



HEALTH EQUITY REPORT

Diabetes

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Health Equity Report-Diabetes

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I. Introduction

We are pleased to release our first quarterly health equity report. For this quarter, diabetes was chosen as the topic as it presents a critical public health concern across the nation and right here in the Capital Region. Diabetes is a major health issue for Capital Region residents of all ages, income groups, races, and geographic areas. An estimated 70,000 Capital Region residents are living with physician-diagnosed diabetes, and an additional 30,000 residents are living with physician-diagnosed prediabetes.⁵ This means approximately 1 in 10 Capital Region residents has physician-diagnosed diabetes, compromising their quality of life and potentially leading to high costs of medical care. Consequences of diabetes include heart disease, stroke, chronic kidney problems, blindness, and amputation.⁴ However, the burden of this disease is not equal for all people.

According to the 2015 Kelly Report, minority populations not only have a higher prevalence of diabetes, but also have higher rates of hospitalizations, emergency department visits, and death. These individuals are also more susceptible to diabetes-related complications and comorbidities.¹ The Capital Region is no exception to these disparities. Black non-Hispanics' diabetes mortality rates are over 2.5 times higher than White non-Hispanics, and over 7.5 times higher in Greene County. Similarly, Capital Region residents with the lowest socio-economic status (SES) had mortality rates due to diabetes over 2.5 times higher than the highest socio-economic status residents.

This trend continued for hospitalizations. Regionally, Black non-Hispanic residents had 3.6 times higher hospitalization rates than White non-Hispanic residents, with Albany County topping out at 4.2 times higher. Diabetes hospitalizations are consistently highest in low SES groups and lowest in high SES groups. However, racial disparities cannot be predominantly attributed to SES. In every SES group, Black non-Hispanic residents had diabetes hospitalization rates 2-3 times higher than White non-Hispanics. Even the highest SES Black non-Hispanics did not have lower diabetes hospitalizations than White non-Hispanics. Low SES urban neighborhoods with a high concentration of minorities had the highest diabetes-related hospitalizations – see page 23. While the regional diabetes hospitalization rate was 13.1 per 10,000, some neighborhoods had a rate about 4 times higher, such as Hamilton Hill in Schenectady County and the West End of Albany County.

The largest disparities in diabetes rates was for emergency department utilization. Low SES residents across the region had diabetes-related emergency department rates nearly 8 times higher than high SES residents. Black non-Hispanic Capital Region residents had emergency department visit rates 5.3 times higher than White non-Hispanics. Similar to hospitalizations, several urban neighborhoods had much higher diabetes emergency department visits – see the map on page 33. These differences were especially striking in the Hamilton Hill neighborhood of Schenectady County where the rate was 7 times that of the Capital Region. Interestingly, residents in Schenectady County had a lower prevalence of physician diagnosed diabetes and pre-diabetes than Upstate New York, as well as a lower rate of hospitalizations, yet their rate of emergency department visits was 60% higher.

It is clear from this report that Black non-Hispanics, those with lower SES and those living in urban neighborhoods are most at-risk for diabetes related complications and mortality. Hispanic residents in the Capital Region had diabetes hospitalization rates similar to White non-Hispanic residents,

mortality due to diabetes 1.5 times higher and emergency department rates about twice as high. These differences highlight the need to improve access to high quality preventative and primary care, especially for the most vulnerable populations in the region.

II. Background

Diabetes is a serious public health concern. Nearly 29 million people in the United States are estimated to have diagnosed or undiagnosed diabetes, over 9.3% of the population. In addition, it is estimated that an additional 86 million people are at risk of diabetes, commonly referred to as pre-diabetes. Only 11% of those with prediabetes are aware that they have prediabetes. From 1980 through 2012, US adults diagnosed with diabetes nearly quadrupled from 5.5 million to 21.3 million. Among adults in the US, about 1.7 million new cases of diabetes are diagnosed each year. In US youth under 20 years of age, nearly 167,000 had Type 1 diabetes while over 20,000 had Type 2 diabetes (2009).⁴

Diabetes is a group of diseases marked by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. There are two major type of diabetes: Type 1 and Type 2. Type 2 diabetes, or non-insulin dependent diabetes mellitus (NIDDM), accounts for about 90% to 95% of all diagnosed cases of diabetes. This type of diabetes has become more prevalent in the United States, particularly among minorities. According to recent studies, Type 2 diabetes, formerly called “adult” diabetes, is being seen with alarming frequency among children.⁴

National

The “2015 Kelly Report: Health Disparities in America” presented age-adjusted death rates by select cause and race for 1985 and 2013. Black US residents had two times the adjusted diabetes mortality rates compared to their White counterparts in both 1985 and 2013. Nationally, the White population had a 22% increase in age-adjusted diabetes mortality from 1985 to 2013 (21.4 to 26.1 per 100,000), while the Black population had a 16.4% increase (44.4 to 51.7 per 100,000).¹ When reviewing diagnosed diabetes in US adults 20+ years of age, racial and ethnic minority groups had higher diabetes prevalence compared to non-Hispanic whites; non-Hispanic Black-13.2%; Hispanic-12.8%; non-Hispanic White 7.6% (2010-2012).⁴

The total cost of diabetes and prediabetes in the United States (2012) was \$245 billion - \$176 billion in direct medical costs (medical goods and services); \$69 billion in indirect medical cost from lost workdays, restricted activity, and disability. Approximately 20% of dollars spent on health care are spent caring for people with diabetes. Medical costs for people with diabetes are 2.3 times higher than those without.^{2,4}

Obesity is a risk factor linked to Type 2 diabetes. Unhealthy diet, lack of physical activity, and socioeconomic factors contribute to both obesity and Type 2 diabetes. Obesity in people with Type 2 diabetes is also associated with poor control of blood sugar, blood pressure, and cholesterol levels.¹ Approximately 78.6 million US adults, or 34.9% of the adult population, were obese in 2011-2012. The adult US Black non-Hispanic population had an age-adjusted obesity rate of 47.8% followed by the Hispanic population with an obesity rate of 42.5%. The comparable White non-Hispanic obesity rate was 32.6% (2011-12). Adult US women and a higher obesity rate (40%) compared to their male counterparts (35%) in 2013-2014.³

New York State

An estimated 1.46 million New York adults (18+ years) had physician diagnosed diabetes (2013-14). Male New Yorkers had higher diabetes prevalence rates compared to their female counterparts (13.5% vs 9.4%). The Black non-Hispanic (11.6%) and Hispanic (11.6%) populations had higher prevalence rates compared to White non-Hispanic New Yorkers (8.6%).⁵ New York adult diabetes prevalence varied by income. About 16.4% of adults with incomes < \$15,000 per year had diabetes compared to 6.4% of the population with incomes of \$50,000+ per year (2014 BRFSS). Approximately 784,000 adult New Yorkers had physician diagnosed pre-diabetes, or 5.8% of the population. Male New Yorkers had slightly higher pre-diabetes rates compared to their female counterparts (5.9% vs 5.6%). As opposed to diabetes prevalence, adult White non-Hispanic New Yorkers had higher pre-diabetes prevalence (6.0%) compared to Black non-Hispanic (5.2%) and Hispanic (3.6%) New Yorkers. The Expanded BRFSS asked if respondents had a test for diabetes or high blood sugar in the past 3 years and about 57.8% of adult New Yorkers indicated that they had such a test. Females had slightly higher test rate compared to male New Yorkers (60.9% vs 56.3%). The Black non-Hispanic population had higher test rates (65.1%) compared to the White non-Hispanic (61.0%), and Hispanic (53.5%) populations.⁵

Black non-Hispanic New Yorkers show higher rates for diabetes-related indicators when compared to White non-Hispanic residents. Approximately 24,000 New Yorkers die due to diabetes each year. The age-adjusted diabetes mortality rate in New York was 17.6 per 100,000 (2011-2013). However, the Black non-Hispanic rate of 35.5 per 100,000 was higher than the mortality rate in the Hispanic (20.5) and White non-Hispanic (14.3) populations. When reviewing diabetes hospitalizations (primary diagnosis), the New York age adjusted rate was 17.9 per 10,000 or over 36,500 hospitalizations. Again, the Black non-Hispanic population had a rate of 39.4 per 10,000, higher than the Hispanic (22.2) and White non-Hispanic (10.8) populations. When reviewing short term complications due to diabetes, there were almost 10,000 hospitalizations in New York, for an age adjusted rate of 6.3 per 10,000. As with the other indicators, Black non-Hispanic New Yorkers had a higher rate (14.4) compared to the White non-Hispanic (4.0) and Hispanic (0.9) populations.⁶

Cost information is available from the Statewide Planning and Research Cooperative System (SPARCS) and represents billing data that were submitted by New York State hospitals. In 2014, about \$1.4 billion was spent for diabetes (primary diagnosis) hospitalizations in New York. In addition, about \$102 million was spent in diabetes (primary diagnosis) ED visits in 2014.^{7, 10}

There were over 3.5 million adult New Yorkers who were obese or approximately 24.9% of the population (2013-14). There was little difference in obesity by gender. Males had a slightly higher obesity rate of 25.3% compared to females with a rate of 24.5%. Race/Ethnicity showed greater differences in obesity. About 30.7% of the Black non-Hispanic population was obese compared to 28.0% in the Hispanic, and 25.0% in the White non-Hispanic populations.⁵ As with diabetes prevalence, obesity varied with income. About 35.1% of adults with incomes < \$15,000 per year were obese compared to 22.8% of the population with incomes of \$50,000+ per year (2014 BRFSS).

III. Data and Methods

The purpose of this report is to review diabetes indicators by health equity in the Capital Region. The report takes a broad definition of equity that includes: race/ethnicity; gender; age; and socioeconomic status. It is hoped that the report will be useful in determining high risk populations for targeting and or evaluating diabetes-related interventions.

The communities being assessed in this report include the counties of Albany, Columbia, Greene, Rensselaer, Saratoga, and Schenectady. Comparisons were made to the Capital Region as a whole and New York State, excluding NYC (Upstate). Maps were presented by county-specific neighborhood groupings (Zip code aggregates).

Diabetes and pre-diabetes prevalence were assessed utilizing the recent Expanded Behavioral Risk Factor Surveillance System (EBRFSS). This 2013-14 survey collected county-specific information representative of adults 18 years of age and older. Sociodemographic information was also collected, but, due to small numbers, county breaks were not available. The EBRFSS-based graphs included in the report present prevalence rates and respective confidence intervals. In such cases, Capital Region data were utilized and compared to Upstate. Hospitalization and ED visit data were generated from the State Planning and Research Cooperative System (SPARCS). Diabetes mortality data were generated from NYS Vital Statistics. The Finger Lakes Health Systems Agency's SPARCS and Vital Statistics Data Portals were used to generate mortality, hospitalization, ED visit, and cost data. Diabetes Prevention Quality Indicator (PQI) data were also generated via SPARCS using the SPARCS data portal. The Diabetes PQI composite indicator, and Diabetes short-term complication PQI indicator were generated for the adult population 18 years of age and older.

