

# **Adult Diabetes Prevalence in New York State**

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# Table of Contents

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**Executive Summary . . . . . iv**

**List of Figures . . . . . v**

**List of Tables . . . . . vi**

**Diabetes Overview . . . . . 1**

**Surveillance Indicators and Data Sources . . . . . 3**

**Data Standards and Objectives . . . . . 5**

**Diagnosed Diabetes . . . . . 7**

**Undiagnosed Diabetes . . . . . 19**

**Prediabetes . . . . . 23**

**Gestational Diabetes . . . . . 27**

**References . . . . . 30**

# Executive Summary

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*Adult Diabetes Prevalence in New York State* examines data on the prevalence of diagnosed and undiagnosed diabetes, prediabetes, and gestational diabetes among New York State (NYS) adults. Using the NYS Behavioral Risk Factor Surveillance System (BRFSS), NYS Vital Statistics, and the Centers for Disease Control and Prevention's Wide-ranging Online Data for Epidemiologic Research (CDC WONDER) as data sources, the report summarizes information about the prevalence of diabetes by year and selected demographic characteristics, including age, gender, race/ethnicity, household income, educational attainment, and region. This Executive Summary offers highlights of the diabetes-related information in New York State detailed throughout the report.

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- The prevalence of self-reported diabetes among adults in NYS has increased steadily over the past 11 years. The three-year moving average has nearly doubled from 4.6% in 1996-1998 to 8.5% in 2007-2009.
  - The risk of diabetes increases with age.
  - Diabetes is most prevalent among adults between the ages of 65-74 years (20.3%).
  - Self-reported diabetes is more prevalent among non-Hispanic blacks (12.1%) than among non-Hispanic whites (7.7%).
  - Although the majority of adults with diabetes living in NYS are non-Hispanic whites, racial/ethnic minorities make up a larger proportion of the population of adults with diabetes (44%) than the total NYS population (32%).
  - Adults with an annual household income less than \$15,000 are nearly three times as likely to report having diabetes as adults with an annual household income of more than \$50,000 (15.2% versus 5.2%).
  - Approximately two-thirds of adults living with diabetes (66%) reside outside of New York City.
  - National estimates from 2005-2006 indicate that 5.1% of adults above the age of 20 had undiagnosed diabetes.<sup>1</sup> These estimates can be applied to give a general estimate of the prevalence of undiagnosed diabetes in the NYS population (760,000 adults above the age of 20).
  - Testing for high blood sugar is less prevalent among adults without health insurance compared to adults who report having health insurance (42% versus 62%) and among adults without a regular healthcare provider compared to adults with a regular healthcare provider (38% versus 64%).
  - Prediabetes is more prevalent among adults who are obese (10.7%) or overweight (5.3%) than among adults who are neither overweight nor obese (2.9%).
  - The prevalence of gestational diabetes in NYS has steadily increased from 1995 (35.5 per 1,000 live births) to 2006 (47.3 per 1,000 live births). In NYS, the prevalence of gestational diabetes is highest among Asian women (7.9%).

# List of Figures

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- Figure 1.** Prevalence of diabetes among New York State (NYS) adults, BRFSS 1996-2009 . . . . . 7
- Figure 2.** Prevalence of diabetes among New York State (NYS) adults by age, BRFSS 2007-2009 . . . . . 9
- Figure 3.** Age distribution of New York State (NYS) adults with diabetes, BRFSS 2007-2009 . . . . . 10
- Figure 4.** Prevalence of diabetes among New York State (NYS) adults by gender, BRFSS 2007-2009 . . . . . 11
- Figure 5.** Prevalence of diabetes among New York State (NYS) adults by age and gender, BRFSS 2007-2009 . . . . . 12
- Figure 6.** Prevalence of diabetes among New York State (NYS) adults by race/ethnicity, BRFSS 2007-2009 . . . . . 13
- Figure 7.** Race/ethnicity of New York State (NYS) adults with diabetes, BRFSS 2007-2009 . . . . . 14
- Figure 8.** Prevalence of diabetes among New York State (NYS) adults by annual household income level, BRFSS 2007-2009 . . . . . 15
- Figure 9.** Prevalence of diabetes among New York State (NYS) adults by education level, BRFSS 2007-2009 . . . . . 16
- Figure 10.** Prevalence of diabetes among New York State (NYS) adults by region, BRFSS 2007-2009 . . . . . 17
- Figure 11.** Regional distribution of New York State (NYS) adults with diabetes, BRFSS 2007-2009 . . . . . 18
- Figure 12.** Percentage of adults in New York State (NYS) receiving a test for high blood sugar or diabetes in the past three years by age, BRFSS 2008-2009 . . . . . 21
- Figure 13.** Percentage of adults in New York State (NYS) receiving a test for high blood sugar or diabetes in the past three years by access to care indicators, BRFSS 2008-2009 . . . . . 22
- Figure 14.** Prevalence of prediabetes among New York State (NYS) adults by age, BRFSS 2008-2009 . . . . . 24
- Figure 15.** Prevalence of prediabetes among New York State (NYS) adults by race/ethnicity, BRFSS 2008-2009 . . . . . 25
- Figure 16.** Prevalence of prediabetes among New York State (NYS) adults by Body Mass Index (BMI) category, BRFSS 2008-2009 . . . . . 26
- Figure 17.** Prevalence of gestational diabetes in the United States (US) and New York State (NYS), CDC WONDER 1995-2006 . . . . . 28
- Figure 18.** Prevalence of gestational diabetes in New York State (NYS) by race/ethnicity of mother, NYSDOH Biometrics, 2007 . . . . . 29

# List of Tables

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**Table 1.** Prevalence of diabetes among New York State (NYS) adults, BRFSS 1996-2009 . . . . .8

**Table 2.** Percentage of adults in New York State (NYS) receiving a test for high blood sugar or diabetes in the past three years by selected demographic characteristics, BRFSS 2008-2009 . . . . . 20

# Diabetes Overview

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Diabetes is a disease in which blood sugar (glucose) levels are above normal.<sup>2</sup> Glucose, a form of sugar created from digestion of food, is used by the body for energy with the help of a hormone known as insulin. In people with diabetes, glucose cannot easily be used by the cells of the body because of a problem with insulin. This leads to high levels of glucose in the blood, sometimes referred to as high blood sugar or hyperglycemia.

## Types of Diabetes

The difference between various types of diabetes is based mostly on the specific problem occurring with the hormone, insulin. Insulin is made by and released from the pancreas, an organ that sits behind the stomach. In some types of diabetes, the cells that make insulin are damaged, which leads to an inability to produce insulin. In other types of diabetes, insulin is produced by the pancreas, but other tissues of the body do not recognize it. Both types lead to high blood glucose. The following table highlights the most common types of diabetes:<sup>3,4</sup>

Type	Description
<b>Type 1 Diabetes</b>	<ul style="list-style-type: none"><li>• Cells in the pancreas are damaged leading to a decreased release of insulin.</li><li>• Cell damage usually leads to a total lack of insulin production.</li></ul>
<b>Type 2 Diabetes</b>	<ul style="list-style-type: none"><li>• Insulin is not used properly by the body, so glucose is not absorbed.</li><li>• There may be a problem with insulin being secreted by the pancreas.</li></ul>
<b>Gestational Diabetes</b>	<ul style="list-style-type: none"><li>• Diabetes develops during pregnancy.</li><li>• Diabetes often resolves after delivery, although these women are at increased risk for development of type 2 diabetes in the future.</li></ul>
<b>Prediabetes</b>	<ul style="list-style-type: none"><li>• The blood glucose level is high, but not high enough to meet the criteria for diabetes.</li><li>• Prediabetes is a risk factor for future diabetes.</li></ul>

## Diagnosing and Classifying Diabetes and Prediabetes

Diabetes can be diagnosed in any one of four ways.<sup>5,6</sup>

### 1. Hemoglobin A1C test (A1C)

a non-fasting blood test that measures the amount of glucose attached to hemoglobin. This test is used to assess blood glucose control over the previous 2-3 months, and has recently been added to the list of tests that may be used to diagnose diabetes.

