



# Connecticut Diabetes Statistics

State Public Health Actions (1305, SHAPE) Grant • March 2015 • Page 1 of 16

## What is Diabetes?

- Diabetes is a disease in which blood glucose levels are above normal.
- Blood glucose levels are elevated in diabetes because either
  - The body does not make enough insulin; or
  - The body does not use insulin as well as it should.
- There are 2 main classifications of diabetes.
  - Type 1 diabetes is caused by the destruction of pancreatic beta cells by the body's immune system, leading to insulin deficiency and making insulin treatment necessary.
  - Type 2 diabetes is characterized by insulin resistance, a disorder in which the cells do not use insulin properly.
- Heart disease, blindness, kidney failure, and lower-extremity amputations can all be caused by diabetes.

## Diabetes Mortality (Death) Statistics

### Leading Cause of Death

- Diabetes is the seventh leading cause of death in the United States with 73,831 deaths with diabetes as the underlying cause (2.9% of deaths). [Table 1]
- Diabetes is the eighth leading cause of death in Connecticut with 690 deaths with diabetes as the underlying cause (2.3% of deaths). [Table 1]

*Table 1 Leading Causes of Death, United States and Connecticut, 2011*

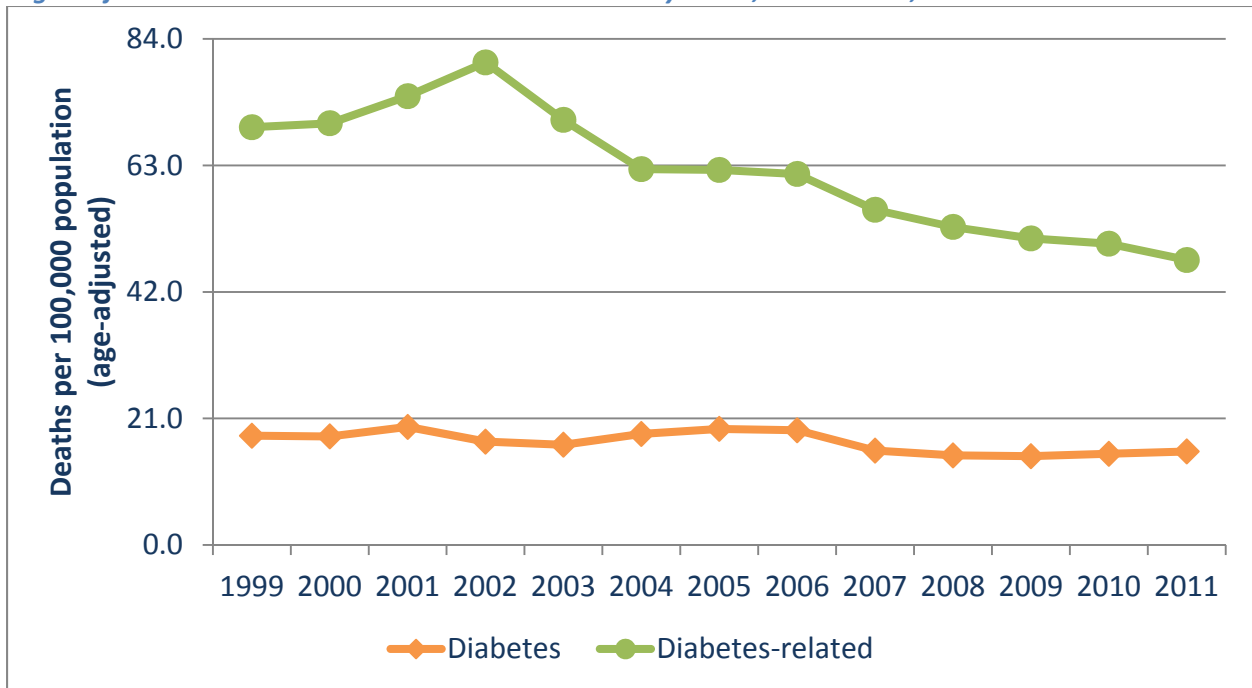
United States Total deaths: 2,513,171	Connecticut Total deaths: 29,527
1. Diseases of the heart: 596,577	1. Diseases of the heart: 7,178
2. All cancers: 576,691	2. All cancers: 6,789
3. Chronic lower respiratory diseases: 142,943	3. Chronic lower respiratory diseases: 1,410
4. Stroke: 128,932	4. Unintentional injuries: 1,317
5. Unintentional injuries: 126,438	5. Stroke: 1,305
6. Alzheimer's disease: 84,974	6. Alzheimer's disease: 811
7. Diabetes mellitus: 73,831	7. Pneumonia and Influenza: 698
8. Influenza and Pneumonia: 53,826	8. Diabetes mellitus: 690
9. Nephritis, nephrotic syndrome, and nephrosis: 45,591	9. Nephritis, nephrotic syndrome, and nephrosis: 599
10. Intentional self-harm (suicide): 39,518	10. Septicemia: 564

Data Sources: National Center for Health Statistics: [www.cdc.gov/nchs/fastats/leading-causes-of-death.htm](http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm)  
 Connecticut Department of Public Health (CT DPH), Vital Records Mortality Files, 2011 data.

**Age-adjusted Diabetes and *Diabetes-related* Mortality Rates**

- People with diabetes often die from the complications of diabetes rather than the disease itself; therefore, diabetes is underreported as the underlying or principal cause of death.
- *Diabetes-related* mortality is defined as deaths with diabetes as a contributing (or secondary) cause of death among residents.
- Diabetes is three times as likely to be listed as a contributing cause of death than as the underlying cause of death.
- A trend analysis using data from 1999-2008 showed that *diabetes-related* age-adjusted mortality rates (AAMRs) decreased significantly in that timeframe (a trend analysis of the data through 2011 has not yet been performed). [Figure 1]
- The change in AAMRs with diabetes as the underlying cause of death was not significant in the 1999-2008 timeframe (a trend analysis of the data through 2011 has not yet been performed). [Figure 1]

