BRFSS Brief

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual telephone survey of adults developed by the Centers for Disease Control and Prevention conducted in all 50 States, the District of Columbia, and several US Territories. The New York BRFSS is administered by the New York State Department of Health to provide statewide and regional information on behaviors, risk factors, and use of preventive health services related to the leading causes of chronic and infectious diseases, disability, injury, and death.

Prevalence of Diagnosed Prediabetes and Testing for High Blood Sugar
New York State Adults, 2020

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 1.4 million New Yorkers, and significant costs to government, employers, and private citizens. Unless significant changes are made, the projected number and percent of adults in the U.S. with diagnosed diabetes would increase from 39.7 million (13.9%) in 2030, and to 60.6 million (17.9%) in 2060.[1]

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 Centers for Disease Control and Prevention (CDC) estimates that 96 million (38.0%) US adults have prediabetes, but most adults who have prediabetes don't know it.[2] Without intervention, many people with prediabetes will develop type 2 diabetes within 5 years and are also at increased risk of developing heart disease and stroke.[2,3] 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.[4,5]

Early detection and treatment of prediabetes are critical and can prevent or delay the onset of type 2 diabetes. Per the American Diabetes Association (ADA), blood glucose testing (also referred to as blood sugar testing) to screen for type 2 diabetes and prediabetes is appropriate for all adults over age 35 and for younger adults who are overweight or obese and who have one or more risk factors, such as hypertension, elevated blood cholesterol or a family history of type 2 diabetes.[6] The Prevention Agenda (PA) 2019-2024, New York State's Health Improvement Plan, includes objectives to increase the percentage of adults 45+ who had a test for high blood sugar or diabetes within the past 3 years by 5% from 68.3% (2016) to 71.7% by 2024 and the percentage of low income (less than $25,000) adults 45+ from 64.2% (2016) to 67.4% by 2024.

Key Findings
An estimated 1.5 million adult New Yorkers (11.0%) have been diagnosed with prediabetes. Adults with obesity (19.2%) and overweight (11.0%) are significantly more likely to report being diagnosed with prediabetes compared to adults who have neither overweight nor obesity (5.9%). Diagnosed prediabetes is also more common among older adults, Black non-Hispanic adults, adults living with a disability, and adults living in New York City. In addition, the prevalence of diagnosed prediabetes is higher among adults who were tested for high blood sugar in the past 3 years (18.2%) than among those who were not tested in the past 3 years (4.7%) (Figure 2). Younger adults and adults without health insurance coverage are less likely to have had blood sugar testing. Among adults over 45 years in age, 60.4% report having a test for high blood sugar or diabetes within the past three years, below the PA goal of 71.7% (Figure 3a). Among low income (less than $25,000) adults over 45 years in age, 60.4% report having had a test, below the PA goal of 67.4% (Figure 3b).

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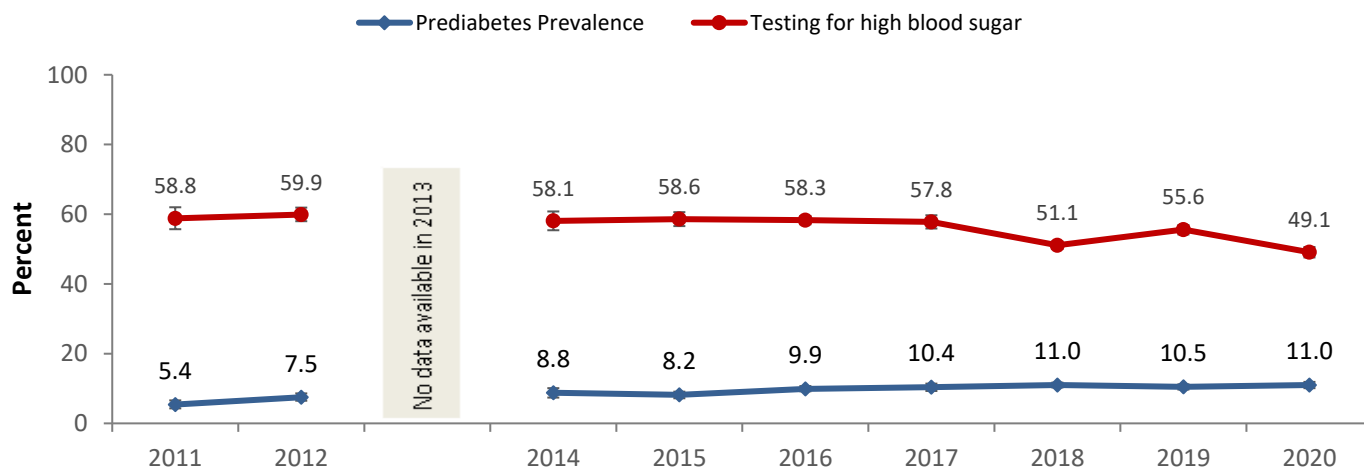
Prediabetes
1. *Have you ever been told by a doctor or other health professional that you have prediabetes or borderline diabetes?*
    If "Yes" and respondent is female, ask: "Was this only when you were pregnant?"