### 2. Fasting plasma glucose test (FPG)

a blood test that measures glucose after a person has not eaten for at least 8 hours.

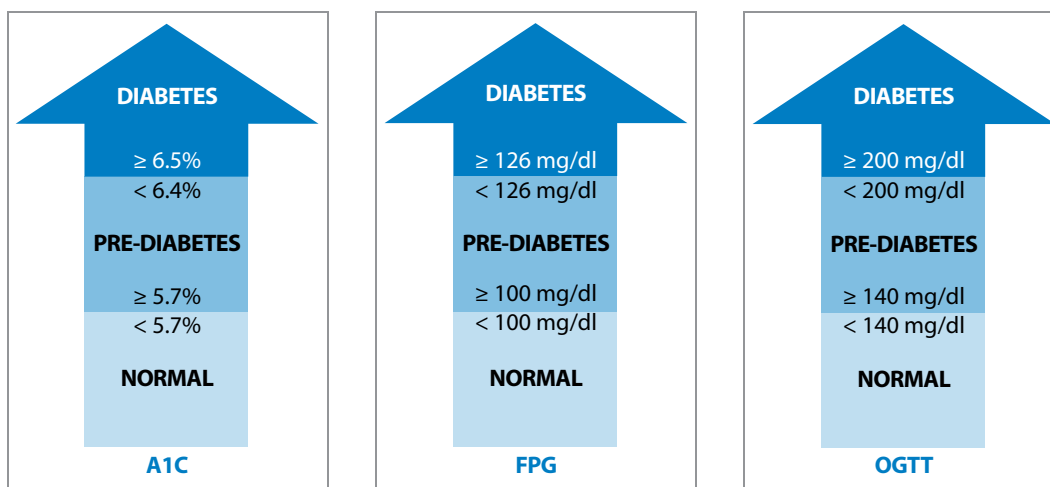
### 3. Oral glucose tolerance test (OGTT)

a blood test that measures glucose after a person has not eaten for 8 hours and 2 hours after that person has consumed a glucose-containing drink.

### 4. Random plasma glucose test (RPG)

a blood test that measures glucose which doesn't require a person to fast prior to the test. RPG is only used as a diagnostic criterion for diabetes when the patient has classic symptoms of hyperglycemia or hyperglycemic crisis.

The results of any of the above tests can be used to determine whether diabetes or prediabetes is present. Positive tests should be repeated on a different day to be sure the above results are correct.





# Surveillance Indicators and Data Sources

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## Diagnosed diabetes

The Behavioral Risk Factor Surveillance System (BRFSS) is used to assess and track the prevalence of diabetes in adults. The BRFSS is a statewide random-digit-dialing telephone survey of the non-institutionalized adult population aged 18 years and older. The annual NYS BRFSS survey includes a question assessing whether the survey respondent had been diagnosed with diabetes (Have you ever been told by a doctor that you have diabetes?) and a follow-up question to exclude women who may have had gestational diabetes (Was this only when you were pregnant?). Data obtained from these questions can be used to estimate the prevalence of diagnosed diabetes in the adult population. The questions cannot distinguish between adults with Type I and Type II diabetes. More information about the BRFSS survey method is available on the BRFSS page on the New York State Department of Health (NYSDOH) website. <http://www.nyhealth.gov/nysdoh/brfss/>

Three successive years of BRFSS data were combined to calculate the weighted estimates of the prevalence of diagnosed diabetes in NYS. These prevalence estimates are more stable than those based on a single year of data and provide an adequate sample for subgroup comparisons. The 95% confidence intervals (CIs) for these estimates are provided in data tables reported, but are not included in the figures.

## Undiagnosed diabetes

To conduct public health surveillance on undiagnosed diabetes in New York State would require routinely conducting a state specific survey in which the determination of whether an individual has diabetes is based on appropriate clinical diagnostic tests and not self-report.

There is currently no data source in New York State for conducting surveillance on undiagnosed diabetes. However, the NYS BRFSS provides information on the proportion of adults who receive the appropriate diagnostic test for diabetes. In 2008 and 2009, the NYS BRFSS survey included a question for assessing screening for diabetes in the past three years (Have you had a test for high blood sugar or diabetes within the past three years?) Two successive years of BRFSS data were combined to calculate the weighted estimates of the prevalence of testing for high blood sugar or diabetes within the past three years.

## Prediabetes

The NYS BRFSS is also used to assess and track the prevalence of diagnosed prediabetes in adults. In 2008 and 2009, the BRFSS survey included questions for assessing screening for diabetes in the past three years (Have you had a test for high blood sugar or diabetes within the past three years?) and physician diagnosis of prediabetes (Have you ever been told by a doctor or other health professional that you have prediabetes or borderline diabetes?). Data from these two questions in the 2008 and 2009 BRFSS were combined to calculate the weighted estimates of the prevalence of self-reported prediabetes.

## Gestational diabetes

Data from several sources were used to document the gestational diabetes (GDM) prevalence. Public-use natality (live birth) data maintained through the National Center for Health Statistics (NCHS) were obtained via the CDC WONDER online database and used to compare changes in rates of gestational diabetes in the US and New York State. The dataset includes counts of births occurring within the United States to US residents and non-residents between 1995 and 2006. State and county are defined by the mother's place of residence recorded on the birth certificate. Data elements include demographics, medical risk factors and maternal tobacco use.<sup>7</sup> Rates of gestational diabetes for New York State and the US are calculated as the number of singleton births to women where maternal

diabetes was reported as a risk factor on the birth certificate. All rates are expressed per 1,000 live births.

Vital statistics data from the New York State Bureau of Biometrics and Health Statistics were used to examine differences in the prevalence of GDM in New York State by race/ethnicity. The prevalence of gestational diabetes was calculated for each category of maternal race as the number of live births to women with gestational diabetes divided by the total births in New York State for 2007.

For more information on any of the gestational diabetes data sources detailed above, please visit the following links:

<http://wonder.cdc.gov/natality.html>

[http://www.nyhealth.gov/nysdoh/vital\\_statistics/](http://www.nyhealth.gov/nysdoh/vital_statistics/)

# Data Standards and Objectives

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## **NYS Department of Health Prevention Agenda Toward the Healthiest State**

In 2008, the New York State Department of Health (NYSDOH) launched a Prevention Agenda Toward the Healthiest State to support the goals of health care reform. This agenda established ten statewide public health priorities and called upon local health departments, hospitals and other community partners to work together to address them. The emphasis of this public health initiative is on prevention strategies to improve the health of all New Yorkers and foster healthy communities.

The Prevention Agenda established a goal of reducing the prevalence of diagnosed diabetes, as assessed using the BRFSS, to 5.7% by 2013.