**Figure 1 Age-Adjusted Diabetes and Diabetes-related Mortality Rates, Connecticut, 1999-2011**

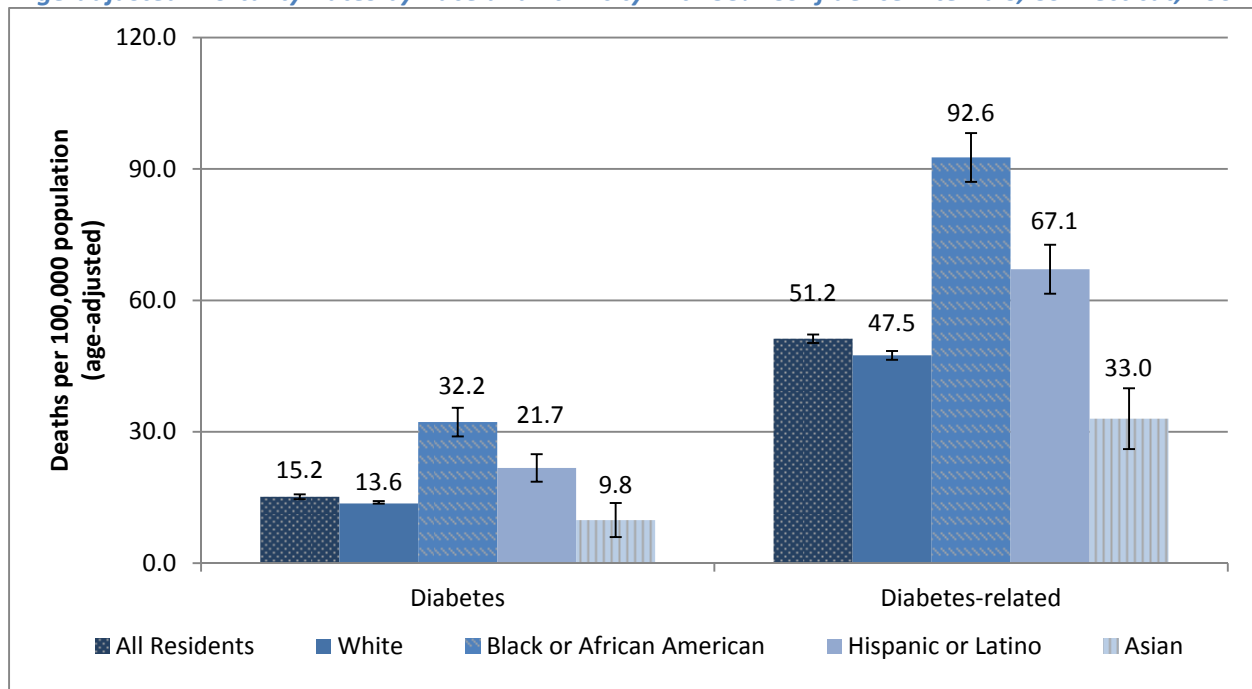


Data Source: CT DPH, Vital Records Mortality Files, 1999-2011 data.

**Age-adjusted Mortality Rates (AAMR) by Race and Ethnicity<sup>1</sup> among Connecticut Residents**

- Black or African American residents have the highest diabetes and *diabetes-related* AAMRs. [Figure 2]
- Hispanic or Latino residents have significantly higher diabetes and *diabetes-related* AAMRs compared with White and Asian residents. [Figure 2]
- Asian residents have significantly lower *diabetes-related* AAMRs compared with the three other racial and ethnic groups. [Figure 2]
- The diabetes AAMRs of Asian residents are significantly lower than the rates among Black or African American and Hispanic or Latino residents. The difference in diabetes AAMRs among Asian and White residents did not reach statistical significance. [Figure 2]

**Figure 2 Age-adjusted Mortality Rates by Race and Ethnicity with 95% Confidence Intervals, Connecticut, 2007-2011**



Data Source: CT DPH, Vital Records Mortality Files, 2007-2011 data

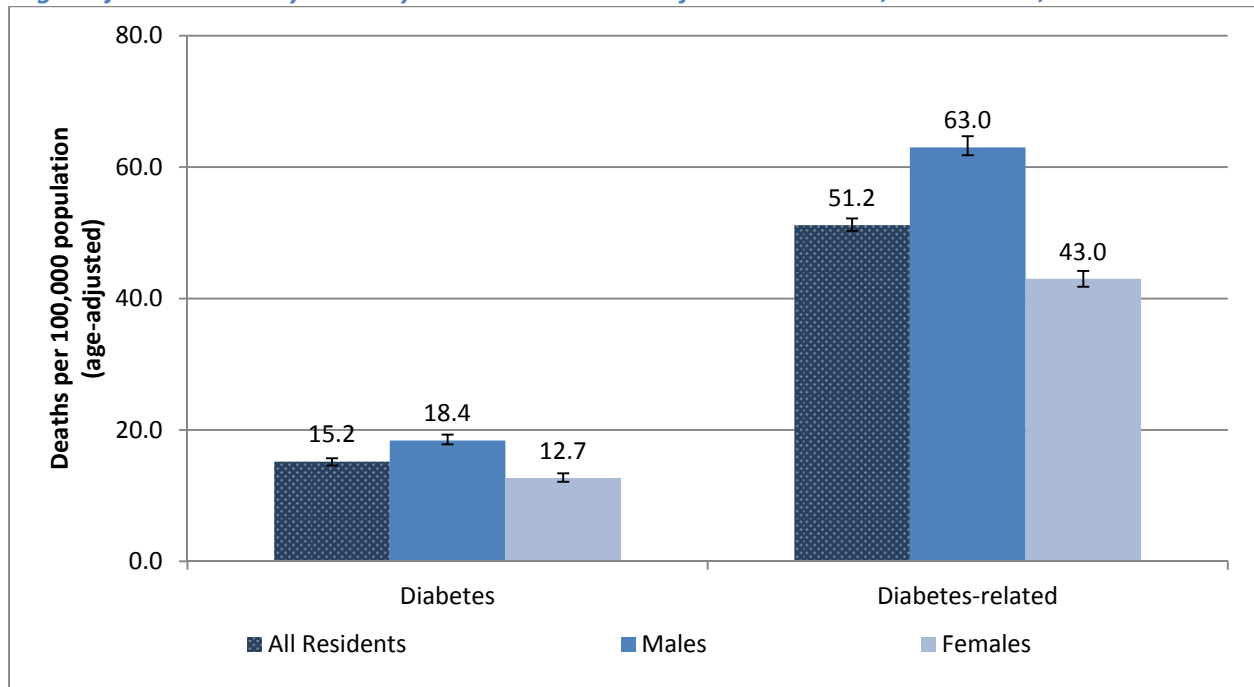
<sup>1</sup> All racial groupings (e.g., “Black,” “White,” “Asian”) *exclude* persons of Hispanic ethnicity. A Hispanic or Latino ethnicity category is included in figures and tables reflecting data separate from race categories. Therefore, the modifier “Non-Hispanic or Latino” is assumed.