Where available, the diabetes-related indicators were generated by the following groupings:
Area - Albany, Columbia, Greene, Rensselaer, Saratoga, Schenectady, Capital Region, Upstate
Gender - Male, Female;

Age - 0-14 yrs., 15-24 yrs., 25-44 yrs., 45-64 yrs., 65-74 yrs., 75+ yrs.;

Race/Ethnicity - White non-Hispanic, Black non-Hispanic, Hispanic;

Socioeconomic status - SES 1 (low), SES 2, SES 3, SES 4, SES 5 (high).

When reviewing Race/Ethnicity, the graphs present rates by "other non-Hispanic" (EBRFSS) or "Other" (Vital Statistics and SPARCS) categories. Because these categories include a mix of racial groups (e.g. Asian, Native American, Multi-race) and were generally low in number, these categories were not discussed in the narrative.

The Finger Lakes Health Systems Agency's (FLHSA) SPARCS Data Portal included a SES query with analyses available at the Zip code level or by Zip Code aggregate, including county. Socio-economic status (SES) was based on average income, level of education, value of housing stock, age of housing stock, population crowding, percent of persons paying more than 35% of their income on housing, and percent of children living in single parent households. The FLHSA SPARCS Data Portal only had SES scores available for zip codes north and west of Westchester County. Each Zip code was assigned a value of SES 1 through SES 5, with SES 1 being the lowest and SES 5 being the highest. SES 1 and SES 5 each contain 15% of the population, SES 2 and SES 4 each contain 20% of the

population, and SES 3 contains 30% of the population. Since the SES categories are Zip-code based, data generated by SES might vary from data generated by county.

Cost information was generated from the SPARCS database. The cost information from SPARCS represents billing data that were submitted by hospitals in New York State. Total diabetes hospitalization costs included the accommodation charge and the ancillary charge for all patients hospitalized within a given year. The accommodation charge is defined as the accommodation rate charged per day for a specific type of accommodation multiplied by the length of stay in days. The rate charged per day depends on the type of room (e.g. private, semi-private, or within a ward), type of care (e.g. general, medical, rehabilitation, etc.) and level of care. The ancillary charge is the sum of all ancillary costs, such as nursing, pharmacy, laboratory, etc. The ED visit costs include only ancillary charges.

The maps were generated using data from the most recent available years, 2012-2014, Statewide Planning and Cooperative System. Rates were generated for: hospitalizations where diabetes was the primary diagnosis; emergency department rates where diabetes was the primary diagnosis; and composite diabetes Prevention Quality Indicator (PQI) hospitalization rates. PQI hospitalizations included uncontrolled diabetic episodes, short-term diabetes complication, long-term diabetes complications, and lower extremity amputation due to diabetes.

The maps presented Capital Region neighborhoods by risk quartile (Q4=highest 25% of Capital Region neighborhood rates; Q1= lowest 25% of neighborhood rates). For more details on the neighborhoods and zip-code boundaries, refer to pages 177-189 in the [2016 Community Health Needs Assessment](#).⁸

IV. Data Summary

Area

Prevalence

- The Capital Region's 2013-14 rate of **obesity** of 27.8% is higher than Upstate NY (24.6%) and the Prevention Agenda objective (23.2%), with Schenectady (32.8%) and Greene (31.4%) having the highest obesity rates;
- The Capital Region had a higher physician-diagnosed **diabetes prevalence** rate (8.7%) compared to Upstate NY (8.2%); Greene (10.2%) and Rensselaer (10.0%) had the highest rates in the Capital Region;
- Capital Region residents had lower rates for physician-diagnosed **pre-diabetes** (4.8%) compared to residents of Upstate NY (5.9%). Columbia had the highest pre-diabetes prevalence rate of 6.4%;
- Capital Region residents had similar rates of receiving a **diabetes test** or blood sugar test within the last 3 years (58.7%) compared to Upstate NY (59.1%). Greene (54.1%) and Albany (56.2%) counties had the lowest diabetes screening rates in the Capital Region.

Mortality/Hospitalizations/ED Visits

- The Capital Region had a slightly higher 2012-14 **diabetes mortality** rate (15.7/100,000) compared to Upstate NY (15.2), with Rensselaer (20.0) and Schenectady (18.4) had the highest rates ;
- The Capital Region's 2012-14 **diabetes hospitalization** rate of 10.6 per 10,000 was lower than Upstate NY (13.5), with Schenectady (13.1) having the highest rate in the Capital Region;
- The 2012-14 **diabetes ED visit** rate of 13.0 per 10,000 for the Capital Region was also lower than the comparable rate for Upstate NY (14.1), with Schenectady (22.6) and Albany (15.4) had the highest rates ;
- The **diabetes composite PQI** rate for Capital Region residents of 13.8 per 10,000 was approximately 40% lower than Upstate NY (16.9). Schenectady had the highest diabetes composite PQI rate in the Region at 18.2/10,000;
- The Capital Region's **diabetes short-term complication PQI** rate of 5.5/10,000 was lower than the Upstate rate of 5.8, yet higher than the Prevention Agenda objective of 4.9/10,000. Of the Region's counties, Schenectady (8.6), Albany (5.9), and Rensselaer (5.3) did not meet the Prevention Agenda objective.

Cost

- The average 2012-14 **diabetes hospitalization (primary diagnosis) costs** for the Capital Region was \$33.2 million per year;
- The Capital Region's **average cost per diabetes hospitalization** was \$30,150. Greene had the highest cost per hospitalization at \$34,536 followed by Albany at \$33,587. Rensselaer residents had the lowest cost per hospitalization at \$25,859;
- The **diabetes hospitalization cost per resident** was \$34.7. Greene had the highest cost per resident at \$44.3 followed by Albany at \$41.1. Saratoga had the lowest rate at \$26 per resident;
- The average 2012-14 **diabetes ED visit (primary diagnosis) costs** for the Capital Region was \$3.6 million per year;
- The Capital Region's average **cost per diabetes ED visit** was \$2,701. Saratoga (\$3,151) and Columbia (\$3,147) had the highest cost per ED visit. Schenectady residents had the lowest cost per ED visit at \$2,089;
- The diabetes **ED visit cost per resident** was \$3.7. Schenectady and Albany had the highest cost per resident at \$4.8. Greene (\$2.1) and Columbia (\$2.2) had the lowest rates per resident.

Gender

Prevalence

- Capital Region females (27.9%) and males (27.4%) and similar **obesity** rates;
- Compared to female residents, Capital Region males had higher a **diabetes prevalence rate** (10.7% vs 7.9%), similar **pre-diabetes** rates (5.0% vs 4.7%), and lower **diabetes screening** rates (57.7% vs 60.0%).

Mortality/Hospitalizations/ED Visits

- Compared to Capital Region females, male residents had an 48% higher **diabetes mortality** rate (19.1 vs 12.9/100,000), a 36% higher **diabetes hospitalization** rate (12.4 vs 9.1/10,000), a slightly higher **diabetes ED visit** rate (13.7 vs 12.4/10,000), and a 40% higher **diabetes composite PQI** rate (16.1 vs 11.4/10,000);
- Female Capital Region residents had equal or higher **diabetes hospitalization** rates than their male counterparts in the 0-14 year and 15-24 year age groups; males had higher rates across the older age groups.

Cost

- Capital Region males made up approximately 58% (\$19.3M) of the **diabetes hospitalization costs**;
- Male Capital Region residents had higher average **cost per diabetes hospitalizations** (\$31,721 vs \$28,217), and higher **diabetes hospitalization costs per resident** compared to female residents (\$41.0 vs \$28.6);
- Capital Region males made up approximately 51% (\$1.8M) of the **diabetes ED visit costs**;
- As opposed to diabetes hospitalizations, female Capital Region residents had higher average **cost per diabetes ED visit** compared to male residents (\$2,778 vs \$2,625), and similar **diabetes ED visit cost** per resident (\$3.7 vs \$3.8).

Age

Mortality/Hospitalizations/ED Visits

- **Diabetes mortality, diabetes hospitalization, diabetes ED visit and diabetes composite PQI** rates all increase with age;

Cost

- **Cost per diabetes hospitalization** increased with age in the Capital Region until the 75+ yr. age group. The cost per hospitalization in 0-14 yrs. was \$14,084, while the cost was \$40,652 in the 65-74 yr. age group. The 75+ age group had a cost of \$32,797 per hospitalization;
- **Diabetes hospitalization costs per resident** increased with age, from \$3.8 in the 0-14 yr. age group to \$76.1 in the 75+ yr. group;
- **Cost per diabetes ED visit** was highest in the younger ages, \$4,475 in the 0-14 yr. age group and \$3,123 in the 15-24 yr. age group;
- **Diabetes ED visit costs per resident** increased with age, from \$1.0 in the 0-14 yr. age group to \$7.4 in the 75+ yr. group.

Race/Ethnicity

Prevalence

- The Black non-Hispanic population had a higher rate of **obesity** (38.0%) compared to White non-Hispanic (27.7%) and Hispanic (28.0%) Capital Region residents;

- While White non-Hispanic Capital Region residents with **incomes < \$25,000** had higher **obesity** rates compared to the general population (36.5% vs 27.7%), the Black non-Hispanic and Hispanic populations showed little difference between low income residents and the general population;
- Black non-Hispanic Capital Region residents had over a 50% higher **diabetes prevalence** rate compared to White non-Hispanic residents (13.9% vs 8.8%), and over a 65% higher **pre-diabetes prevalence** rate (7.6% vs 4.6%);
- Capital Region Hispanics had a **diabetes prevalence** rate of 7.8%, lower than the White non-Hispanic population rate of 8.8%;
- Hispanic Capital Region residents had the lowest **diabetes screening** rate (53.0%) compared to White non-Hispanic (60.0%) and Black non-Hispanic residents (60.5%).

Mortality/Hospitalizations/ED Visits

- Black non-Hispanic Capital Region residents had over 2.5 times the **diabetes mortality** rate compared to White non-Hispanic residents (37.5 vs 14.4/100,000), 4 times the **diabetes hospitalization** rate (31.6 vs 8.9/10,000), over 5 times the rate of **diabetes ED visits** (50.8 vs 9.6/10,000), and 3.7 times higher age-adjusted diabetes composite PQI rate than White-non-Hispanic residents (42.6 vs 11.5/10,000).
- Hispanic residents had a 1.5 times higher **diabetes mortality** rate than White non-Hispanic residents (21.3 vs 14.4/100,000), slightly higher **diabetes hospitalization** rates (9.3 vs 8.9/10,000), twice the **diabetes ED visit** rate (18.6 vs 9.3/10,000), and a similar **diabetes PQI composite** rate (11.4 vs 11.5/10,000).