More information about the NYSDOH Prevention Agenda is available on the Prevention Agenda page on the NYSDOH website. [http://nyhealth.gov/prevention/prevention\\_agenda/index.htm](http://nyhealth.gov/prevention/prevention_agenda/index.htm)

## **Healthy People 2020**

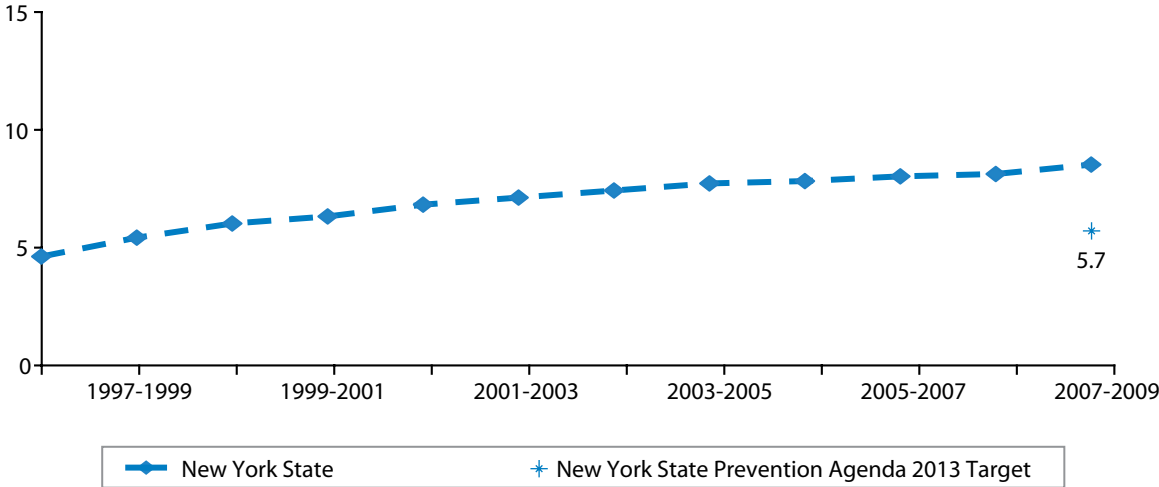
Healthy People 2020 (HP2020) are a comprehensive set of disease prevention and health promotion objectives for the Nation to achieve over the next ten years. HP2020 established objectives aimed at reducing the economic burden of diabetes, and improving the quality of life for all persons who have or are at risk for diabetes. These objectives include a target related to increasing the proportion of adults aged 20 and older with diabetes whose condition has been diagnosed (objective #D-15), as assessed using the National Health and Nutrition Examination Survey (NHANES), from 72.8% in 2005-2008 to 80.1% in 2020. Although there is not a NYS-specific data set for tracking the HP2020 objective, data from the NYS BRFSS on the percentage of adults receiving a blood glucose test for diabetes can serve to assess progress toward reducing undiagnosed diabetes in NYS.

For more information about HP2020, please use the following link:  
<http://www.healthypeople.gov/2020/default.aspx>



# Diagnosed Diabetes

**Figure 1.** Prevalence of diabetes among New York State (NYS) adults, BRFSS 1996-2009



**The prevalence of self-reported diabetes among adults in NYS has increased steadily over the past 11 years. The three-year moving average has nearly doubled from 4.6% in 1996-1998 to 8.5% in 2007-2009.**

**The Centers for Disease Control and Prevention indicate that 8.3% of adults in the US report being diagnosed with diabetes (US BRFSS, 2006-2008). This is comparable to the 8.5% estimated in NYS.**

**The current self-reported prevalence of diabetes in NYS (8.5%) is well above the objective identified in the Prevention Agenda (5.7%). For more information on the NYSDOH Prevention Agenda Toward the Healthiest State, please visit: [http://www.nyhealth.gov/prevention/prevention\\_agenda/](http://www.nyhealth.gov/prevention/prevention_agenda/)**

**Table 1.** Prevalence of diabetes among New York State (NYS) adults, BRFSS 1996-2009

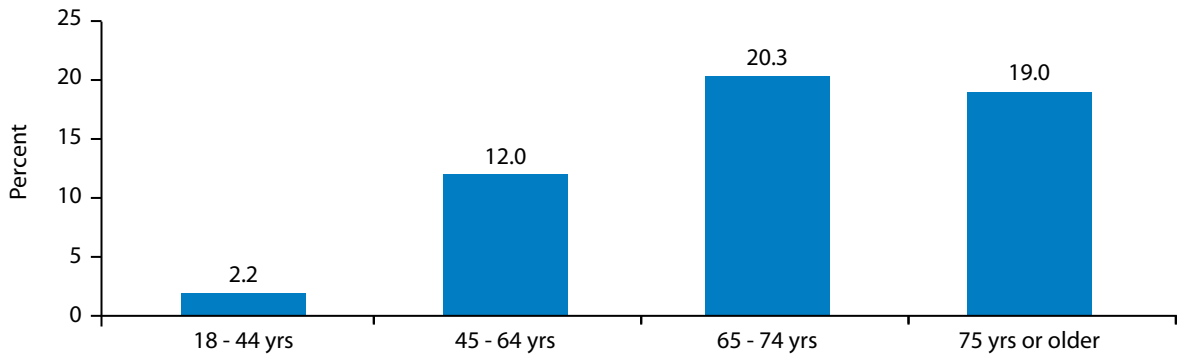
<b>Year</b>	<b>Percent</b>	<b>Lower 95% CI†</b>	<b>Upper 95% CI†</b>
<b>Prevention Agenda Target*</b>	<b>5.7%</b>	-	-
<b>1996-1998**</b>	4.6	4.1	5.1
<b>1997-1999</b>	5.4	4.9	6.0
<b>1998-2000</b>	6.0	5.4	6.6
<b>1999-2001</b>	6.3	5.7	6.8
<b>2000-2002</b>	6.8	6.2	7.3
<b>2001-2003</b>	7.1	6.6	7.7
<b>2002-2004</b>	7.4	6.9	7.9
<b>2003-2005</b>	7.7	7.3	8.2
<b>2004-2006</b>	7.8	7.3	8.3
<b>2005-2007</b>	8.0	7.5	8.4
<b>2006-2008</b>	8.1	7.7	8.5
<b>2007-2009</b>	8.5	8.0	8.9

\*The Prevention Agenda Target of 5.7% was established in 2008.

\*\*In 1997, the diagnostic criteria recommended for diagnosing diabetes changed to include a lower cut-point for fasting plasma glucose values used to classify someone as having Type 2 diabetes.

†CI = confidence interval.

**Figure 2.** Prevalence of diabetes among New York State (NYS) adults by age, BRFSS 2007-2009

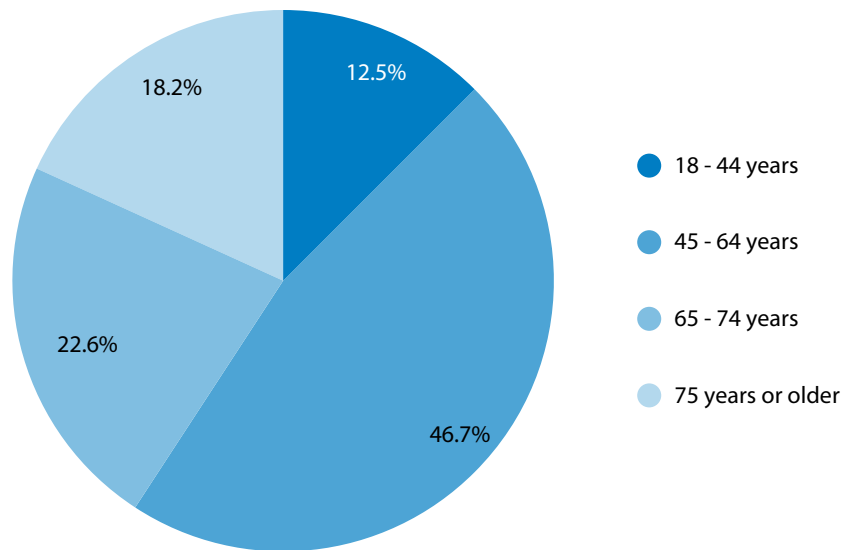


Age Group	Percent	Lower 95% CI	Upper 95% CI
18-44 yrs	2.2	1.7	2.6
45-64 yrs	12.0	11.1	12.9
65-74 yrs	20.3	18.6	22.1
75 yrs or older	19.0	17.2	20.8