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

Figure 1. Prevalence of Diagnosed Prediabetes* and Testing for High Blood Sugar** among New York State Adults, BRFSS 2011-2020

*Does not include reported gestational prediabetes. **Tested in the past 3 years. Note: Error bars represent 95% confidence intervals.

Figure 2. Prevalence of Diagnosed Prediabetes* among People Tested for High Blood Sugar**, BRFSS 2020
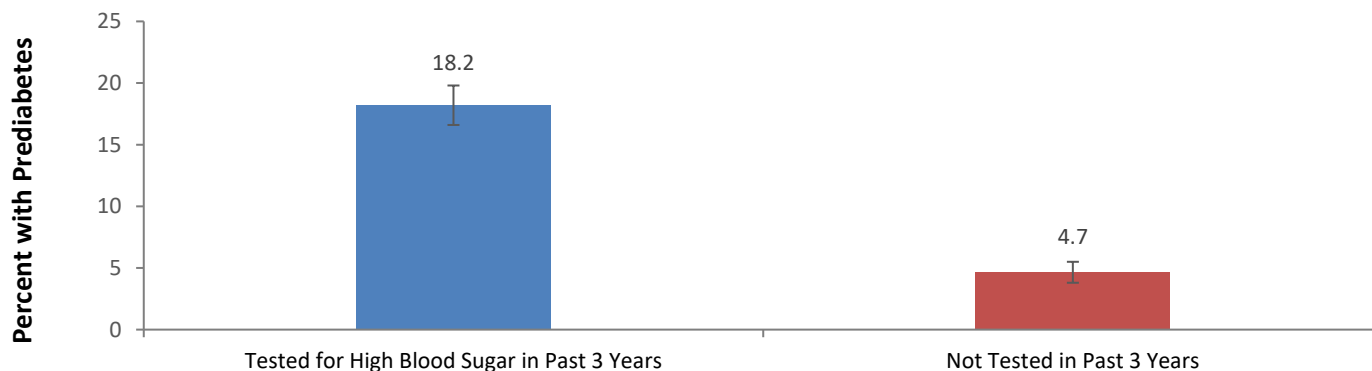
*Does not include reported gestational prediabetes. **Tested in the past 3 years. Note: Error bars represent 95% confidence intervals.

Figure 3a. Percentage of Adults Age 45+ Years Tested for High Blood Sugar or Diabetes within the Past 3 Years, BRFSS 2016-2020
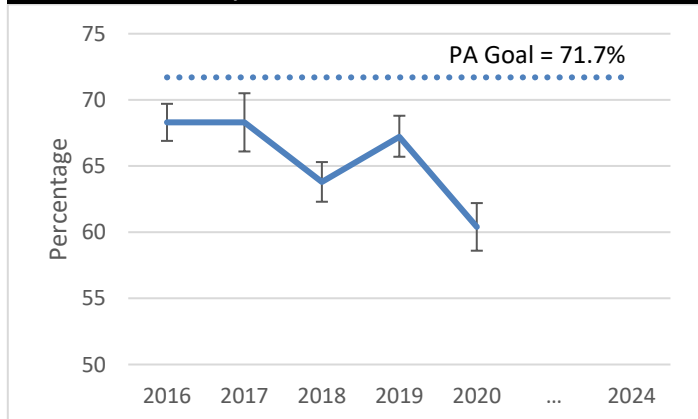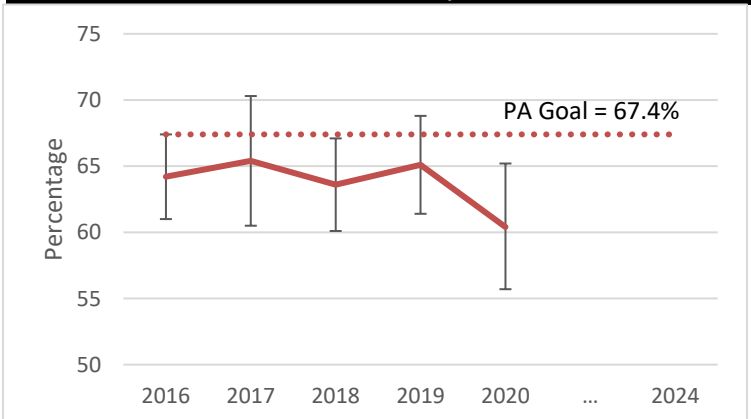

Figure 3b. Percentage of Low Income (<$25K) Adults Age 45+ Years Tested for High Blood Sugar or Diabetes within the Past 3 Years, BRFSS 2016-2020

Note: Error bars represent 95% confidence intervals.