Cost

- White non-Hispanic residents made up 73% (\$24.3M) of the **diabetes hospitalization costs**, and 66% (\$2.4M) of the **diabetes ED visit costs**, while Black non-Hispanic residents contributed 19% (\$6.3M) and 24% (\$856,000), and Hispanic residents 2% (\$732,000) and 4% (\$155,000) of the diabetes hospitalization and ED visit costs respectively;
- Capital Region White non-Hispanic residents had a higher **cost per diabetes hospitalization** (\$30,436) than either Black non-Hispanic (\$27,927) or Hispanic (\$22,861) residents;
- Black non-Hispanic residents had a much higher per **diabetes hospitalization cost per resident** (\$79.6) than either White non-Hispanic (\$30.6) or Hispanic (\$16.1) residents;
- Capital Region White non-Hispanic residents had a higher **cost per diabetes ED visit** (\$2,814) than either Black non-Hispanic (\$2,489) or Hispanic (\$2,387) residents;
- Capital Region Black non-Hispanic residents had a much higher **diabetes ED visit cost per resident** (\$10.8) than either Hispanic (\$3.4) or White non-Hispanic (\$3.0) residents.

Socioeconomic

Prevalence

- The Capital Region's population with income of **< \$25,000** per year, had a higher **obesity** rate (37.6%) compared to the general population (27.8%);

- Females with incomes < **\$25,000** had an **obesity** rate higher than their male counterparts (42.0 % vs 30.7%);

Mortality/Hospitalizations/ED Visits

- For Capital Region residents, the lower the socioeconomic status, the higher the **diabetes mortality, hospitalization, ED visit and diabetes component PQI** rate.

Cost

- Capital Region residents in SES 3 (\$32,933) and SES 4 (\$31,628) had the highest **costs per diabetes hospitalization**. SES 2 (\$23,464) and SES 1 (\$27,888) had the lowest cost per diabetes hospitalization.
- The lower the socioeconomic status in the Capital Region, the higher the **diabetes hospitalization cost per resident**. SES 1 had a rate of \$70.8 per resident while SES 5 had a corresponding rate of \$24.7.
- Capital Region residents in SES 4 (\$2,850) and SES 3 (\$2,812) had the highest **costs per diabetes ED visit**. SES 2 (\$2,028) and SES 1 (\$2,426) had the lowest cost per diabetes ED visits;
- The lower the socioeconomic status in the Capital Region, the higher the **diabetes ED visit cost per resident**. SES 1 had a rate of \$11.6 per resident while SES 5 had a corresponding rate of \$2.3.

Diabetes Hospitalizations- Race/Ethnicity and SES

- The SES pattern was consistent within the White non-Hispanic and Black non-Hispanic Capital Region populations--the lower the socioeconomic status, the higher the age-adjusted diabetes hospitalization rate. This was not quite true for the Hispanic population where SES 5 had the 2nd highest hospitalization rate of the five SES categories;
- Black non-Hispanic residents had the highest diabetes hospitalization rates across all SES categories;
- The Black non-Hispanic diabetes hospitalization rate for the highest socioeconomic level (SES 5) of 17.0 per 10,000 was closer to the rate for the lowest socioeconomic level (SES 1) in the White non-Hispanic population (17.7) than the comparable SES 5 rate for White non-Hispanic resident (7.3).

V. Diabetes-Related Survey Data (EBRFSS)

The Report utilized data collected by the 2013-14 Expanded Behavioral Risk Factor Surveillance System (EBRFSS). The EBRFSS was a random digit-dialed telephone survey among adults 18+ years of age of the non-institutionalized civilian population with landline and cellular telephones living in New York State. The EBRFSS took place during the period of April 2013-March 2014, with the goal of completing at least 400 interviews per county. The Report looked at the following information:

physician diagnosed diabetes prevalence; physician diagnosed pre-diabetes prevalence; diabetes screening rate; and prevalence of obesity.

Highlights-Diabetes Survey Data

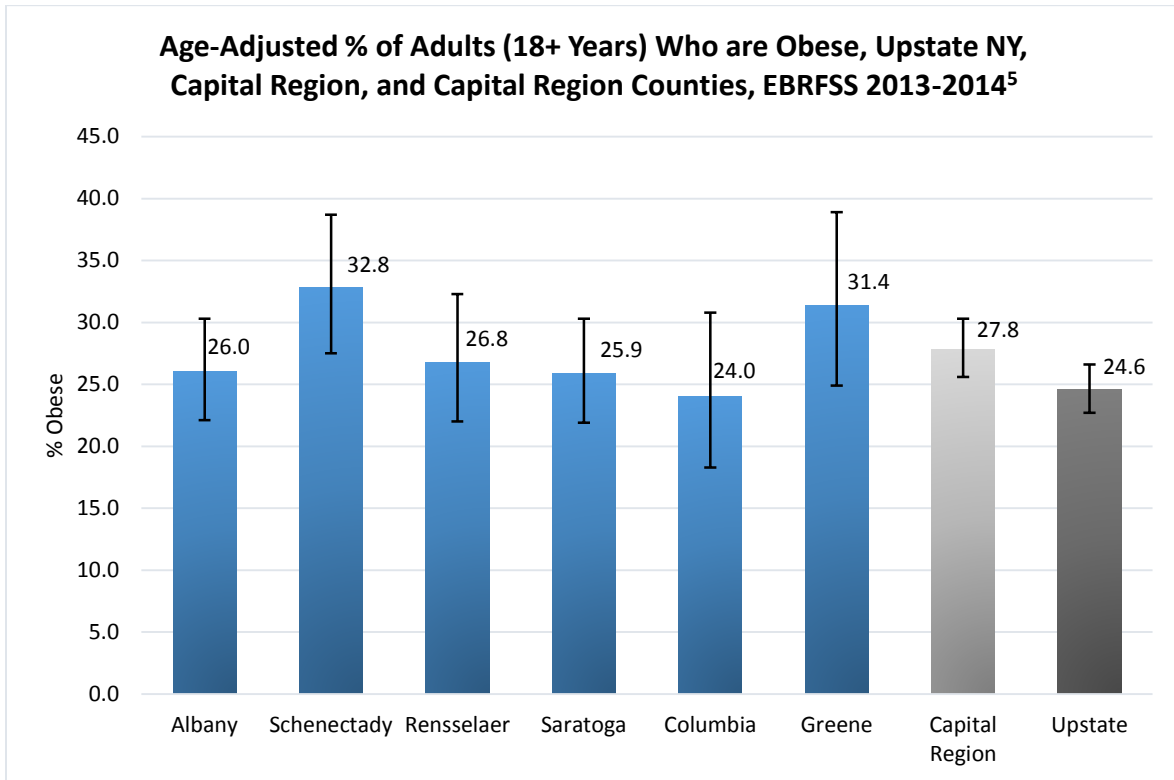
Obesity

- The Capital Region's age-adjusted rate of obesity of 27.8% is higher than Upstate (24.6%) and the Prevention Agenda objective (23.2%);
- All Capital Region counties were above the Prevention Agenda objective, with Schenectady (32.8%) and Greene (31.4%) having the highest obesity rates;
- Capital Region females (27.7%) and males (27.4%) had similar obesity rates; however, females with incomes < \$25,000 had an obesity rate higher than their male counterparts (42.0% vs 30.7%);
- The Capital Region's population with income of < \$25,000 per year, had a higher age-adjusted obesity rate (37.6%) compared to the general population (27.8%);
- The Black non-Hispanic population had a higher rate of obesity (38.0%) compared to White non-Hispanic (27.7%) and Hispanic (28.0%) Capital Region residents;
- While White non-Hispanic Capital Region residents with incomes < \$25,000 had higher obesity rates compared to the general population (36.5% vs 27.7%), the Black non-Hispanic and Hispanic populations showed little difference between low income residents and the general population.

Diabetes

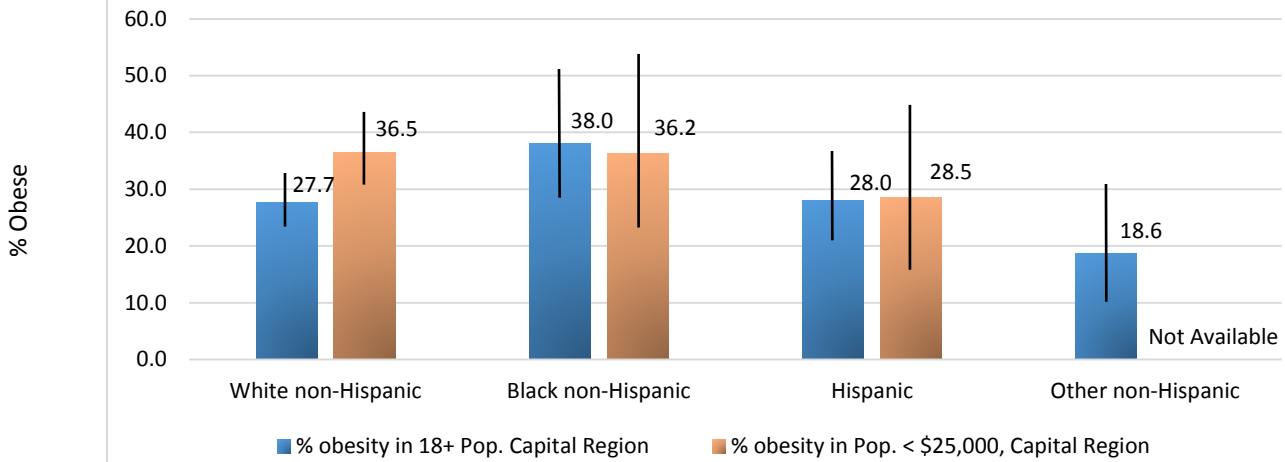
- An estimated 70,700 Capital Region adults had physician-diagnosed diabetes. The Region had a higher age-adjusted diabetes prevalence rate (8.7%) compared to Upstate (8.2%); Greene (10.2%) and Rensselaer (10.0%) had the highest rates in the Capital Region;
- Capital Region males had a higher diabetes prevalence rate (10.7%) compared to female residents (7.9%);
- Black non-Hispanic Capital Region residents had over a 50% higher diabetes prevalence rate compared to White non-Hispanic residents (13.9% vs 8.8%). Capital Region Hispanics had a diabetes prevalence rate of 7.8%, lower than the White non-Hispanic population;
- Roughly 33,000 adult Capital Region residents had pre-diabetes. The Region had lower rates for physician-diagnosed pre-diabetes (4.8%) compared to residents of Upstate NY (5.9%). Columbia had the highest pre-diabetes prevalence rate of 6.4%;
- Capital Region males (5.0%) and females (4.7%) had similar pre-diabetes prevalence rates;
- Black non-Hispanic Capital Region residents had over a 65% higher pre-diabetes prevalence rate compared to White non-Hispanic residents (7.6% vs 4.6%);
- Capital Region residents had similar age-adjusted rates of receiving a diabetes test or blood sugar test within the last 3 years (58.7%) compared to Upstate (59.1%). Greene (54.1%) and Albany (56.2%) counties had the lowest diabetes screening rates in the Capital Region;
- Male Capital Region residents had slightly lower diabetes screening rates compared to female residents (57.7% vs 60.0%);
- Hispanic Capital Region residents had the lowest diabetes screening rate (53.0%) compared to White non-Hispanic (60.0%) and Black non-Hispanic residents (60.5%).