**The risk of diabetes increases with age. The prevalence of diabetes is highest among adults between the ages of 65-74 years (20.3%).**

**Diabetes is over 5 times more prevalent among adults between the ages of 45 and 64 years (12.0%) than among adults aged 18 to 44 years (2.2%).**

**Figure 3.** Age distribution of New York State (NYS) adults with diabetes, BRFSS 2007-2009

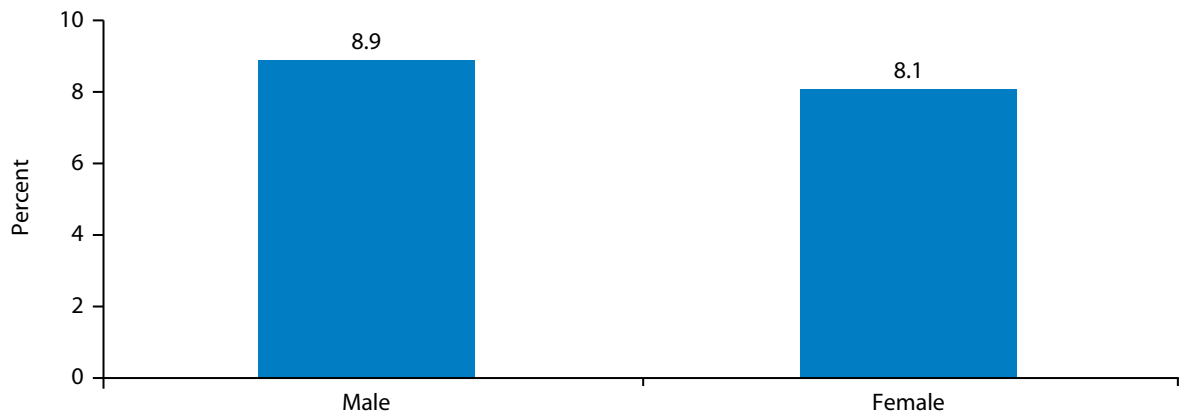


Age Group	Percent	Lower 95% CI	Upper 95% CI
18-44 yrs	12.5	10.2	14.8
45-64 yrs	46.7	44.0	49.4
65-74 yrs	22.6	20.6	24.6
75 yrs or older	18.2	16.4	20.0

**Adults between the ages of 45 and 64 years represent almost one-half (46.7%) of the adults living with diabetes in NYS.**



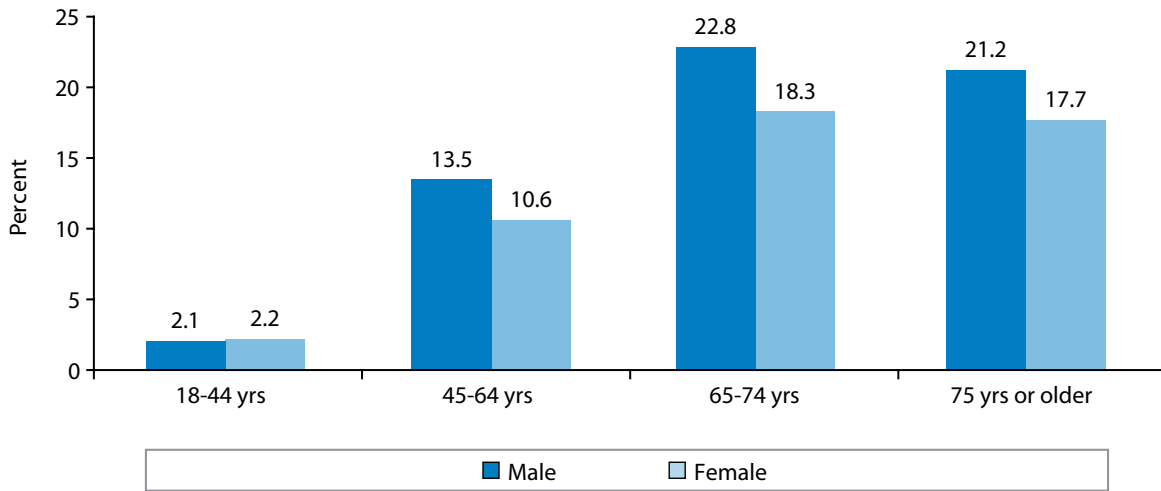
**Figure 4.** Prevalence of diabetes among New York State (NYS) adults by gender, BRFSS 2007-2009



Gender	Percent	Lower 95% CI	Upper 95% CI
Male	8.9	8.2	9.6
Female	8.1	7.5	8.7

**The prevalence of diabetes in NYS does not differ statistically among males and females.**

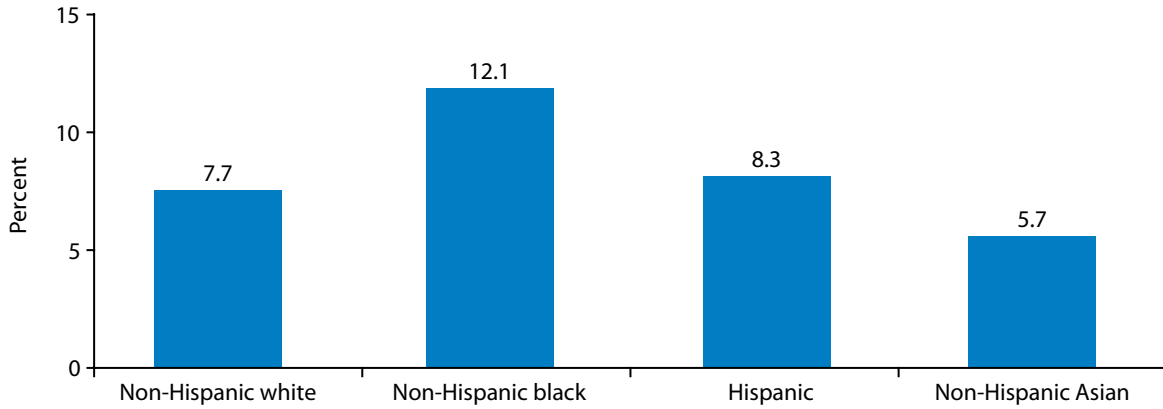
**Figure 5.** Prevalence of diabetes among New York State (NYS) adults by age and gender, BRFSS 2007-2009



Gender	Percent	Lower 95% CI	Upper 95% CI
<b>Male</b>			
18-44 yrs	2.1	1.5	2.7
45-64 yrs	13.5	12.0	15.0
65-74 yrs	22.8	20.0	25.7
75 yrs or older	21.2	18.1	24.3
<b>Female</b>			
18-44 yrs	2.2	1.6	2.8
45-64 yrs	10.6	9.5	11.7
65-74 yrs	18.3	16.2	20.4
75 yrs or older	17.7	15.5	19.8

**Diabetes prevalence increases with age among both men and women.**

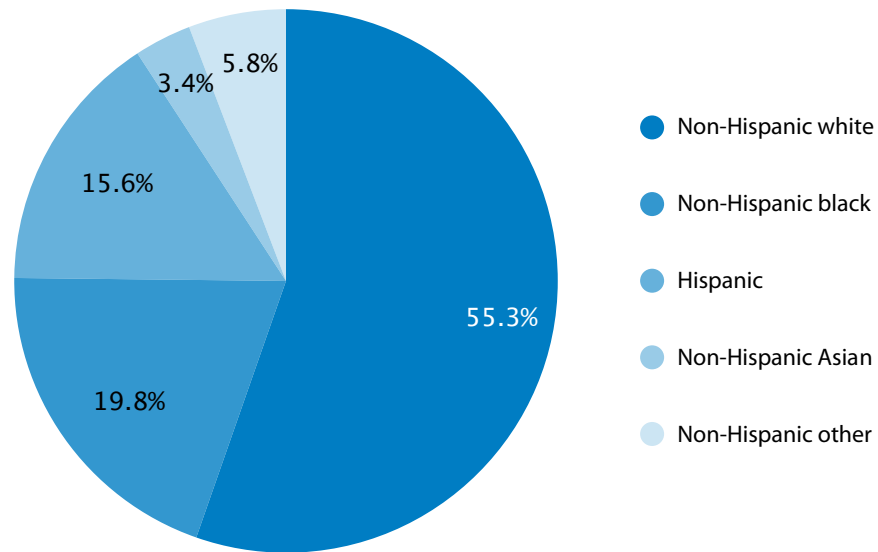
**Figure 6.** Prevalence of diabetes among New York State (NYS) adults by race/ethnicity, BRFSS 2007-2009