**Age-adjusted Mortality Rates (AAMR) by Gender among Connecticut Residents**

- Male Connecticut residents have significantly higher age-adjusted diabetes and *diabetes-related* mortality rates compared with females. [Figure 3]

*Figure 3 Age-adjusted Mortality Rates by Gender with 95% Confidence Intervals, Connecticut, 2007-2011*



Data Source: CT DPH, Vital Records Mortality Files, 2007-2011 data

**Age-adjusted Years of Potential Life Lost (under the age of 75 years)**

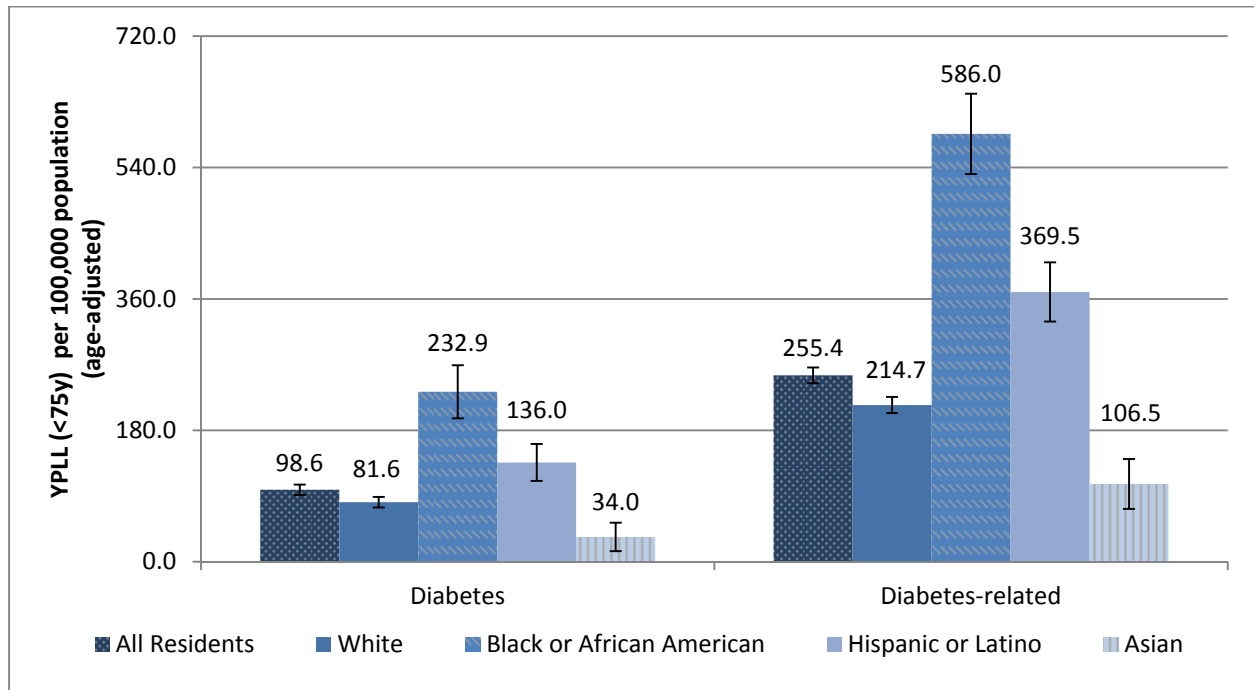
- Years of potential life lost (YPLL) is a measure of premature mortality.
- YPLL represent the number of years of potential life lost by each death before a predetermined end point (e.g., 75 years of age).
- The YPLL statistic is derived by summing age-specific years of life lost figures over all age groups up to 75 years.
- YPLL is presented for persons less than 75 years of age because the average life expectancy in the United States is over 75 years.



**Age-adjusted Years of Potential Life Lost < 75 Years (YPLL) by Race and Ethnicity among Connecticut Residents**

- Black or African American residents have significantly higher diabetes and *diabetes-related* YPLL compared with the three other racial and ethnic groups. [Figure 4]
- Hispanic or Latino residents have significantly higher diabetes and *diabetes-related* YPLL compared with White and Asian residents. [Figure 4]
- Asian residents have significantly lower diabetes and *diabetes-related* YPLL compared with the three other racial and ethnic groups. [Figure 4]
- Physical activity, healthy eating, self-management education, and appropriate medications can prevent type 2 diabetes and its complications and are key components in the effort to reduce premature death from diabetes.

*Figure 4 Age-adjusted Years of Potential Life Lost (<75y) by Race and Ethnicity with 95% Confidence Intervals, Connecticut, 2007-2011*



Data Source: CT DPH, Vital Records Mortality Files, 2007-2011 data

**Diabetes Hospital Discharge Data**

**Acute Care Hospital Inpatient Discharge Database (HIDD)**

- All 29 acute care hospitals in Connecticut are required by law to submit inpatient discharge data to the Office of Health Care Access (OHCA).
- The information is taken from medical record abstracts and hospital bills.
- Although data are coded for billing, not surveillance, purposes, they can provide useful information on the burden of disease.
- Hospitalizations are the number of hospital discharges, not unduplicated patients.



### Age-adjusted Diabetes Hospital Discharge Rates and Total Charges among Connecticut Residents

- Diabetes can lead to variety of disabling complications and life-threatening events, and the economic burden of diabetes is great.
- In 2012, there were 5,298 hospital discharges (1.6% of all hospital discharges, excluding pregnancy and newborn hospitalizations) with diabetes as the primary diagnosis (Connecticut Acute Care Hospital Inpatient Discharge Database).
- 1.3% of all hospital charges (\$170 million) were for hospitalizations with diabetes as the primary diagnosis in 2012 (Connecticut Acute Care Hospital Inpatient Discharge Database).
- Diabetes hospitalization can be prevented through appropriate care and management of diabetes in the outpatient and community setting, including:
  - Diabetes self-management education,
  - Regular foot examinations,
  - Blood pressure control,
  - Regular eye examinations, and
  - Smoking cessation.