Diagnosed Prediabetes and Testing for High Blood Sugar[a] among New York State Adults: 2020 BRFSS

	Diagnosed Prediabetes		Testing for High Blood Sugar	
	%[b]	95% CI[b]	%[b]	95% CI[b]
New York State (NYS) [n = 14,769]	11.0	10.1 - 11.9	49.1	47.6 - 50.6
Sex				
Male	10.9	9.6 - 12.2	47.5	45.3 - 49.8
Female	11.1	9.9 - 12.3	50.5	48.4 - 52.5
Age (years)				
18-24	2.8	1.0 - 4.6	18.5	14.6 - 22.4
25-34	4.8	3.1 - 6.6	39.0	35.1 - 42.9
35-44	8.3	6.2 - 10.3	49.4	45.5 - 53.2
45-54	13.0	10.6 - 15.4	55.8	52.4 - 59.3
55-64	18.2	15.6 - 20.7	64.6	61.5 - 67.8
65+	18.1	15.8 - 20.4	60.6	57.7 - 63.5
Race/Ethnicity				
White non-Hispanic	9.1	8.1 - 10.0	49.0	47.2 - 50.9
Black non-Hispanic	17.8	14.5 - 21.2	53.8	48.9 - 58.6
Hispanic	11.1	8.8 - 13.5	52.1	48.3 - 55.9
Other race or multiracial, non-Hispanic[c]	12.7	9.3 - 16.1	39.4	34.3 - 44.6
Annual household income				
<$25,000	11.9	9.6 - 14.1	47.9	44.3 - 51.6
$25,000-$49,999	13.5	11.0 - 16.1	48.2	44.2 - 52.1
$50,000 and greater	10.8	9.5 - 12.1	52.9	50.7 - 55.1
Missing[d]	8.7	7.0 - 10.4	43.8	40.5 - 47.2
Educational attainment				
Less than high school	14.6	11.2 - 18.1	46.8	41.4 - 52.3
High School or GED	11.5	9.6 - 13.3	46.6	43.5 - 49.7
Some post-high school	10.7	8.9 - 12.5	49.6	46.6 - 52.6
College graduate	9.7	8.5 - 10.9	51.6	49.5 - 53.7
Body Mass Index (BMI) category				
Neither overweight nor obese	5.9	4.7 - 7.1	41.5	38.9 - 44.1
Overweight	11.0	9.5 - 12.5	51.0	48.4 - 53.6
Obese	19.2	16.8 - 21.7	59.3	56.1 - 62.5
Health care coverage type				
Private	9.9	8.7 - 11.0	49.6	47.5 - 51.6
Medicare	17.6	15.0 - 20.1	60.8	57.4 - 64.1
Medicaid	12.6	9.6 - 15.6	46.5	42.0 - 50.9
Other insurance[e]	10.7	6.8 - 14.7	50.7	43.6 - 57.8
Not insured	6.8	4.5 - 9.1	39.5	34.8 - 44.2
Disability status[f]				
Yes	16.5	14.1 - 18.9	56.1	52.7 - 59.5
No	9.6	8.7 - 10.6	47.5	45.8 - 49.3
Region				
New York City (NYC)	12.8	11.2 - 14.4	48.8	46.3 - 51.3
NYS exclusive of NYC	9.9	8.9 - 11.0	49.2	47.3 - 51.1

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

[b] % = weighted percentage; CI = confidence interval.

[c] American Indian, Alaskan Native, Asian, Native Hawaiian or other Pacific Islander, other race or multiracial

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

[e] includes TRICARE, VA/Military, and Indian Health Services.

[f] All respondents who reported at least one type of disability (cognitive, mobility, vision, self-care, independent living or deafness).

References

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2. Centers for Disease Control and Prevention. Prevalence of Prediabetes Among Adults. 2019 US Census Bureau data. Available at: https://www.cdc.gov/diabetes/data/statistics-report/prevalence-of-prediabetes.html Accessed May 16, 2022.

3. Centers for Disease Control and Prevention. About Prediabetes and Diabetes.. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2021. Available at: https://www.cdc.gov/diabetes/prevention/about-prediabetes.html Accessed May 16, 2022.

4. Tuomilehto J, Lindstom J, Eriksson J, et al; Finnish Diabetes Prevention Study Group. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *N Engl J Med*. 2001; 344:1343–1350. Available at: http://www.nejm.org/doi/full/10.1056/NEJM200105033441801

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. Classification of Diabetes: Standards of Medical Care in Diabetes - 2022. *Diabetes Care 2022;45(Suppl. 1):S17–S38*. Available at: https://diabetesjournals.org/care/article/45/Supplement_1/S17/138925/2-Classification-and-Diagnosis-of-Diabetes Accessed May 16, 2022.

Program Contributions

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

Order Information

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