Race/Ethnicity	Percent	Lower 95% CI	Upper 95% CI
Non-Hispanic white	7.7	7.3	8.2
Non-Hispanic black	12.1	10.5	13.8
Hispanic	8.3	6.9	9.8
Non-Hispanic Asian	5.7	3.6	7.9

**Self-reported diabetes is more prevalent among non-Hispanic blacks (12.1%) than among non-Hispanic whites (7.7%).**

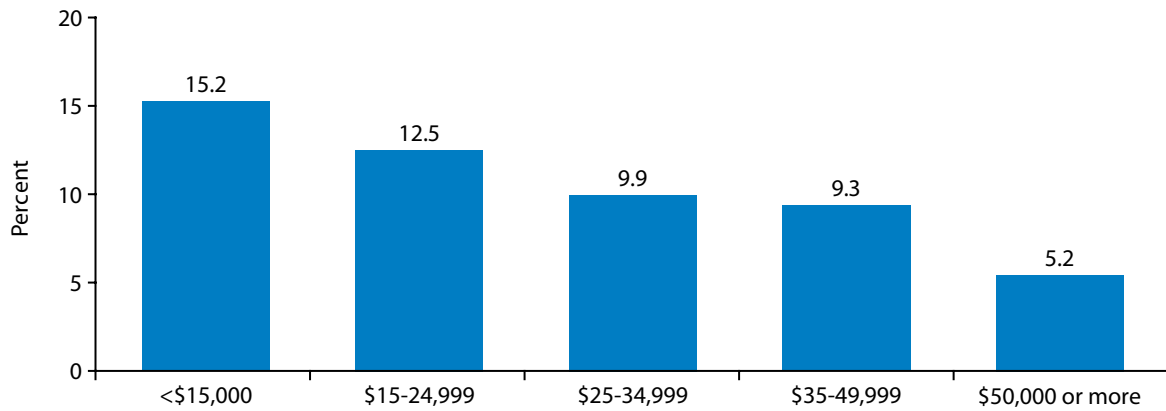
**Figure 7.** Race/ethnicity of New York State (NYS) adults with diabetes, BRFSS 2007-2009



Race/Ethnicity	Percent	Lower 95% CI	Upper 95% CI
Non-Hispanic white	55.3	52.5	58.2
Non-Hispanic black	19.8	17.4	22.2
Hispanic	15.6	13.2	18.1
Non-Hispanic Asian	3.4	2.1	4.7
Non-Hispanic other	5.8	4.3	7.3

Although the majority of adults with diabetes living in NYS are non-Hispanic whites (55%), racial/ethnic minorities make up a larger proportion of the population of adults with diabetes (45%) than the total population (32%).

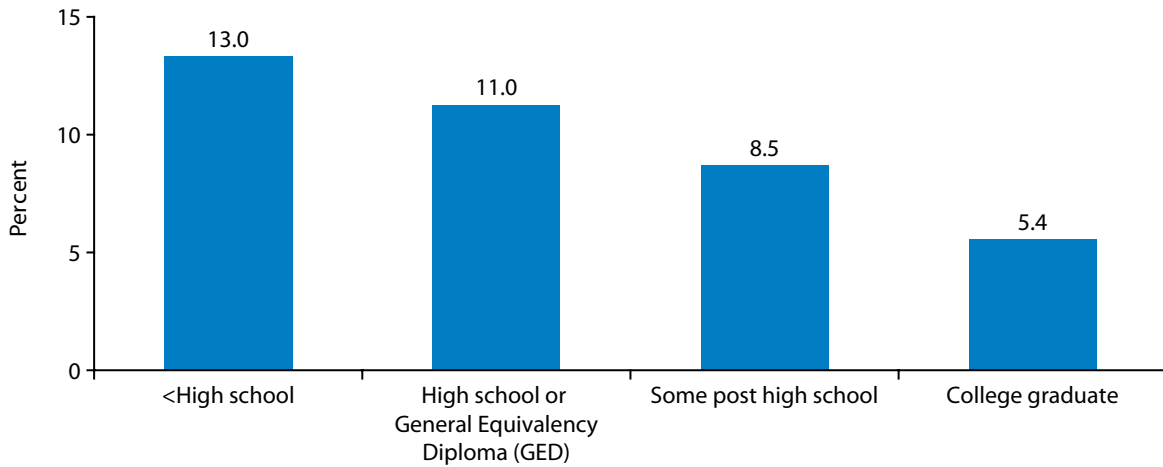
**Figure 8.** Prevalence of diabetes among New York State (NYS) adults by annual household income level, BRFSS 2007-2009



Annual Income	Percent	Lower 95% CI	Upper 95% CI
<\$15,000	15.2	13.2	17.3
\$15-24,999	12.5	11.0	14.0
\$25-34,999	9.9	8.3	11.6
\$35-49,999	9.3	7.9	10.7
\$50,000 or more	5.2	4.7	5.8

**Adults with an annual household income of less than \$15,000 are almost three times as likely to report having diabetes as adults with an annual household income of more than \$50,000 (15.2% versus 5.2%).**

**Figure 9.** Prevalence of diabetes among New York State (NYS) adults by education level, BRFSS 2007-2009

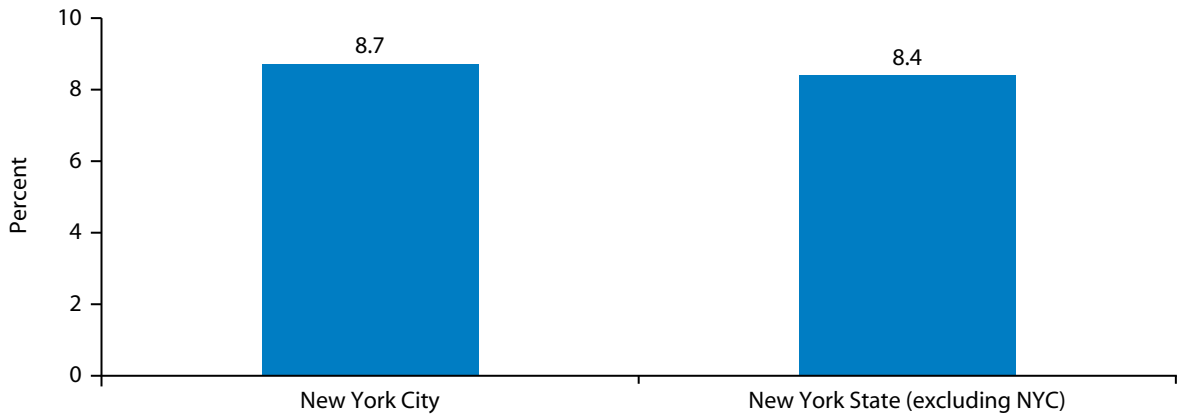


Education	Percent	Lower 95% CI	Upper 95% CI
<High school	13.0	11.1	15.0
High school or general equivalency diploma	11.0	10.0	12.0
Some post high school	8.5	7.7	9.4
College graduate	5.4	4.8	5.9