### Age-adjusted *Diabetes-related* Hospital Discharge Rates and Total Charges among Connecticut Residents

- *Diabetes-related* hospitalizations are defined as hospitalizations with diabetes as any listed diagnosis.
- In 2012, 20.2% of all hospital discharges excluding pregnancy and newborn hospitalizations (66,249 discharges) were *diabetes-related* (Connecticut Acute Care Hospital Inpatient Discharge Database).
- 17.7% of all hospital charges (\$2.3 billion) were for *diabetes-related* hospitalizations in 2012 (Connecticut Acute Care Hospital Inpatient Discharge Database).

### Age-adjusted *Diabetes-related* Nontraumatic Lower-extremity Amputation Hospital Discharge Rates and Total Charges among Connecticut Residents

- Nationally, about 60% of nontraumatic lower-extremity amputations (NLEA) among people aged 20 years or older occur in people with diabetes (Centers for Disease Control and Prevention's (CDC) [National Diabetes Statistics Report, 2014](#)).
- Age-adjusted *diabetes-related* NLEA hospitalization rates decreased about 22% in Connecticut between 2001 and 2012 (Connecticut Acute Care Hospital Inpatient Discharge Database).
- The total charge of *diabetes-related* NLEA hospitalizations increased almost 83% in Connecticut between 2001 and 2012 – from \$32.3 million to \$59.3 million (Connecticut Acute Care Hospital Inpatient Discharge Database).
- According to the American Diabetes Association, most amputations are preventable with regular care and proper footwear. Regular foot care includes:
  - Checking feet every day for sores, blisters, or swelling and seeing a health care provider if any foot problems are identified;
  - Keeping the feet clean;
  - Keeping the blood flowing to the feet (e.g., raising feet when sitting and quitting smoking); and
  - Visiting a health care professional for regular foot examinations.

**Age-adjusted Hospital Discharge Rates by Race and Ethnicity among Connecticut Residents**

- Black or African American residents have significantly higher diabetes, *diabetes-related*, and *diabetes-related* NLEA age-adjusted hospitalization rates compared with White and Hispanic or Latino residents. [Table 2]
- Hispanic or Latino residents have significantly higher diabetes, *diabetes-related*, and *diabetes-related* NLEA age-adjusted hospitalization rates compared with White residents. [Table 2]
- There were too few diabetes-related and diabetes-related NLEA hospitalizations among Asian, Pacific Islander, and American Indian residents to calculate reliable rates.

*Table 2 Age-adjusted Hospital Discharge Rates by Race and Ethnicity, Connecticut Residents, 2012\**

	Connecticut AAHR (95% Confidence Interval [CI])	White AAHR (95% CI)	Hispanic or Latino AAHR (95% CI)	Black or African American AAHR (95% CI)
<b>Diabetes</b>	134.6 (131-138)	95.5 (92-99)	207.8 (192-224)	398.0 (376-420)
<b><i>Diabetes-related</i></b>	1,566.8 (1,555-1,579)	1,275.9 (1,264-1,288)	2,591.3 (2,528-2,655)	3,302.2 (3,237-3,368)
<b><i>Diabetes-related nontraumatic lower extremity amputation</i></b>	21.8 (20-23)	16.5 (15-18)	30.6 (24-37)	65.6 (56-75)

Data Source: CT DPH, Connecticut Acute Care Hospital Inpatient Discharge Database, 2012 data; \*There were too few *diabetes-related* and *diabetes-related* NLEA hospitalizations among Asian, Pacific Islander, and American Indian residents to calculate reliable rates.

**Prevalence of Diabetes**

**Behavioral Risk Factor Surveillance System (BRFSS)**

- The BRFSS is a state-based system of health surveys that generate information about health risk behaviors, clinical preventive practices, and health care access and utilization.
- The BRFSS is sponsored by the Centers for Disease Control and Prevention (CDC) and is the world’s largest telephone survey. It is conducted in all 50 states.
- Respondents are randomly selected adults (aged 18 and older) within randomly selected households with landline telephones, or with cellular telephones owned by adults with no landline or who use their cellular telephones for at least 90% of their calls.

**Prevalence of Diagnosed Diabetes among Connecticut Adults (18+ years)**

- BRFSS respondents are asked if they have ever been told by a doctor, nurse, or other health professional that they have diabetes. Female respondents indicating that there were only told that they had diabetes during pregnancy are classified as not having diabetes. Respondents reporting prediabetes are also classified as not having diabetes.
- An estimated 8.9% of Connecticut adults have diagnosed diabetes or approximately 250,000 adults. [Table 3]
  - An additional 83,000 adults are estimated to have undiagnosed diabetes.
  - These estimates include types 1 and 2 diabetes.



- Age-adjusted rates of diagnosed diabetes vary by gender, race and ethnicity, and age. [Table 3]
  - Males have higher rates than females.
  - Black or African American and Hispanic or Latino adults have nearly twice the diabetes rates of White adults.
  - Rates of diabetes increase with increasing age.
- Rates of diagnosed diabetes vary by socioeconomic status. [Table 3]
  - In terms of educational attainment, adults who are less than high school graduates have the highest rates of diagnosed diabetes.
  - In terms of income, adults with annual household incomes of <\$25,000 have the highest diabetes rates.

**Table 3 Prevalence of Diagnosed Diabetes among Adults (18+y), Connecticut, 2011-2013**

Characteristic	Unweighted Number*	Weighted Number†	Unadjusted % (95% CI)	Age-adjusted % (95% CI)‡
<b>All Adults</b>	2,519	248,453	8.9 (8.5-9.4)	8.0 (7.6-8.5)
<b>Gender</b>				
Male	1,138	133,102	10.0 (9.2-10.8)	9.4 (8.6-10.1)
Female	1,381	115,351	8.0 (7.4-8.6)	6.9 (6.4-7.4)
<b>Race &amp; Ethnicity§</b>				
White	1,783	163,383	8.1 (7.7-8.6)	6.7 (6.3-7.1)
Black or African American	300	33,239	13.6 (11.3-15.9)	14.1 (11.9-16.2)
Hispanic or Latino	272	35,809	10.6 (8.8-12.4)	14.6 (12.4-16.9)
Other	91	9,313	7.1 (5.2-9.0)	9.8 (7.5-12.1)
<b>Age (in years)</b>				
18-44	186	32,043	2.6 (2.1-3.1)	NA
45-64	1,006	109,647	10.7 (9.8-11.6)	NA
65+	1,327	106,763	19.9 (18.7-21.2)	NA
<b>Educational Attainment</b>				
Less than High School Graduate	334	51,699	15.9 (13.6-18.1)	13.3 (11.3-15.4)
High School Graduate	852	83,134	10.6 (9.8-11.6)	9.2 (8.3-10.2)
Some College	645	64,401	8.5 (7.6-9.4)	8.3 (7.4-9.1)
College Graduate	679	48,433	5.3 (4.8-5.9)	5.1 (4.6-5.6)
<b>Annual Household Income</b>				
<\$25,000	817	74,299	14.1 (12.8-15.5)	12.9 (11.7-14.2)
\$25,000-49,999	540	51,649	10.6 (9.4-11.8)	8.5 (7.5-9.6)
\$50,000-74,999	292	28,582	8.0 (6.7-9.3)	7.3 (6.0-8.5)
≥\$75,000	457	53,780	5.5 (4.9-6.2)	5.5 (4.9-6.2)

