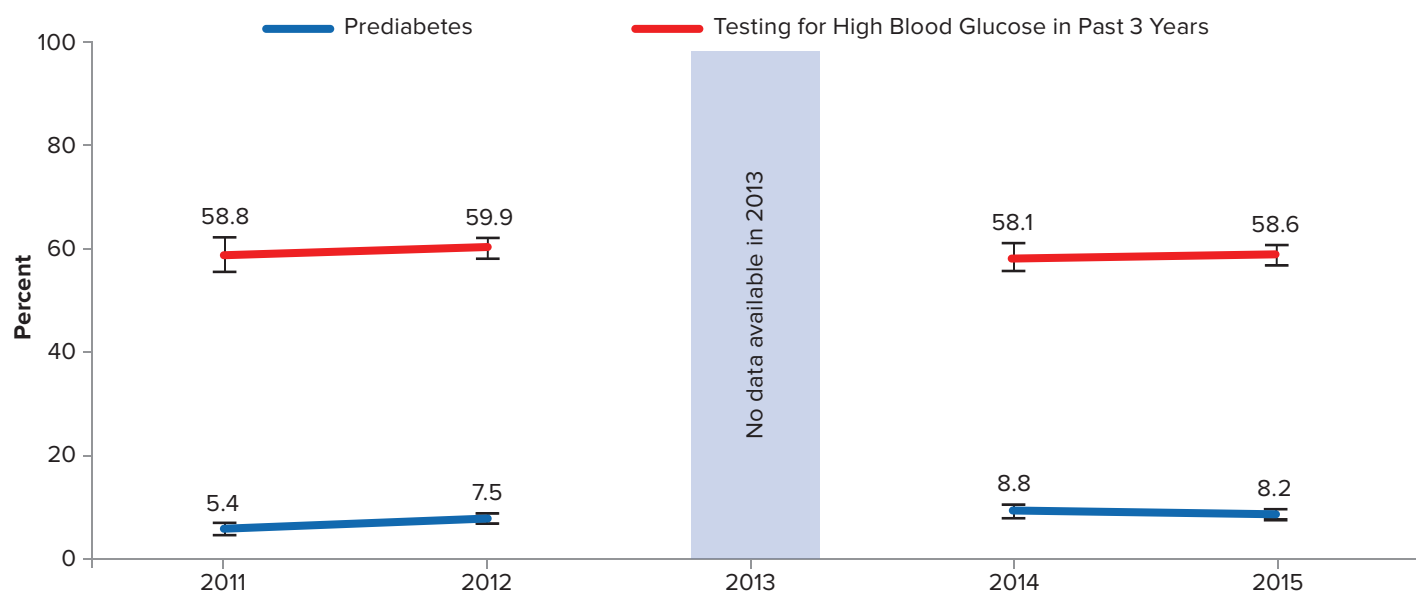
1. Have you had a test for high blood sugar or diabetes within the past three years?

#### Prediabetes

1. Have you ever been told by a doctor or other health professional that you have prediabetes or borderline diabetes?  
[If "yes" and respondent is female, ask: "Was this only when you were pregnant?"]