**Adults with less than a high school education are more than twice as likely to report having diabetes as adults who are college graduates (13.0% versus 5.4%).**

**The prevalence of diabetes becomes increasingly greater among segments of the population that are lower in educational attainment and household income.**

**Figure 10.** Prevalence of diabetes among New York State (NYS) adults by region, BRFSS 2007-2009



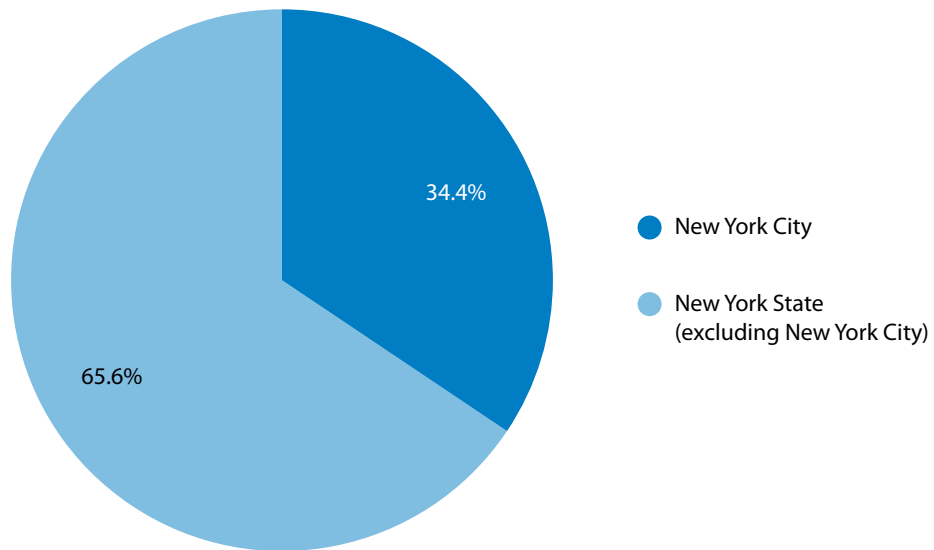
Region	Percent	Lower 95% CI	Upper 95% CI
New York City	8.7	7.8	9.6
New York State (excluding New York City)	8.4	7.9	8.9

The prevalence of diabetes among adults residing in New York State (excluding New York City) does not differ statistically from the prevalence of diabetes among adults in New York City.

County level data on the prevalence of diabetes in NYS can be found at the website: <http://www.nyhealth.gov/statistics/brfss/expanded/>

Data on the prevalence of diabetes collected through the New York City Department of Health and Mental Hygiene can be obtained at the website: [http://www.nyc.gov/html/doh/downloads/pdf/epi/diabetes\\_chart\\_book.pdf](http://www.nyc.gov/html/doh/downloads/pdf/epi/diabetes_chart_book.pdf)

**Figure 11.** Regional distribution of New York State (NYS) adults with diabetes, BRFSS 2007-2009



Region	Percent	Lower 95% CI	Upper 95% CI
New York City	34.4	31.7	37.2
New York State (excluding New York City)	65.6	62.8	68.3

**Approximately two-thirds of NYS adults living with diabetes (66%) reside outside of New York City.**



## Undiagnosed Diabetes

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The prevalence of adult diabetes in the New York State population includes instances where diabetes is diagnosed by a medical care professional and instances where it has not yet been detected. The previous section of the report summarized data on the percentage of adults with diagnosed diabetes. This represents only a portion of adults living with this chronic disease. Diabetes can go undetected among those who do not receive medical care or do not receive the appropriate diagnostic tests from their medical care providers.

In New York State there is no system for conducting public health surveillance on undiagnosed diabetes. Data from the National Health and Nutrition Examination Survey (NHANES), a survey designed to enroll a representative sample of the US civilian population, estimate that in 2005-2006, 5.1% of adults above the age of 20 had undiagnosed diabetes.<sup>8</sup> These national estimates can be applied to give a general estimate of the prevalence of undiagnosed diabetes in the New York State population (760,000 adults). However, this estimate does not take into consideration how the population of New York adults differs from adults in the rest of the US population or how rates of diagnostic testing for diabetes differ in New York as compared to other States.

For more information about the NHANES, please use the following link:  
<http://www.cdc.gov/nchs/nhanes.htm>

Reducing undiagnosed diabetes is a priority in diabetes prevention and control. Healthy People 2020 includes an objective to increase the percentage of adults with diabetes whose condition has been diagnosed. As described on page 4 of this report, diabetes is diagnosed through blood tests that measure the amount of glucose in the blood. The NYS BRFSS provides information on the proportion of adults who receive the appropriate diagnostic test for diabetes within the past three years.

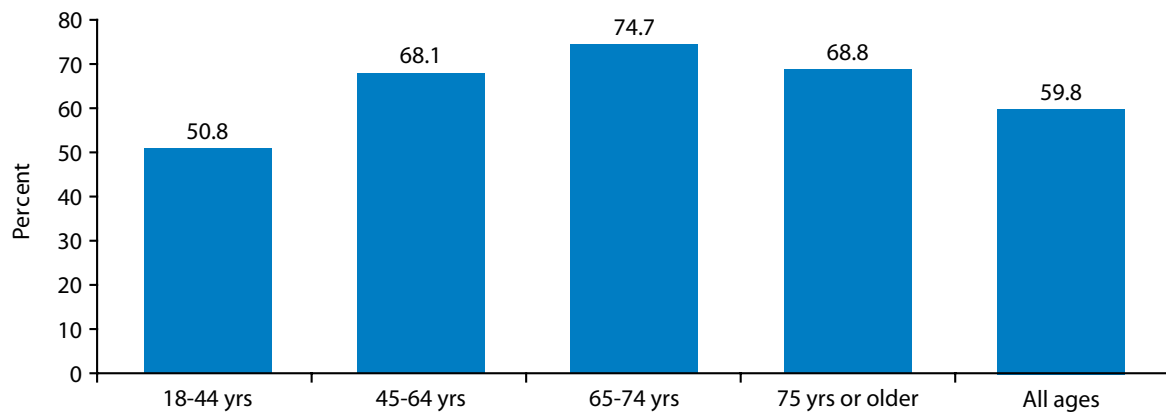
**Table 2.** Percentage of adults in New York State (NYS) receiving a test for high blood sugar or diabetes in the past three years by selected demographic characteristics, BRFSS 2008-2009

	Percent	Lower 95% CI	Upper 95% CI
<b>Age Group</b>			
All ages	59.8	58.2	61.4
18-44	50.8	48.1	53.5
45-64	68.1	66.0	70.1
65-74	74.7	71.6	77.8
≥75	68.8	65.2	72.4
<b>Gender</b>			
Male	58.2	55.5	60.8
Female	61.2	59.3	63.1
<b>Race/Ethnicity</b>			
Non-Hispanic white	60.5	58.8	62.2
Non-Hispanic black	56.5	50.3	62.8
Hispanic	58.8	52.4	65.1
Non-Hispanic other	54.7	47.5	61.9
<b>Annual Income</b>			
<\$15,000	57.5	51.0	63.9
\$15-24,999	59.5	54.4	64.5
\$25-34,999	56.6	51.1	62.1
\$35-49,999	56.2	51.6	60.7
\$50,000 or more	63.4	61.2	65.6
<b>Education</b>			
<High school	55.4	48.3	62.5
High school or general equivalency diploma	56.7	53.4	59.9
Some post high school	60.6	57.4	63.8
College graduate	62.3	60.0	64.6
<b>Region</b>			
New York City	60.2	56.8	63.5
NYS (excluding New York City)	59.6	57.8	61.4

**In 2008-2009, the self-reported prevalence for having a test for high blood sugar or diabetes in the past three years was 59.8% (95% CI 58.2-61.4%) among NYS adults.**