Data Source: CT DPH. BRFSS, 2011-2013 data; \*Numbers may not sum to total due to missing data. †Data are weighted to make the responses representative of the state’s population. ‡Percentages are age-adjusted to eliminate differences in crude rates in populations of interest that result from differences in the populations’ age distributions. The percentages were age-adjusted using the 2000 Projected U.S. Population. §Asian, Pacific Islander, American Indian or Alaskan Native, other race, and multiracial adults are not reported in separate categories due to the small number of respondents.





## Diabetes Preventive Care Practices

### Preventive Care Practices among Connecticut Adults (18+y) with Diagnosed Diabetes

- Diabetes preventive care can reduce the microvascular (i.e., eye, kidney, and nerve diseases) and macrovascular (e.g., heart attack and stroke) complications of diabetes.
- Preventive care practices are practices that include receiving eye and foot examinations, routinely having A1C tests to monitor blood glucose level as directed, attending diabetes self-management classes, receiving appropriate immunizations, and performing self-examinations of the feet daily.
- Healthy People (HP) 2020 has national goals for these diabetes preventive care practices.
- Behavioral Risk Factor Surveillance System (BRFSS) data show low rates of preventive care practices among Connecticut adults with diagnosed diabetes. [Table 4]
- Possible reasons for the low rates include lack of awareness of the need for multiple preventive care services, inadequate health insurance coverage, and inability to make co-payments or visit specialists.

**Table 4 Preventive Care Practices, Connecticut Adults (18+y) with Diagnosed Diabetes, 2011-2013**

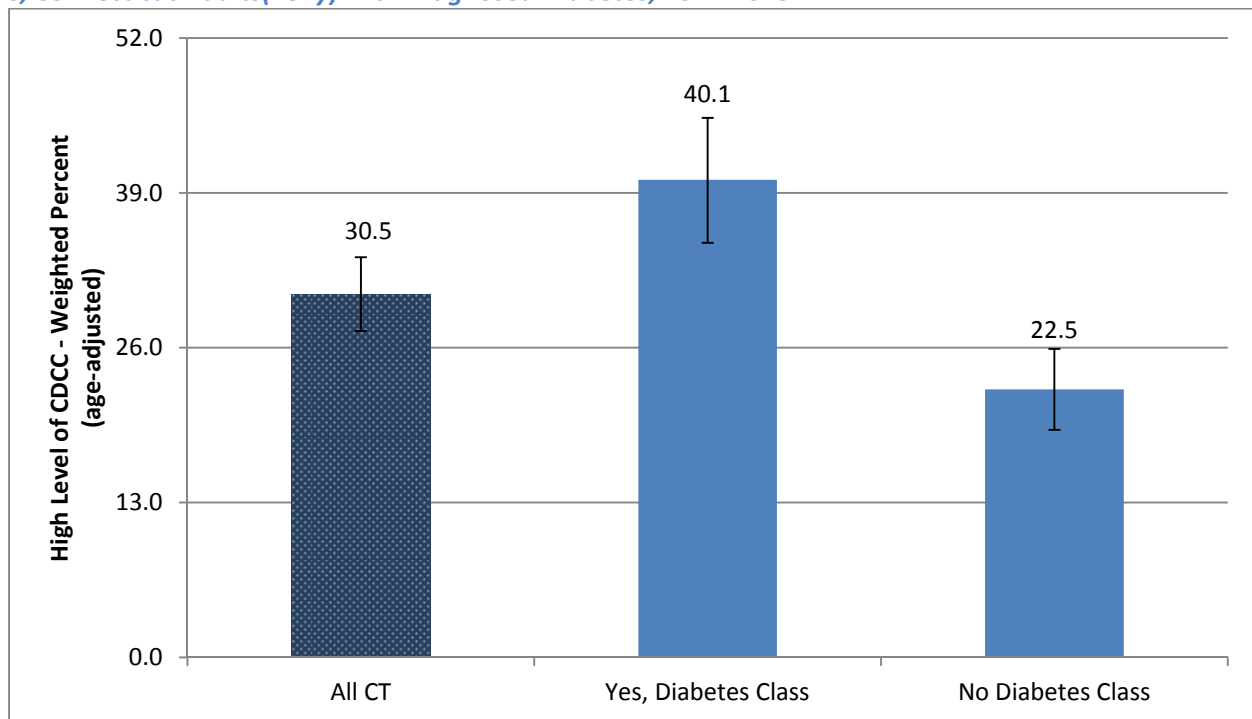
Preventive Care Practice	Healthy People 2020 Target (%)	Age-adjusted %, Connecticut*
2+ A1C tests in past year	71.1	70.3
Annual dilated eye exam†	58.7	68.8
Annual foot exam	74.8	74.3
Attended diabetes self-management class	62.5	46.7
Annual influenza immunization‡	70.0	51.4
Ever had pneumococcal immunization (18-64 years of age)^	90.0	40.3
Ever had pneumococcal immunization (65+ years of age)^	90.0	73.8

\*Data source: CT DPH. BRFSS, 2011-2013 data; †The HP 2020 target and Connecticut estimates for annual dilated eye exam have different data sources and are not comparable. ‡The HP 2020 target for influenza immunization is for all adults not specifically those with diabetes. ^The HP 2020 targets for pneumococcal immunizations are for high-risk noninstitutionalized adults.