For adults, obesity ranges are determined by using weight and height to calculate a number called the "body mass index" (BMI). An adult with a BMI between 25 and 29.9 is considered overweight, and an adult with a BMI of 30 or higher is considered obese.² Obesity is caused by a complex interaction of genetic, metabolic, behavioral, social, and environmental factors. Obesity is associated with adverse health, social and economic consequences. It is the primary cause of Type 2 diabetes; indeed, more than 80% of persons with Type 2 diabetes are overweight or obese.⁸



The Capital Region's adult obesity rate of 27.8% was higher than that for Upstate (24.6%). Schenectady (32.8%) and Greene (31.4%) had the highest obesity rates in the Capital Region. Obesity rates are higher for the low income adults. Capital Region residents with incomes < \$25,000 per year had an obesity rate of 37.6%, 35 percent higher than the general population. Schenectady (43.0%) and Saratoga (37.8%) had the highest low income obesity rates in the Capital Region.⁵

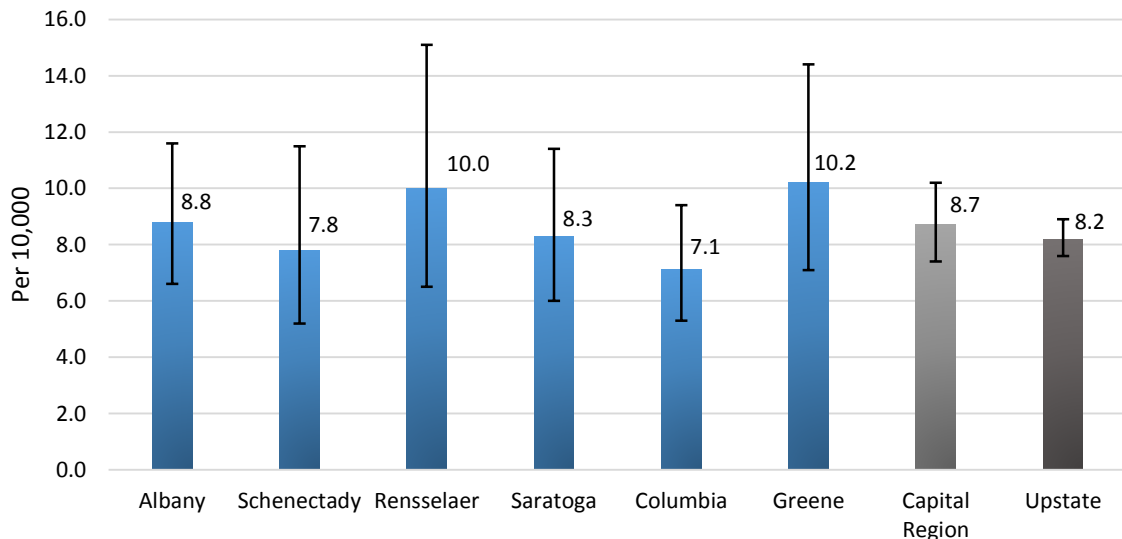
Age-adjusted % Obesity in Adults (18+ Years) in the General Population, and in the Population with Income < \$25,000 per Year, Capital Region, EBRFSS, 2013-2014⁵



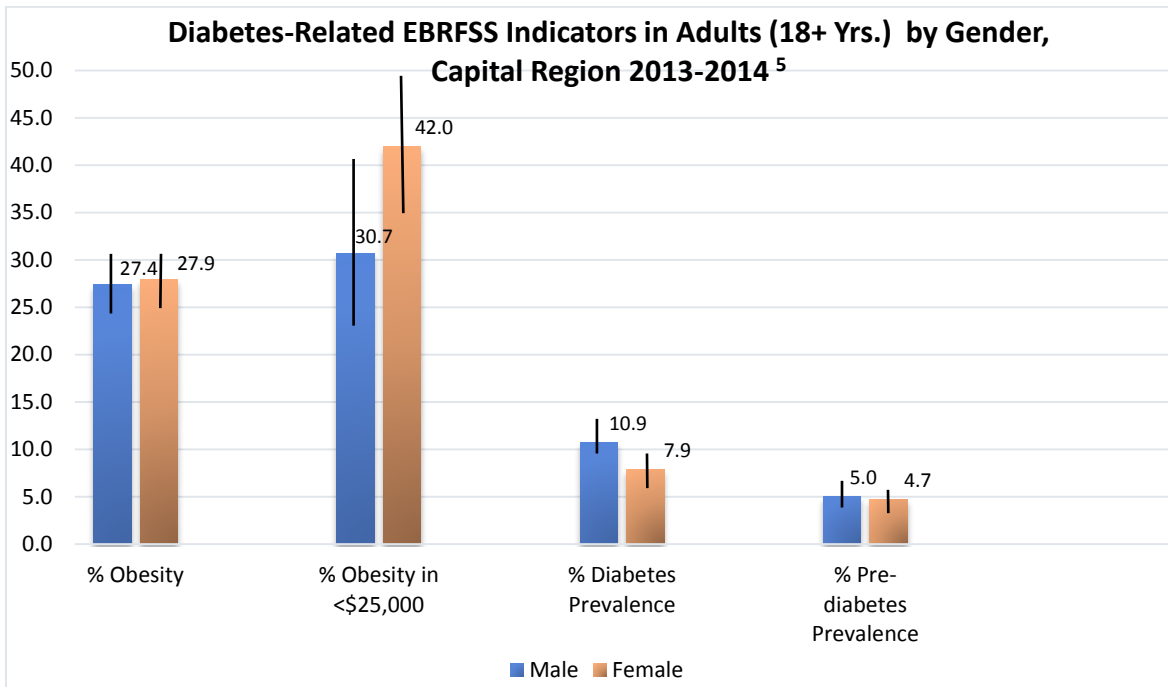
The Black non-Hispanic population had a higher rate of obesity (38.0%) compared to White non-Hispanic (27.7%) and Hispanic (28.0%) Capital Region residents. White non-Hispanic Capital Region residents with incomes < \$25,000 however, had highest obesity rates of the race/ethnicity categories, which were 30 percent higher compared to the general population (36.5% vs 27.7%). The Black non-Hispanic and Hispanic populations showed little difference between low income residents and the general population.

Capital Region females (27.9%) and males (27.4%) had similar obesity rates; however, females with incomes < \$25,000 had an obesity rate higher than their male counterparts (42.0% vs 30.7%).⁵

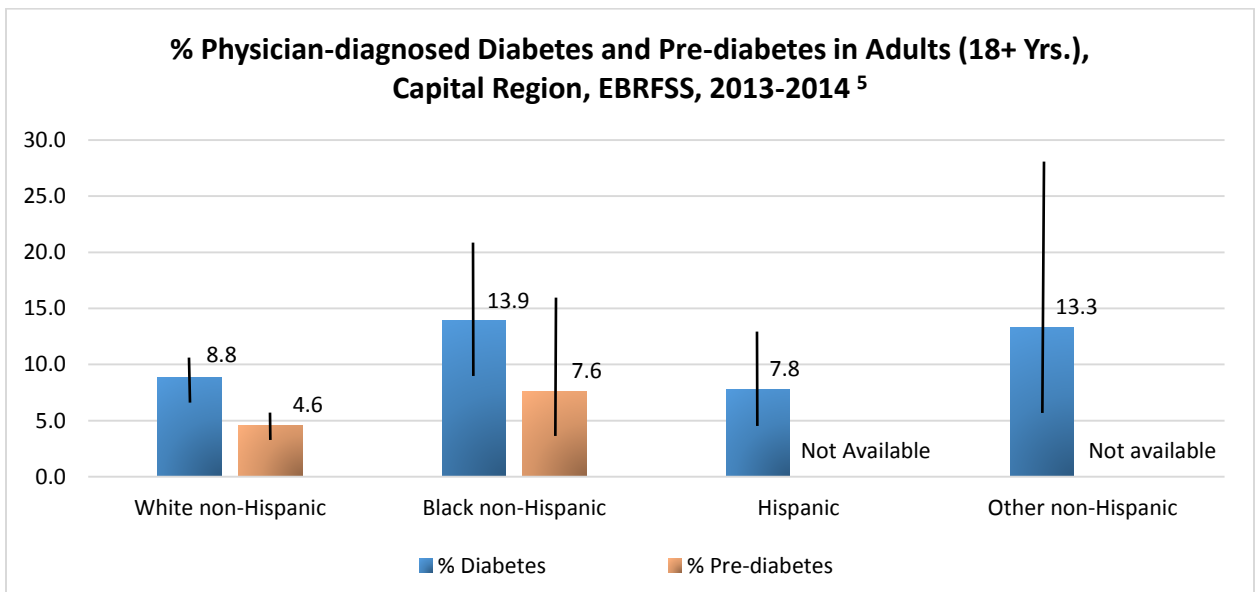
Age-Adjusted % of Adults (18+ Years) with Physician-diagnosed Diabetes, Upstate NY, Capital Region, and Capital Region Counties, EBRFSS 2013-2014⁵