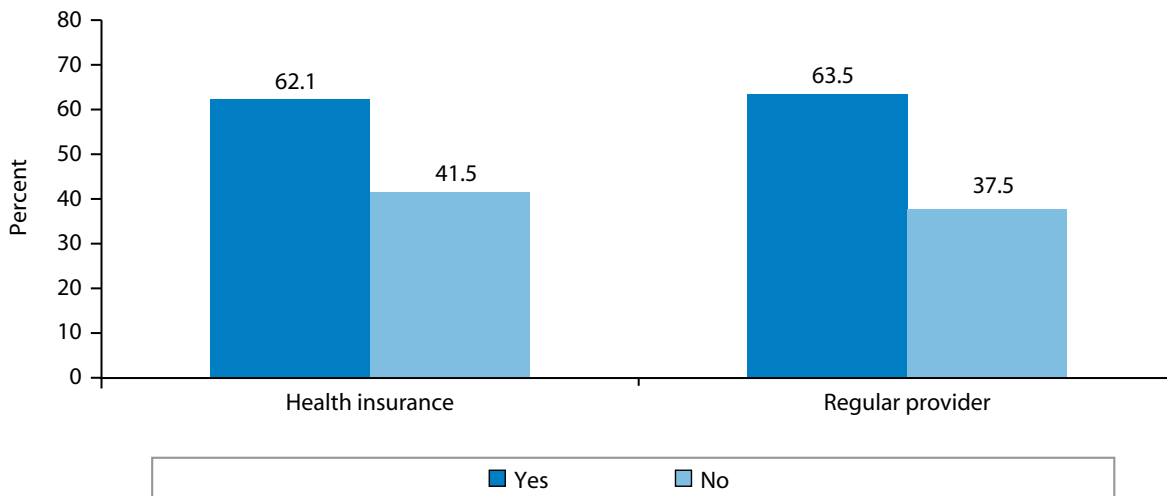
**The percentage of adults in NYS receiving a test for high blood sugar or diabetes in the past three years does not differ significantly by gender, race/ethnicity, household income, education, or region (New York City vs. rest of state).**

**Figure 12.** Percentage of adults in New York State (NYS) receiving a test for high blood sugar or diabetes in the past three years by age, BRFSS 2008-2009



**The prevalence of testing for high blood sugar in the past three years is lowest among adults between the ages of 18 to 44 years.**

**Figure 13.** Percentage of adults in New York State (NYS) receiving a test for high blood sugar or diabetes in the past three years by access to care indicators, BRFSS 2008-2009



	Percent	Lower 95% CI	Upper 95% CI
<b>Insurance Status</b>			
Have insurance	62.1	60.4	63.7
No insurance	41.5	35.7	47.3
<b>Provider Status</b>			
Have regular provider	63.5	61.8	65.1
No regular provider	37.5	32.7	42.4

**Testing for high blood sugar is less prevalent among adults without health insurance compared to adults who report having health insurance (42% versus 62%) and among adults without a regular healthcare provider compared to adults who report having at least one regular healthcare provider (38% versus 64%).**

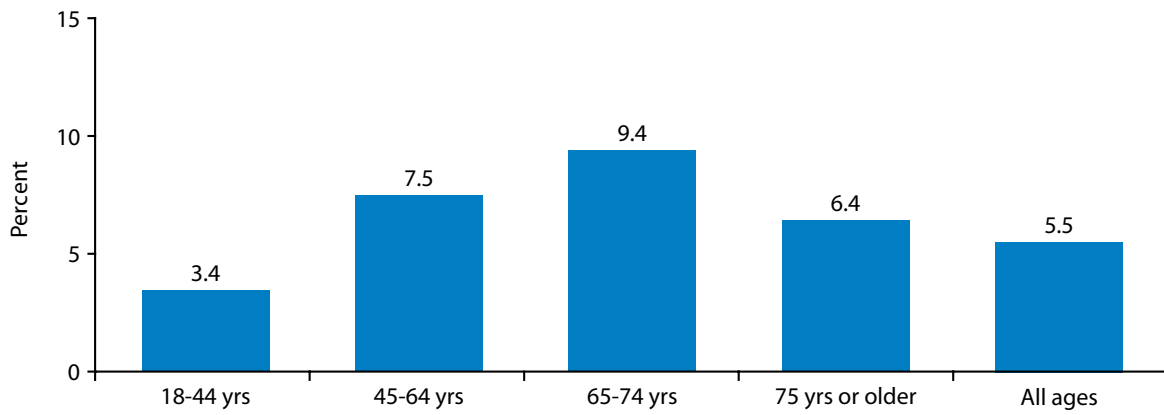
## Prediabetes

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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. Like diabetes, prediabetes is detected by means of a blood glucose test. The clinical cut-offs for classification depend on the type of diagnostic test used. The values of these clinical tests that are used to diagnose prediabetes can be found on page 4 of this report.

In the United States, an estimated 35% of adults aged 20 or older have prediabetes.<sup>9</sup> Adults with prediabetes are 5 to 15 times more likely to develop type 2 diabetes than someone without the condition, and are also at increased risk of developing heart disease, stroke and eye disease.<sup>10</sup> 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>11</sup>

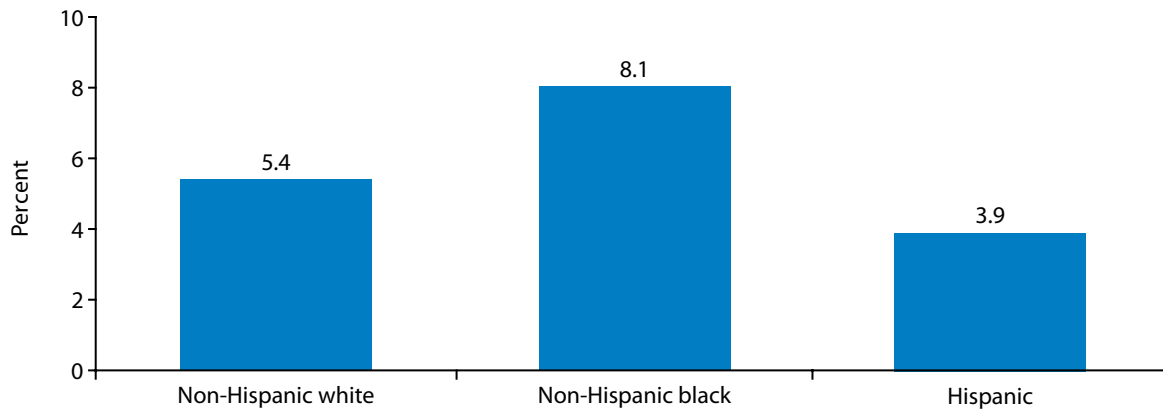
**Figure 14.** Prevalence of prediabetes among New York State (NYS) adults by age, BRFSS 2008-2009



Age (years)	Percent	Lower 95% CI	Upper 95% CI
18-44 yrs	3.4	2.5	4.3
45-64 yrs	7.5	6.3	8.6
65-74 yrs	9.4	7.4	11.4
75 yrs or older	6.4	4.7	8.1
All ages	5.5	4.8	6.1

**Prediabetes is less prevalent among adults between the ages of 18 and 44 years (3.4%) than among adults between the ages of 45 to 64 years (7.5%), 65 to 74 years (9.4%), and 75 years or older (6.4%).**