### Diabetes Self-management Education and Comprehensive Diabetes Clinical Care (CDCC)

- BRFSS variables are available for the following American Diabetes Association-recommended clinical services: annual dilated retinal examination, annual foot examination by a health care professional, at least one A1C test every 6 months, annual flu vaccination, and ever having had the pneumococcal vaccination.
- High comprehensive diabetes clinical care (CDCC) includes respondents reporting having received four or more of the ADA recommended clinical services.
- Adults reporting having ever taken a class on how to self-manage diabetes were more likely than those who did not take a class to have higher levels of CDCC. [Figure 5]
  - Diabetes self-management education (DSME) is a key step in preventing diabetes complications. DSME is a collaborative process in which diabetes educators help people with or at risk for diabetes gain the knowledge, problem-solving and coping skills needed to successfully self-manage the disease and its related conditions.
- Older adults and adults with insurance are also more likely to have high levels of CDCC (data not shown).

*Figure 5 Diabetes Self-management Education and Comprehensive Diabetes Clinical Care (CDCC) with 95% Confidence Intervals, Connecticut Adults(18+y) with Diagnosed Diabetes, 2011-2013*



Data Source: CT DPH. BRFSS, 2011-2013 data

**Prediabetes among Connecticut Adults (18+y) without Diagnosed Diabetes**

- Prediabetes is a strong risk factor for type 2 diabetes.
- Prediabetes is a condition in which a person's blood glucose levels are higher than normal, but are not high enough to be considered diabetes.
- National statistics, based on fasting glucose or A1C levels, indicate that about 37% of US adults (20+y) have prediabetes (CDC's [National Diabetes Statistics Report, 2014](#)).
  - However, according to the CDC, 9 out of 10 people who have prediabetes do not know that they have it.
- It is estimated that only 6.4% of Connecticut adults report having been told that they have prediabetes (2011-2013 BRFSS data; not shown).
- Fasting blood glucose, glucose tolerance, or hemoglobin A1C tests can be used to diagnose prediabetes and diabetes.
  - People whose test results indicate they have prediabetes should have their blood glucose levels checked again in six months to one year. People with blood glucose levels that are in the normal range should get tested every three years, or as recommended by a doctor.
- Only 56.2% of Connecticut adults without diagnosed diabetes report having been tested for diabetes in the past 3 years. [Table 5]
- Rates of diabetes testing among adults (18+y) vary by gender, race and ethnicity, and age. [Table 5]
  - Females are more likely than males to report having been tested for diabetes in the last three years.
  - Adults categorized as "other" race and ethnicity are the least likely to report having been tested for diabetes in the last three years.
  - The differences in the rates of diabetes testing among White, Black or African American, and Hispanic or Latino adults did not reach statistical significance.
  - Adults aged 18-44 years are significantly less likely to report having been tested for diabetes in the last three years compared with adults aged 45-64 years and 65 years and older.
- The differences in the rates of diabetes testing among adults (18+y) within the categories of educational attainment and annual household income did not reach statistical significance. [Table 5]
- Research shows that modest weight loss (5% to 7% of body weight) and regular physical activity (at least 150 minutes each week of physical activity, such as brisk walking) can help people with prediabetes prevent or delay type 2 diabetes.

*Table 5 Connecticut Adults (18+y) without Diagnosed Diabetes Who Report Having Been Tested for Diabetes in the Last Three Years, 2011-2013*

Characteristic	Unweighted Number*	Weighted Number†	Unadjusted Percent (95% CI)	Age-adjusted % (95% CI)‡
<b>All Adults</b>	11,798	1,324,139	56.2 (55.1-57.2)	55.2 (54.1-56.2)
<b>Gender</b>				
Male	4,529	597,021	53.4 (51.8-55.0)	52.8 (51.3-54.4)
Female	7,269	72,7118	58.6 (57.3-60.0)	57.6 (56.2-59.0)
<b>Race &amp; Ethnicity<sup>§</sup></b>				
White	9,426	978,638	57.5 (56.3-58.7)	54.8 (53.6-56.0)
Black or African American	891	111,961	55.6 (51.8-59.4)	56.5 (53.0-60.1)
Hispanic or Latino	839	156,156	54.0 (50.4-57.6)	57.7 (54.1-61.3)
Other	356	49,804	43.6 (38.6-48.6)	47.2 (42.5-51.8)
<b>Age (in years)</b>				
18-44	2,793	488,337	44.5 (42.7-46.3)	NA
45-64	5,348	564,562	65.7 (64.3-67.1)	NA
65+	3,657	271,241	67.7 (66.0-69.4)	NA
<b>Educational Attainment</b>				
Less than High School Graduate	656	143,149	53.7 (49.8-57.6)	52.7 (48.7-56.6)
High School Graduate	2,782	359,368	54.6 (52.5-56.7)	53.5 (51.4-55.7)
Some College	2,760	350,455	54.7 (52.6-56.7)	55.8 (53.8-57.8)
College Graduate	5,567	468,969	59.8 (58.4-61.1)	57.4 (55.8-59.0)
<b>Annual Household Income</b>				
<\$25,000	2,008	229,987	53.1 (50.6-55.7)	53.5 (50.9-56.0)
\$25,000-49,999	2,168	224,630	55.1 (52.7-57.6)	53.2 (50.6-55.8)
\$50,000-74,999	1,642	180,467	58.7 (56.0-61.4)	56.3 (53.4-59.2)
≥\$75,000	4,404	500,994	59.3 (57.7-61.0)	57.3 (55.6-59.0)

Data Source: CT DPH. BRFSS, 2011-2013 data; \*Numbers may not sum to total due to missing data; †Data are weighted to make the responses representative of the state's population; ‡Percentages are age-adjusted to eliminate differences in crude rates in populations of interest that result from differences in the populations' age distributions. The percentages were age-adjusted using the 2000 Projected U.S. Population. §Asian, Pacific Islander, American Indian or Alaskan Native, other race, and multiracial adults are not reported in separate categories due to the small number of respondents.

### Modifiable Risk Factors for Type 2 Diabetes

- Risk factors for type 2 diabetes may be non-modifiable or modifiable.
- Non-modifiable risk factors include increasing age, family history of diabetes, history of gestational diabetes, having given birth to a baby weighing more than nine pounds, and race and ethnicity.
  - Collecting and sharing one's family health history can help health care professionals assess a person's risk of developing type 2 diabetes and recommend actions to lower that risk. For more information, visit the [Department of Public Health's Genomics web page](#).
- Modifiable risk factors include being overweight or obese, having hypertension, having high LDL cholesterol or high triglycerides along with low HDL cholesterol, and being physically inactive.
  - For information on hypertension and high blood cholesterol, visit [www.ct.gov/dph/HeartStrokeData](http://www.ct.gov/dph/HeartStrokeData).