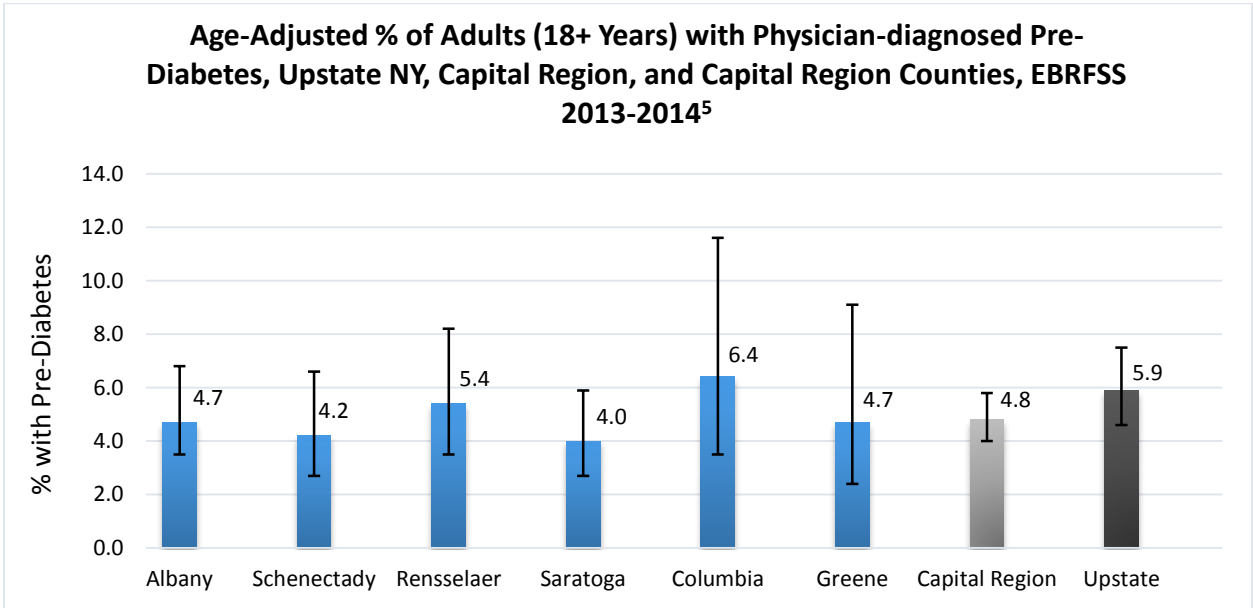
The prevalence of diabetes among adults in the Capital Region is higher than the Upstate New York rate. An estimated 70,700 adults in the Capital District have been diagnosed with diabetes. Adults in Greene County had the highest prevalence of adult diabetes in 2013-2014. Capital Region counties, with the exception of Schenectady and Columbia counties, had adult diabetes prevalence higher than Upstate New York. The Capital Region counties, except Schenectady and Saratoga counties, have shown an increase in adult diabetes prevalence from 2008-09 and 2013-14.⁸



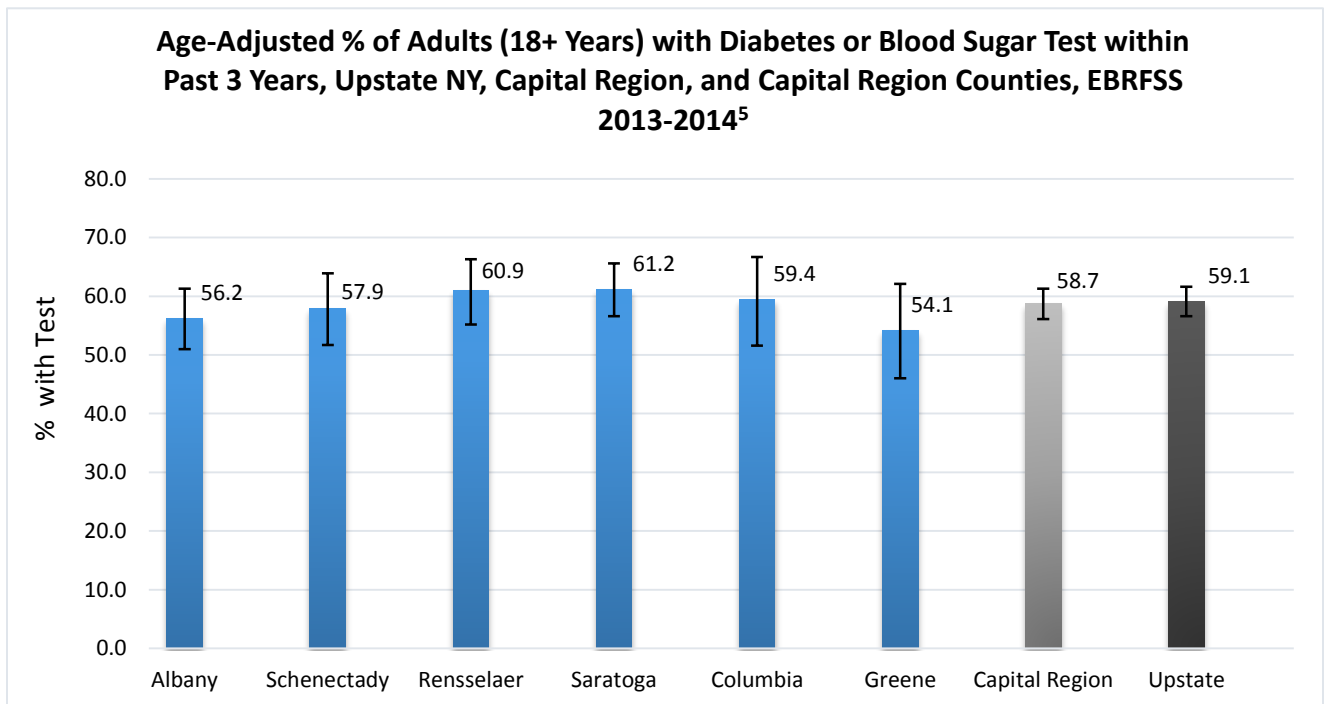
Capital Region adult males had a higher physician-diagnosed diabetes prevalence rate (10.9%) compared to female residents (7.9%).



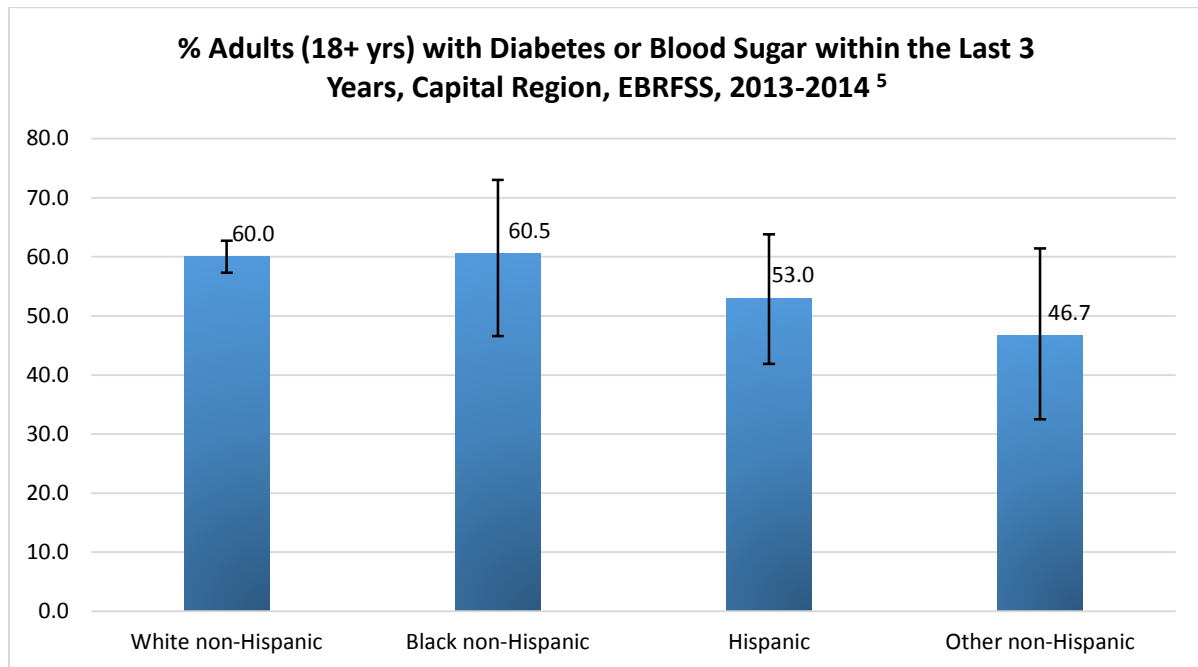
Black non-Hispanic Capital Region residents had over a 50% higher diabetes prevalence rate compared to White non-Hispanic residents (13.9% vs 8.8%). Capital Region Hispanics had a diabetes prevalence rate of 7.8%, lower than the White non-Hispanic population.



An estimated 33,000 Capital Region residents had physician-diagnosed pre-diabetes. The Region’s residents had lower rates for physician-diagnosed pre-diabetes (4.8%) compared to residents of Upstate (5.9%). Columbia had the highest pre-diabetes prevalence rate of 6.4%. Capital Region males (5.0%) and females (4.7%) had similar pre-diabetes prevalence rates. Black non-Hispanic Capital Region residents had over a 65% higher pre-diabetes prevalence rate compared to White non-Hispanic residents (7.6% vs 4.6%).



The EBRFSS asked respondents whether they had a test for diabetes or blood sugar within the last three years. Capital Region residents had similar age-adjusted rates of receiving a diabetes test or blood sugar test within the last 3 years (58.7%) compared to Upstate (59.1%). Greene (54.1%) and Albany (56.2%) counties had the lowest diabetes screening rates in the Capital Region. Male Capital Region residents had slightly lower diabetes screening rates compared to female residents (57.7% vs 60.0%)⁵.



Hispanic Capital Region residents had the lowest diabetes screening rate (53.0%) compared to White non-Hispanic (60.0%) and Black non-Hispanic residents (60.5%).