**NOTE:** These questions are only asked of those **not** responding "Yes" to having ever been diagnosed with diabetes.

**Figure 1. Prevalence of Prediabetes\* and Testing for High Blood Glucose\*\* among NYS Adults, BRFSS 2011-2015**

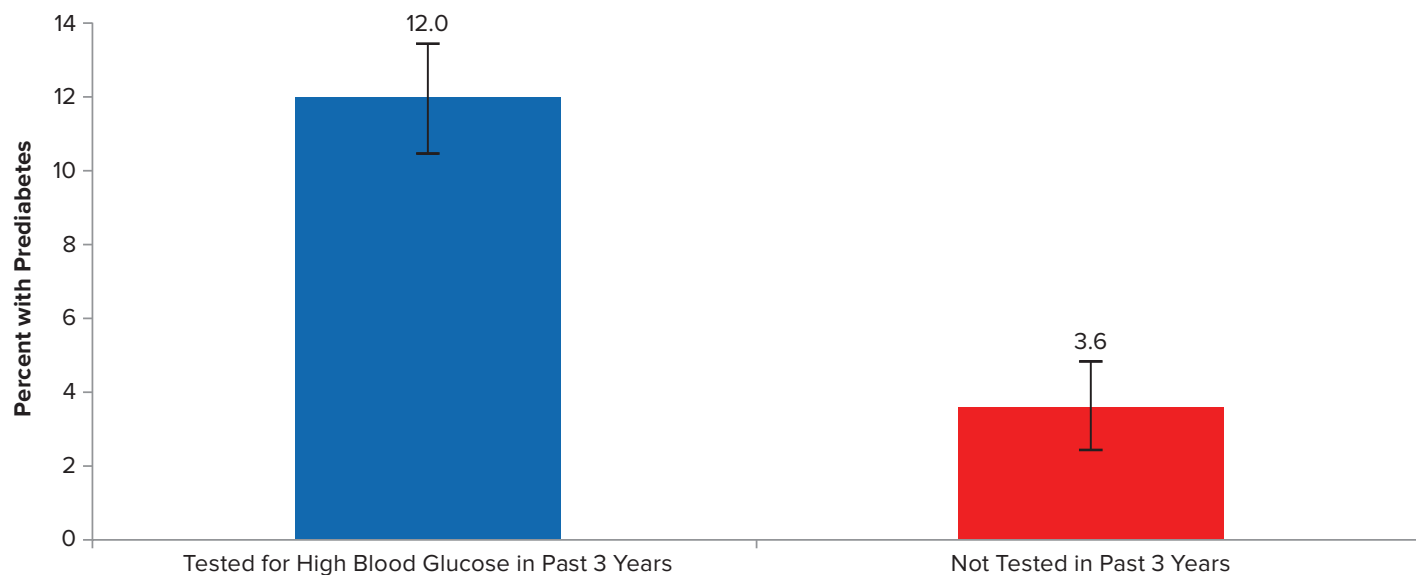


\*Does not include reported gestational prediabetes.

\*\*Tested in the past 3 years.

Note: Error bars represent 95% confidence intervals.

**Figure 2. Prevalence of Prediabetes\* among People Tested for High Blood Glucose\*\*, BRFSS 2015**



\*Does not include reported gestational prediabetes.

\*\*Tested in the past 3 years.

Note: Error bars represent 95% confidence intervals.