## Obesity

- Obesity is considered the chief modifiable risk factor for type 2 diabetes.
  - Research has demonstrated an association between obesity and abnormal glucose tolerance.
- An estimated 25.0% of Connecticut adults (18+y) are obese. [Table 6]
- Rates of obesity among adults (18+y) vary by age and race and ethnicity. [Table 6]
  - Adults aged 18-44 years have the lowest rates of obesity compared with other age groups.
  - White adults have significantly lower age-adjusted rates of obesity compared with Black or African American and Hispanic or Latino adults.
  - The difference in obesity rates among males and females did not reach statistical significance.
- Rates of obesity among adults (18+y) vary by socioeconomic status. [Table 6]
  - In terms of educational attainment, adults who are college graduates have the lowest rates of obesity.
  - In terms of income, adults with annual household incomes of <\$25,000 have the highest obesity rates.

**Table 6 Prevalence of Obesity among Adults (18+y), Connecticut, 2011-2013**

Characteristic	Unweighted Number*	Weighted Number†	Unadjusted Percent (95% CI)	Age-adjusted % (95% CI)‡
<b>All Adults</b>	5,607	659,886	25.0 (24.2-25.8)	24.8 (24.0-25.7)
<b>Gender</b>				
Male	2,466	341,169	26.0 (24.8-27.2)	25.9 (24.7-27.2)
Female	3,141	318,717	24.0 (22.9-25.1)	23.8 (22.6-24.9)
<b>Race &amp; Ethnicity<sup>§</sup></b>				
White	4,089	450,217	23.5 (22.6-24.4)	22.8 (21.8-23.8)
Black or African American	629	76,934	33.2 (30.0-36.5)	32.9 (29.7-36.1)
Hispanic or Latino	586	100,237	32.5 (29.4-35.7)	33.9 (30.8-37.1)
Other	145	16,427	13.1 (10.3-16.0)	14.0 (11.2-16.8)
<b>Age (in years)</b>				
18-44	1,404	257,912	22.5 (21.0-23.9)	NA
45-64	2,502	270,438	27.7 (26.4-29.0)	NA
65+	1,701	131,537	25.5 (24.1-27.0)	NA
<b>Educational Attainment</b>				
Less than High School Graduate	503	95,686	31.3 (28.0-34.5)	31.4 (27.8-35.1)
High School Graduate	1,689	214,811	28.9 (27.2-30.6)	29.5 (27.7-31.4)
Some College	1,540	195,491	27.2 (25.6-28.9)	28.4 (26.7-30.2)
College Graduate	1,863	153,296	17.7 (16.7-18.7)	16.9 (15.8-17.9)
<b>Annual Household Income</b>				
<\$25,000	1,371	155,418	31.5 (29.3-33.6)	32.6 (30.4-34.9)
\$25,000-49,999	1,215	130,105	27.7 (25.8-29.7)	27.2 (25.1-29.3)
\$50,000-74,999	756	85,528	24.8 (22.7-26.9)	23.5 (21.3-25.6)
≥\$75,000	1,563	197,681	21.1 (19.8-22.4)	20.3 (18.9-21.6)

Data Source: CT DPH. BRFSS, 2011-2013 data; \*Numbers may not sum to total due to missing data; †Data are weighted to make the responses representative of the state's population; ‡Percentages are age-adjusted to eliminate differences in crude rates in populations of interest that result from differences in the populations' age distributions. The percentages were age-adjusted using the 2000 Projected U.S. Population. §Asian, Pacific Islander, American Indian or Alaskan Native, other race, and multiracial adults are not reported in separate categories due to the small number of respondents.

**Physical Inactivity**

- In this document, physical inactivity is defined as not meeting the recommendation of participating in 150 minutes or more of aerobic physical activity per week.
- Physical inactivity, independent of obesity or diet, is a risk factor for type 2 diabetes.
- Research has shown that populations with higher rates of physical activity have lower rates of diabetes.
- An estimated 48.2% of Connecticut adults are physically inactive. [Table 7]
- Rates of physical activity vary by race and ethnicity and socioeconomic status. [Table 7]
  - Hispanic or Latino adults have significantly higher rates than White and Black or African American adults.
  - In terms of educational attainment, adults who are college graduates have the lowest rates.
  - In terms of income, adults with annual household incomes of \$75,000 or more have the lowest rates.
  - The differences in rates among gender and age groups did not reach statistical significance.

*Table 7 Prevalence of Not Meeting Aerobic Physical Activity Recommendations, Adults (18+y), Connecticut, 2011-2013*

Characteristic	Unweighted Number*	Weighted Number†	Unadjusted Percent (95% CI)	Age-adjusted % (95% CI)‡
<b>All Adults</b>	6,228	818,335	48.2 (47.0-49.5)	48.3 (47.0-49.7)
<b>Gender</b>				
Male	2,379	380,630	46.7 (44.8-48.6)	47.1 (45.1-49.0)
Female	3,849	437,704	49.7 (48.1-51.3)	49.4 (47.7-51.2)
<b>Race &amp; Ethnicity<sup>§</sup></b>				
White	4,599	559,466	44.8 (43.4-46.2)	44.5 (42.9-46.1)
Black or African American	594	77,969	54.9 (50.3-59.5)	54.7 (50.1-59.2)
Hispanic or Latino	619	124,157	63.2 (59.0-67.5)	64.4 (60.3-68.5)
Other	284	42,640	54.9 (48.6-61.1)	56.2 (50.7-61.7)
<b>Age (in years)</b>				
18-44	1,767	357,237	48.2 (46.0-50.5)	NA
45-64	2,539	301,358	47.9 (46.1-49.7)	NA
65+	1,922	159,740	48.9 (46.8-50.9)	NA
<b>Educational Attainment</b>				
Less than High School Graduate	565	122,127	62.9 (58.4-67.4)	63.0 (58.2-67.9)
High School Graduate	1,809	253,090	53.2 (50.7-55.8)	52.6 (49.9-55.3)
Some College	1,516	224,442	48.0 (45.5-50.5)	48.2 (45.6-50.7)
College Graduate	2,323	217,758	39.1 (37.4-40.7)	38.8 (36.9-40.6)
<b>Annual Household Income</b>				
<\$25,000	1,467	186,596	58.3 (55.4-61.3)	58.6 (55.5-61.8)
\$25,000-49,999	1,268	158,184	52.0 (49.1-55.0)	52.3 (49.0-55.5)
\$50,000-74,999	809	108,581	47.4 (44.1-50.6)	47.1 (43.5-50.7)
≥\$75,000	1,769	235,755	39.6 (37.7-41.6)	39.6 (37.4-41.9)