VI. Diabetes Mortality

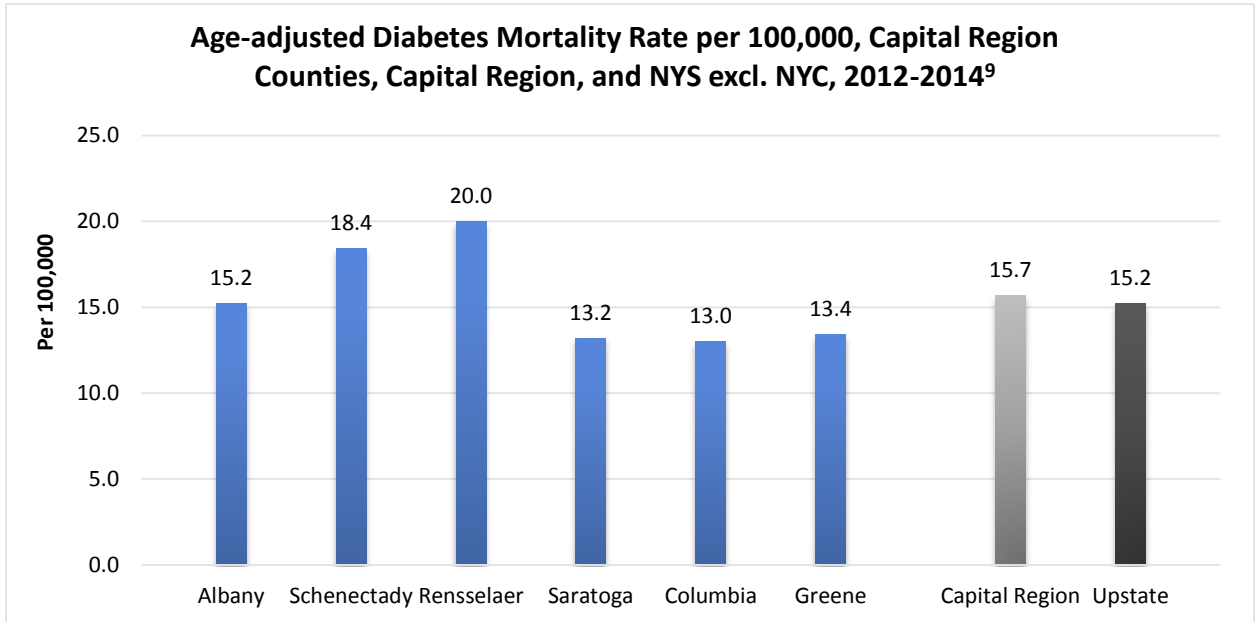
Highlights-Diabetes Mortality

- The Capital Region averages about 180 diabetes deaths per year and had a slightly higher age-adjusted diabetes mortality rate (15.7/100,000) compared to Upstate NY (15.2) in 2012-14;
- Rensselaer (20.0/100,000) and Schenectady (18.4) had the highest 2012-14 diabetes mortality rates in the Capital Region;
- The Capital Region experienced an approximately 20% decrease in age-adjusted diabetes mortality from 2006 to 2013 (18.6 to 14.7/100,000);
- Capital Region males had higher age adjusted diabetes mortality rates than female residents (19.1 vs 12.9/100,000);
- Diabetes mortality is very low in the younger age groups. Rates increase with age from 13.3 in the 45-64 yr. age group to 143.4 in the 75+ yr. age group;
- Black non-Hispanic Capital Region residents had over 2.5 times the diabetes mortality rate compared to white non-Hispanic residents (37.5 vs 14.4/100,000). Hispanic residents had a

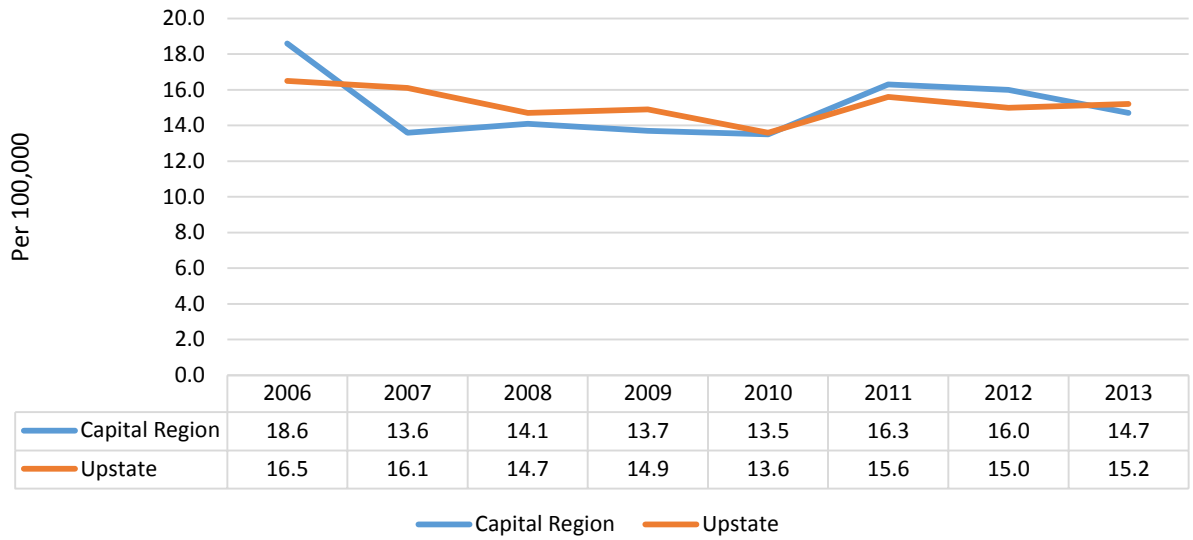
1.5 times higher diabetes mortality rate than White non-Hispanic residents (21.3 vs 14.4/100,000);

- For Capital Region residents, the lower the socioeconomic status, the higher the diabetes mortality rate (SES 1- 31.8/100,000; SES 5-11.9).

The Capital District averages 180 diabetes deaths per year, with a 2012-14 age-adjusted mortality rate slightly higher than Upstate NY. The diabetes mortality rates were highest in Rensselaer and Schenectady counties. ⁸



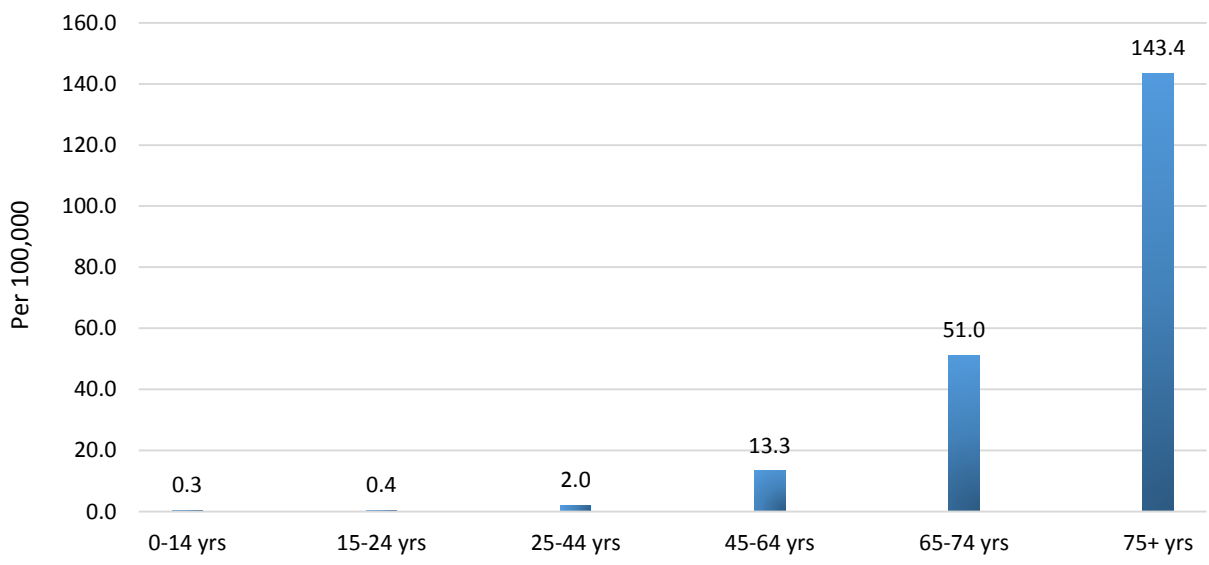
Age-adjusted Diabetes Mortality Rate per 100,000, Capital Region and NYS, excl. NYC, 2006-2013⁹



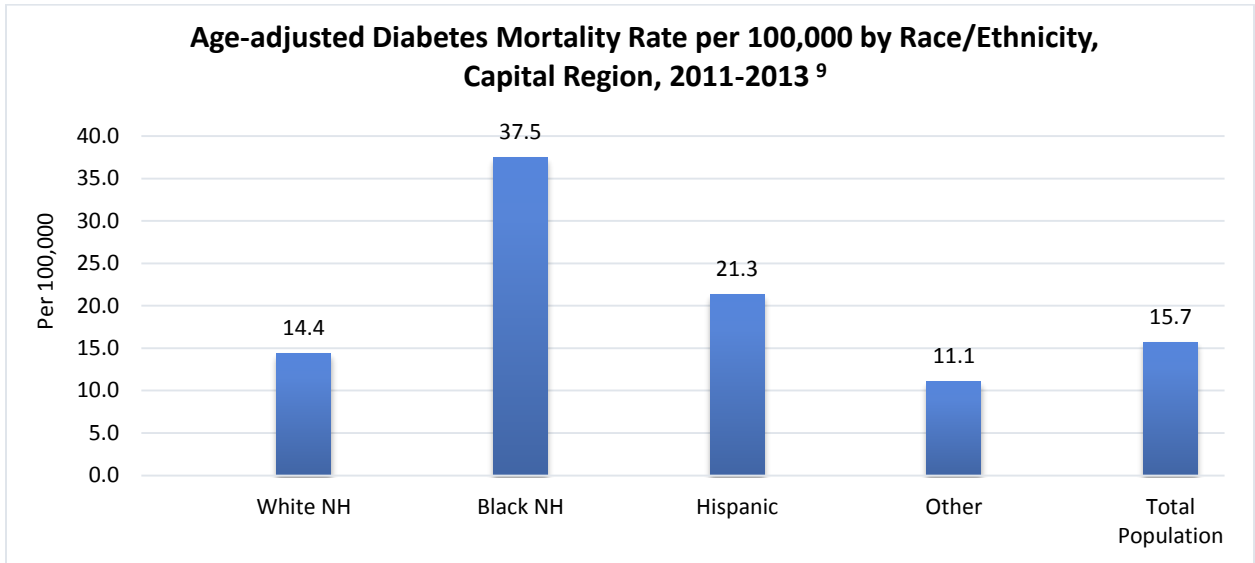
The Capital Region’s age adjusted diabetes mortality rate showed a decrease from 2006 to a low in 2010. The 2013 mortality rates dropped below that of Upstate NY. The Region showed an approximately 20% decrease in diabetes mortality from 2006 to 2013.

Capital Region males had approximately 50% higher age adjusted diabetes mortality rates than female residents (19.1 vs 12.9/100,000).⁹

Age Adjusted Diabetes Mortality Rate per 100,000 by Age, Capital Region, 2011-2013⁹



Diabetes mortality is very low in the younger age groups. Rates increase with age from 13.3/100,000 in the 45-64 yr. age group to 143.4 in the 75+ yr. age group.