## Prediabetes and Testing for High Blood Glucose<sup>a</sup> among New York State Adults: 2015 BRFSS

	Prediabetes		Testing for High Blood Glucose	
	% <sup>b</sup>	95% CI <sup>b</sup>	% <sup>b</sup>	95% CI <sup>b</sup>
<b>Total New York State (NYS) [n=12357]</b>	8.2	7.2 - 9.1	58.6	56.6 - 60.6
<b>Sex</b>				
Male	9.0	7.4 - 10.6	55.0	51.9 - 58.0
Female	7.4	6.3 - 8.5	61.9	59.3 - 64.5
<b>Age (years)</b>				
18-24	3.4	1.1 - 5.7	34.8	27.6 - 42.0
25-34	1.8	0.7 - 2.9	47.7	42.3 - 53.0
35-44	5.8	3.4 - 8.3	59.7	54.9 - 64.5
45-54	9.5	7.1 - 11.9	66.5	62.5 - 70.5
55-64	14.3	11.3 - 17.2	69.7	65.8 - 73.5
65+	15.1	12.4 - 17.8	70.9	67.8 - 74.0
<b>Race/ethnicity</b>				
White, non-Hispanic	7.2	6.2 - 8.3	58.9	56.5 - 61.3
Black, non-Hispanic	9.5	6.7 - 12.3	64.2	58.3 - 70.1
Hispanic	7.0	4.7 - 9.2	55.8	50.9 - 60.7
Other, non-Hispanic	13.6	8.1 - 19.0	52.6	44.5 - 60.7
<b>Annual household income</b>				
<\$15,000	10.5	6.9 - 14.1	53.7	47.1 - 60.2
\$15,000-\$24,999	8.6	6.1 - 11.2	52.3	46.8 - 57.8
\$25,000-\$34,999	8.6	5.1 - 12.0	57.6	50.2 - 65.0
\$35,000-\$49,999	7.5	4.5 - 10.6	55.7	49.5 - 61.9
\$50,000-\$74,999	7.9	5.4 - 10.4	66.2	60.9 - 71.6
\$75,000+	7.3	5.7 - 8.8	64.4	60.9 - 67.8
Missing <sup>c</sup>	8.6	5.6 - 11.5	52.6	47.2 - 57.9
<b>Educational attainment</b>				
Less than high school	6.9	4.2 - 9.5	53.2	46.9 - 59.5
High school or GED	7.6	5.9 - 9.3	56.7	52.7 - 60.8
Some post-high school	9.3	7.1 - 11.5	58.8	54.8 - 62.8
College graduate	8.3	6.8 - 9.9	62.6	59.6 - 65.5
<b>Body Mass Index (BMI) category</b>				
Neither overweight nor obese	4.8	3.5 - 6.0	52.8	49.4 - 56.3
Overweight	9.1	7.4 - 10.8	60.7	57.3 - 64.1
Obese	13.3	10.7 - 15.9	66.4	62.4 - 70.3
<b>Health care coverage type</b>				
Private	7.7	6.3 - 9.1	62.9	60.0 - 65.8
Medicare	13.1	10.1 - 16.1	66.7	62.7 - 70.8
Medicaid	8.5	5.3 - 11.8	55.0	48.4 - 61.6
Other insurance <sup>d</sup>	9.4	5.0 - 13.9	56.9	44.8 - 69.0
Not insured	4.2	1.7 - 6.6	35.4	28.8 - 41.9
<b>Disability status<sup>e</sup></b>				
Yes	13.8	11.1 - 16.6	63.7	59.2 - 68.1
No	6.9	5.8 - 7.9	58.1	55.8 - 60.4
<b>Region</b>				
New York City (NYC)	9.2	7.5 - 10.9	60.1	56.9 - 63.4
NYS exclusive of NYC	7.4	6.3 - 8.5	57.4	54.9 - 59.9

a Does not include reported gestational prediabetes; tested for high blood glucose in the past 3 years.

b % = weighted percentage; CI = confidence interval

c "Missing" category included because more than 10% of the sample did not report income.

d includes Family Health Plus, Military, and Indian Health Services

e All respondents who report activity limitations due to physical, mental, or emotional problems OR have health problems that require the use of special equipment.

## References

1. UnitedHealth Center for Health Reform & Modernization. The United State of Diabetes: Challenges and Opportunities in the Decade Ahead. Working Paper 5, 2010. Available at: <http://www.unitedhealthgroup.com/~media/UHG/PDF/2010/UNH-Working-Paper-5.ashx?la=en> Accessed March 21, 2017.
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5. Knowler WC, Barrett-Conner E, Fowler SE, et al; Diabetes Prevention Program Research Group. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002; 346:393–403. Available at: <http://www.nejm.org/doi/full/10.1056/NEJMoa012512>
6. American Diabetes Association. Screening for Type 2 Diabetes. *Diabetes Care.* 2000; 23(Supp1):S20-23. Available at: <http://journal.diabetes.org/clinicaldiabetes/v18n22000/pg69.htm>

## Program Contributions

New York State Department of Health  
Bureau of Chronic Disease Evaluation and Research  
Bureau of Community Chronic Disease Prevention

## Order Information

### Copies may be obtained by contacting:

BRFSS Coordinator  
New York State Department of Health  
Bureau of Chronic Disease Evaluation and Research  
Empire State Plaza  
Corning Tower, Rm. 1070  
Albany, NY 12237-0679

### Or by phone or electronic mail:

(518) 473-0673  
or  
[BRFSS@health.ny.gov](mailto:BRFSS@health.ny.gov)  
or  
[www.health.ny.gov](http://www.health.ny.gov)



Department  
of Health