Data Source: CT DPH. BRFSS, 2011-2013 data; \*Numbers may not sum to total due to missing data; †Data are weighted to make the responses representative of the state’s population; ‡Percentages are age-adjusted to eliminate differences in crude rates in populations of interest that result from differences in the populations’ age distributions. The percentages were age-adjusted using the 2000 Projected U.S. Population. §Asian, Pacific Islander, American Indian or Alaskan Native, other race, and multiracial adults are not reported in separate categories due to the small number of respondents.



**Health Care Coverage among Connecticut Adults (18-64 years old)**

- Access to health care is crucial to the prevention, diagnosis, treatment, and management of diabetes.
- An estimated 13.3% of Connecticut adults were uninsured prior to health insurance expansion. [Table 8]
- Age-adjusted rates of not having health insurance vary by gender and race and ethnicity. [Table 8]
  - Adult males are less likely to have health insurance than adult females.
  - Hispanic or Latino adults are least likely to have health insurance than other racial and ethnic groups.
  - Black or African American adults are less likely than White adults to have health insurance.
- Age-adjusted rates of not having health insurance vary by socioeconomic status. [Table 8]
  - The rates of uninsured decreases with increasing educational attainment levels.
  - Adults with annual household incomes of less than \$25,000 are 11 times more likely to not have health insurance compared to adults with annual household incomes of \$75,000 or more.
- Provisions of the Patient Protection and Affordable Care Act (ACA) that went into effect on January 1, 2014, expanded health care coverage in many states, including Connecticut.
  - Access Health CT reports that the percent of uninsured Connecticut residents was halved in the first year of implementation of the ACA ([8 Key Facts](#), August 6, 2014).

**Table 8 Prevalence of Not Having Health Care Coverage among Adults (18-64y), Connecticut, 2011-2013\***

Characteristic	Unweighted Number†	Weighted Number‡	Unadjusted Percent (95% CI)	Age-adjusted % (95% CI) §
<b>All Adults</b>	1,783	293,888	13.3 (12.5-14.1)	13.7 (12.9-14.6)
<b>Gender</b>				
Male	905	173,285	15.8 (14.6-17.1)	16.5 (15.1-17.8)
Female	878	120,603	10.8 (9.8-11.7)	11.0 (10.0-12.1)
<b>Race &amp; Ethnicity¶</b>				
White	945	131,253	8.6 (7.8-9.3)	8.9 (8.1-9.7)
Black or African American	238	40,440	19.5 (16.4-22.6)	19.5 (16.4-22.7)
Hispanic or Latino	448	103,259	33.2 (29.9-36.4)	33.0 (29.8-36.1)
Other	83	10,979	9.3 (6.6-11.9)	9.3 (6.7-11.8)
<b>Educational Attainment</b>				
Less than High School Graduate	285	78,578	34.1 (30.0-38.1)	34.6 (30.5-38.6)
High School Graduate	607	104,994	17.4 (15.7-19.2)	18.5 (16.6-20.4)
Some College	499	75,272	12.2 (10.9-13.5)	12.9 (11.5-14.3)
College Graduate	383	34,158	4.5 (3.9-5.1)	4.7 (4.0-5.3)
<b>Annual Household Income</b>				
<\$25,000	799	128,291	32.6 (30.0-35.2)	33.3 (30.6-35.9)
\$25,000-49,999	416	64,405	18.2 (15.9-20.4)	18.3 (16.0-20.7)
\$50,000-74,999	145	23,361	8.1 (6.4-9.8)	8.1 (6.2-10.0)
≥\$75,000	143	21,717	2.5 (2.0-3.0)	3.0 (2.2-3.7)

Data Source: CT DPH. BRFSS, 2011-2013 data; \*Time period prior to health insurance expansion; †Numbers may not sum to total due to missing data; ‡Data are weighted to make the responses representative of the state’s population; §Percentages are age-adjusted to eliminate differences in crude rates in populations of interest that result from differences in the populations’ age distributions. The percentages were age-adjusted using the 2000 Projected U.S. Population. ¶Asian, Pacific Islander, American Indian or Alaskan Native, other race, and multiracial adults are not reported in separate categories due to the small number of respondents.



## Prevention and Control of Type 2 Diabetes

- The Centers for Disease Control and Prevention (CDC) recommends addressing type 2 diabetes and its related risk factors through policies, systems, and environmental changes with the potential for broad reach and impact on the general population and high-risk populations. For example:
  - Promoting healthy eating and active living in schools, early childhood education centers, worksites, state and local government agencies, and community settings;
  - Expanding access to healthy choices for people of all ages related to diabetes, cardiovascular health, physical activity, healthy foods and beverages, obesity, and breastfeeding;
  - Improving the delivery and use of quality clinical and other health services aimed at preventing and managing high blood pressure and diabetes; and
  - Increasing links between community and clinical organizations to support prevention, self-management and control of diabetes, high blood pressure, and obesity.
- The Connecticut Department of Public Health's Diabetes Prevention and Control Program works with partners to increase the awareness of, availability of, and access to effective and evidence-based lifestyle interventions.
- These lifestyle interventions include:
  - American Diabetes Association (ADA)-recognized, American Association of Diabetes Educators (AADE)-accredited, and Stanford licensed diabetes self-management programs
    - The Diabetes Prevention and Control Program partners with local health departments, community-based organizations, and community health centers to increase the number of diabetes self-management programs in the state and the number of participants in these programs.
  - Diabetes Prevention Programs
    - The Diabetes Prevention and Control Program partners with the local YMCAs and community health centers to increase provider referrals to and participation in Diabetes Prevention Programs.
- For information on the Department of Public Health's efforts to prevent and control diabetes visit:
  - [www.ct.gov/dph/diabetes](http://www.ct.gov/dph/diabetes)
  - [www.ct.gov/dph/chronicdisease](http://www.ct.gov/dph/chronicdisease)