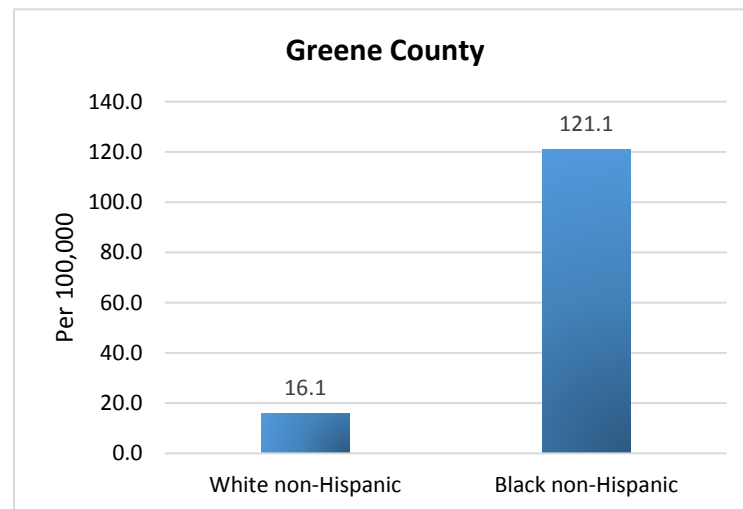
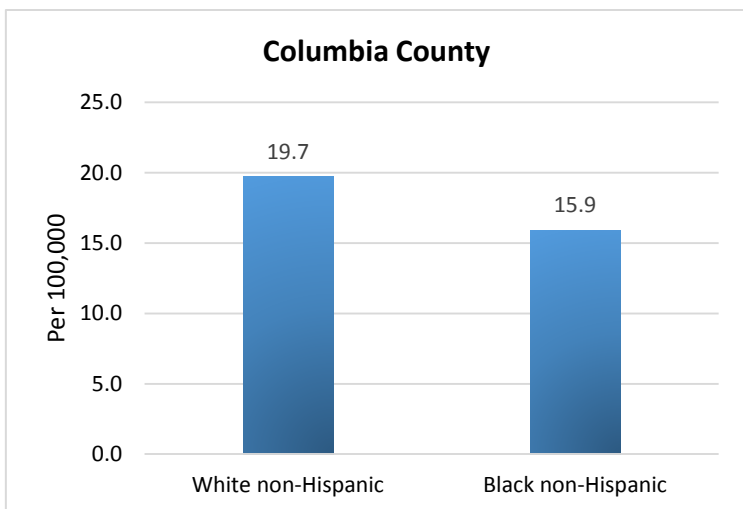
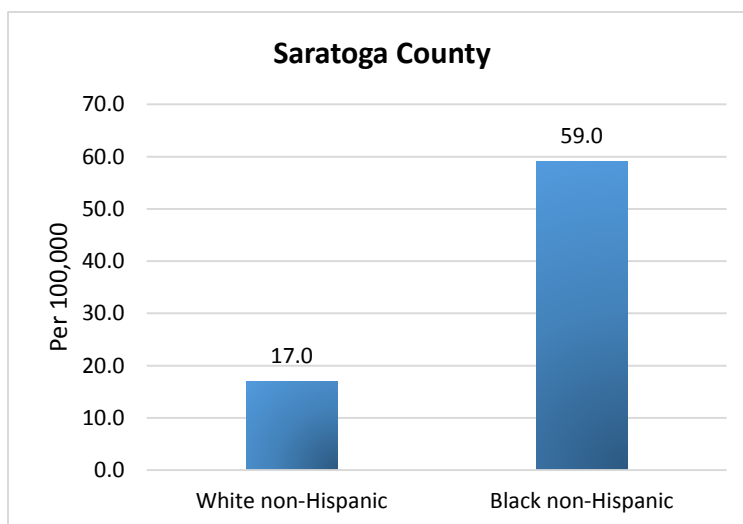
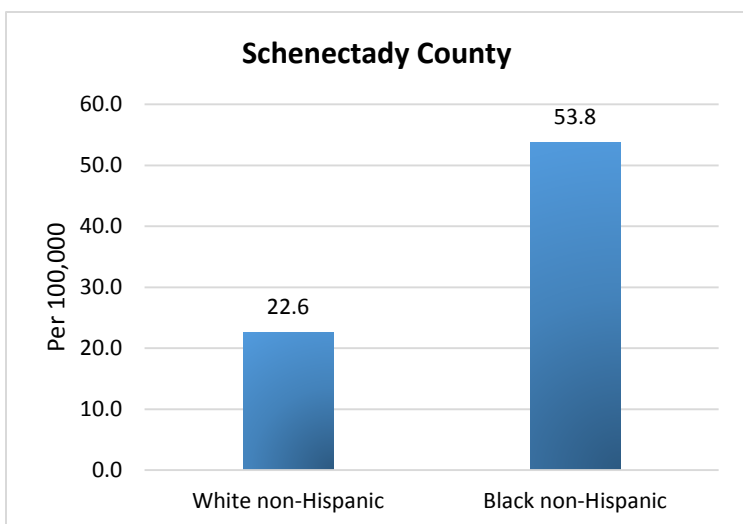
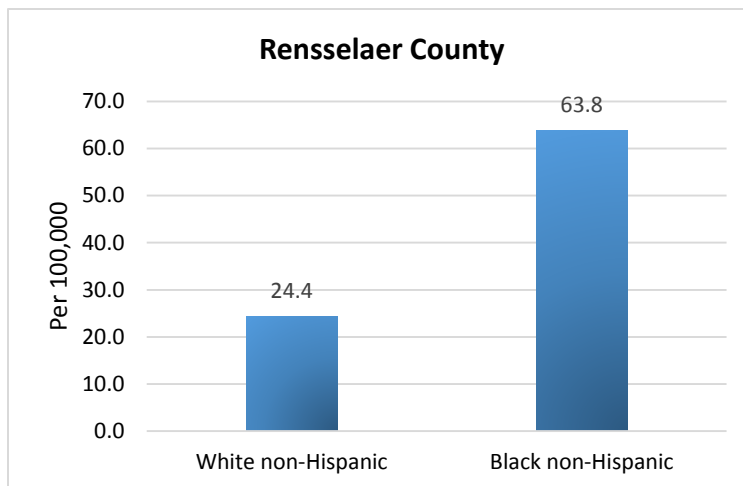
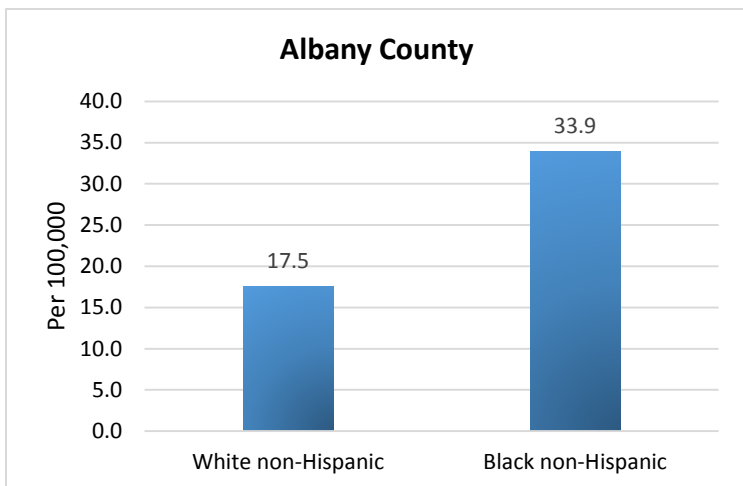


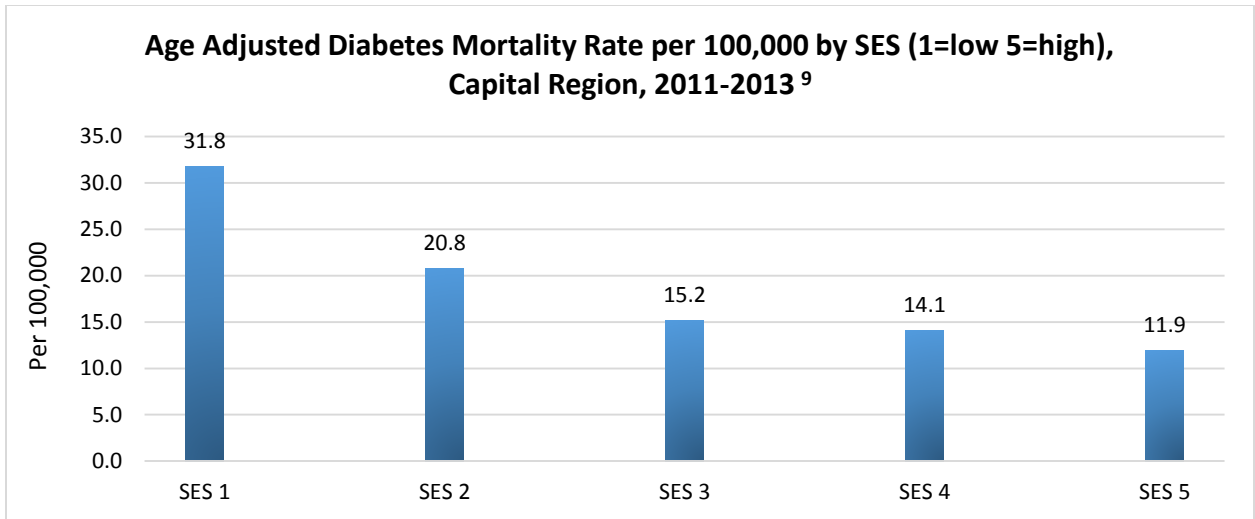
Black non-Hispanic Capital Region residents had over 2.5 times the diabetes mortality rate compared to white non-Hispanic residents (37.5 vs 14.4/100,000). Hispanic residents had a 1.5 times higher diabetes mortality rate than White non-Hispanic residents (21.3 vs 14.4/100,000).

In Columbia County, mortality due to diabetes was 1.2 times lower in Black non-Hispanic residents than in White non-Hispanic residents. However, in the rest of the Capital Region, mortality rates due to diabetes were 2 to over 7 times higher in Black non-Hispanic residents, with the disparity being the greatest in Greene County, where the mortality rate was 7.5 times higher. Mortality reporting was not available in Hispanic residents or residents in the 'Other' race/ethnicity categories due to small numbers of cases.