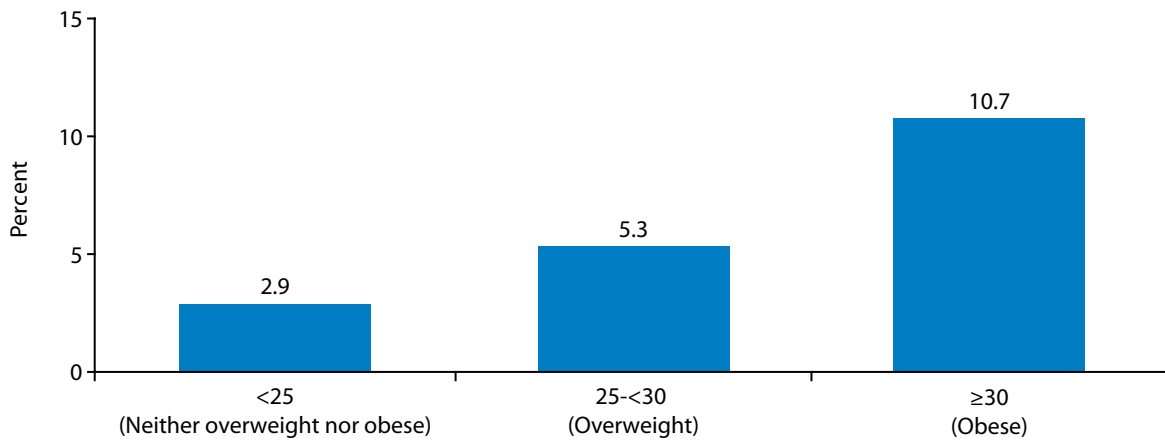
**Figure 15.** Prevalence of prediabetes among New York State (NYS) adults by race/ethnicity, BRFSS 2008-2009



Race/Ethnicity	Percent	Lower 95% CI	Upper 95% CI
Non-Hispanic white	5.4	4.7	6.1
Non-Hispanic black	8.1	4.8	11.4
Hispanic	3.9	2.1	5.8

**Self-reported prediabetes does not differ significantly by race/ethnicity.**

**Figure 16.** Prevalence of prediabetes among New York State (NYS) adults by Body Mass Index (BMI) category, BRFSS 2008-2009



BMI Category	Percent	Lower 95% CI	Upper 95% CI
<25 (Neither overweight nor obese)	2.9	2.1	3.8
25-<30 (Overweight)	5.3	4.3	6.3
≥30 (Obese)	10.7	8.8	12.6

**Prediabetes is more prevalent among adults who are obese (10.7%) or overweight (5.3%) than among adults who are neither overweight nor obese (2.9%).**

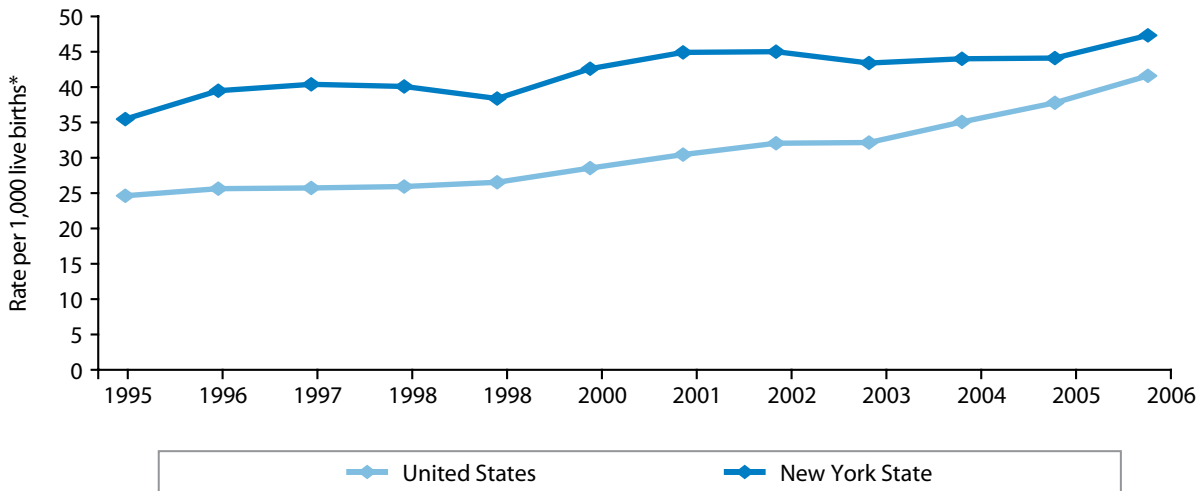


## **Gestational Diabetes**

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Gestational diabetes (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy. Based on this definition, GDM affects approximately 7% of pregnancies in the United States (ranging from 1%-14% depending on the population studied), resulting in approximately 200,000 cases annually.<sup>12</sup> Gestational diabetes predisposes women to an increased risk of developing type 2 diabetes later in life, and has been associated with both maternal and fetal adverse health effects including macrosomia, preeclampsia, congenital malformations, and fetal death.<sup>13</sup> Because of the health risks gestational diabetes confers to both the mother and infant, public health surveillance of GDM is warranted.

**Figure 17.** Prevalence of gestational diabetes in the United States (US) and New York State (NYS), CDC WONDER 1995-2006<sup>14</sup>



Year	US Rate	New York State Rate
1995	24.7	35.5
1996	25.7	39.5
1997	25.8	40.4
1998	26.0	40.1
1999	26.6	38.4
2000	28.6	42.6
2001	30.5	44.9
2002	32.1	45.0
2003	32.2	43.4
2004	35.1	44.0
2005	37.8	44.1
2006	41.6	47.3

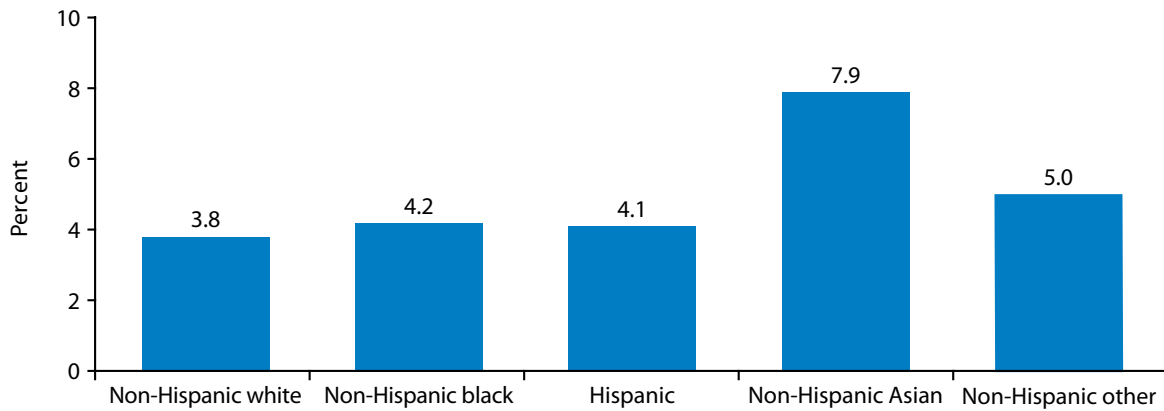
\*Based on singleton births, birth certificate change in 2003.  
More information about this change is available at:

<http://wonder.cdc.gov/nativity.html>

**The prevalence of gestational diabetes in the US and in NYS has gradually increased from 1995 to 2006.**

**The prevalence of gestational diabetes is higher among women in NYS compared to the US overall.**

**Figure 18.** Prevalence of gestational diabetes in New York State (NYS) by race/ethnicity of mother, NYSDOH Biometrics, 2007



Race/Ethnicity of Mother	Percent**
Non-Hispanic white	3.8
Non-Hispanic black	4.2
Hispanic	4.1
Non-Hispanic Asian	7.9
Non-Hispanic other	5.0

\*\*No confidence intervals are provided for population-level data

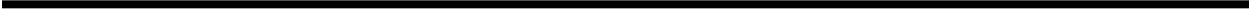
**In NYS, the prevalence of gestational diabetes is highest among Asian women.**

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