Age-Adjusted Diabetes Mortality Rate per 100,000 by Race/Ethnicity, Capital Region Counties,

2010-2014¹⁰





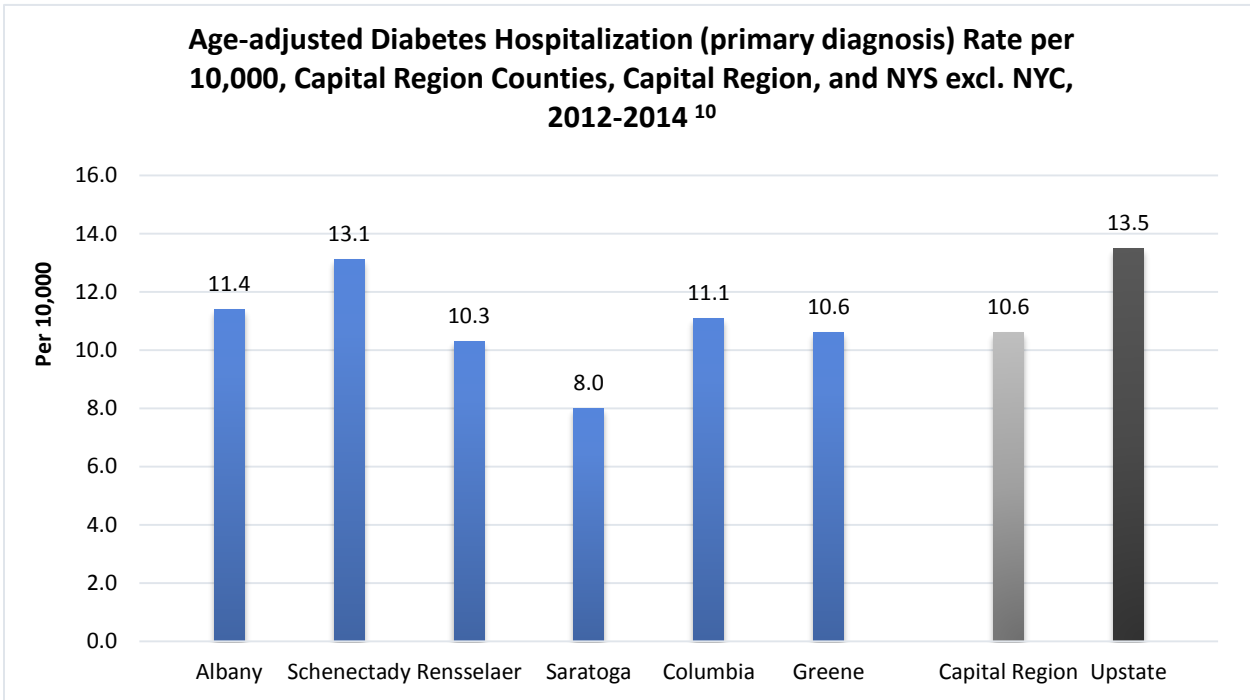
Age-adjusted diabetes mortality rate in the Capital Region is highly associated with socioeconomic status; the lower the SES the higher the mortality rate. SES 1 had over 2.5 times the diabetes mortality rate (31.8/100,000) compared to SES 5 (11.9).

VII. Diabetes Hospitalizations (Primary Diagnosis)

Highlights-Diabetes Hospitalizations

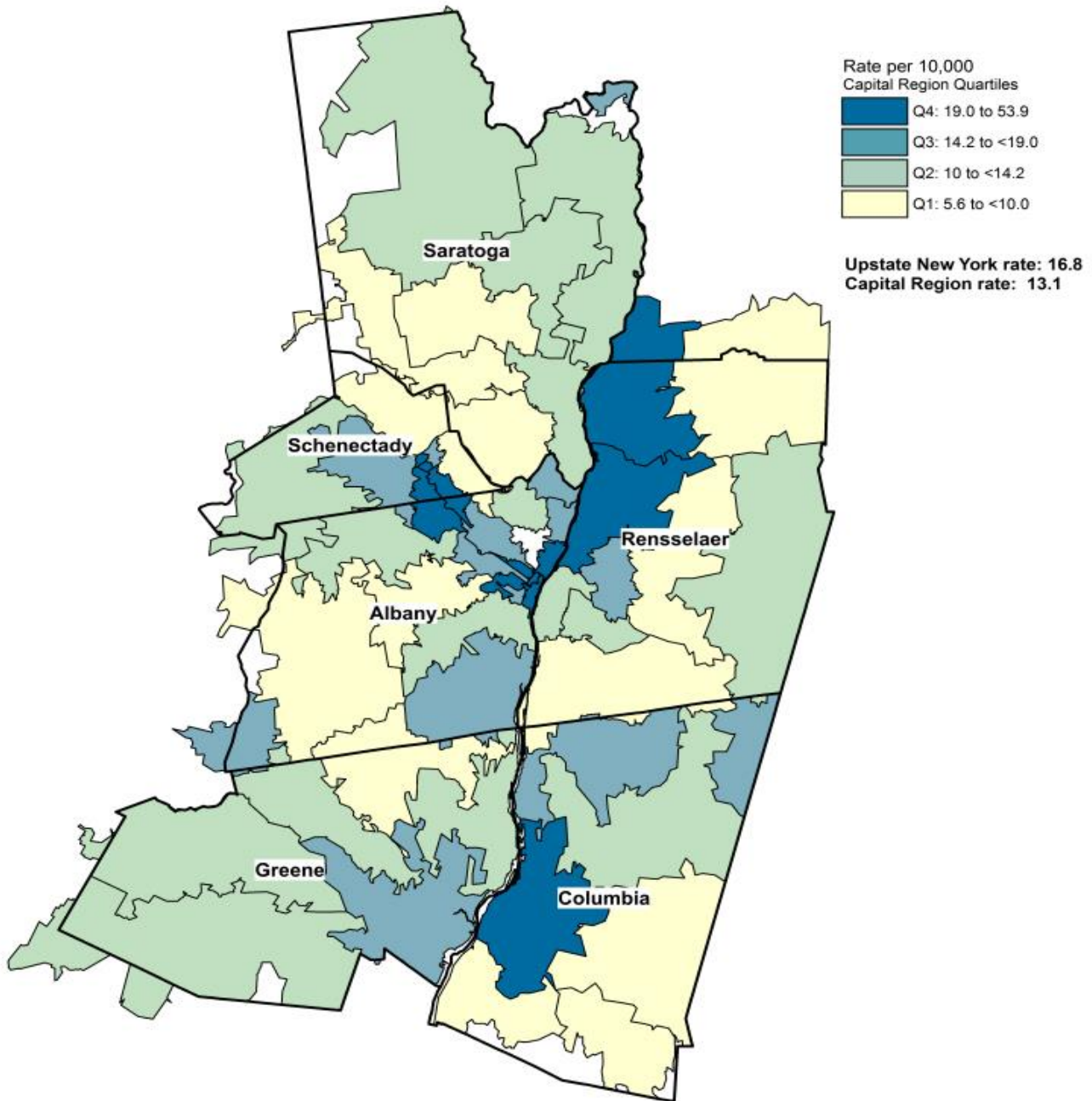
- The Capital Region averaged over 1,300 diabetes hospitalizations per year. The Region's age-adjusted diabetes hospitalization rate of 10.6 per 10,000 was lower than Upstate NY (13.5), with Schenectady (13.1) having the highest rate in the Capital Region;
- The Capital Region had consistently lower diabetes hospitalization rates than Upstate NY over the last decade;
- Capital Region males had 36% higher age-adjusted diabetes hospitalization rates compared to female residents (12.4 /10,000 vs 9.1);
- The diabetes hospitalization rate increased with age from 6.7/10,000 in the 15-25 yr. age group to 23.4 in the 75+ yr. age group;
- The Capital Region's Black non-Hispanic age-adjusted diabetes hospitalization rate of 31.6/10,000 was 4 times higher than White non-Hispanic residents (8.9). The Capital Region Hispanic rate of 9.3 was similar to that of the White non-Hispanic resident;
- For Capital Region residents, the lower the socioeconomic status, the higher the age-adjusted diabetes hospitalization rate (SES 1- 29.2/10,000; SES 5- 7.7);
- The Capital Region's age-adjusted diabetes hospitalization rate (any diagnosis) was 15 times higher than the rate for primary diagnosis (159.9/10,000 vs 10.6).

There were 1,317 hospitalizations to Capital Region residents in 2013 where diabetes was the primary diagnosis.⁸

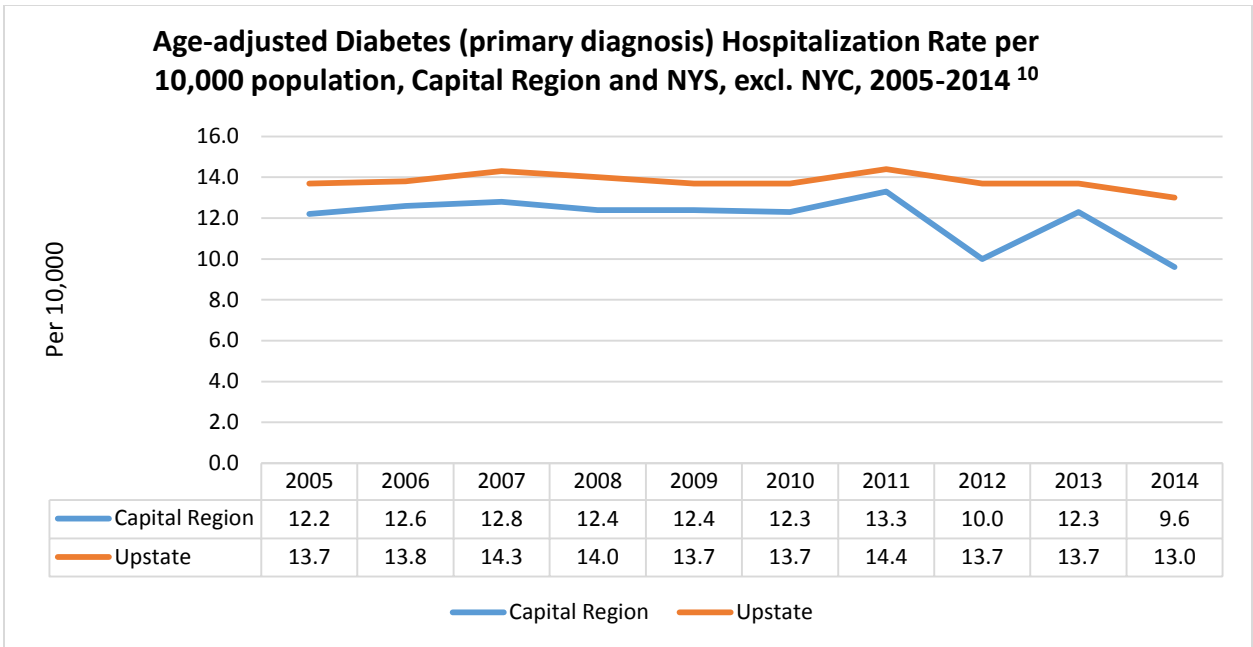


The Capital Region age-adjusted diabetes hospitalization rate (10.6/10,000) was lower than the Upstate rate (13.5). Schenectady, Albany, and Columbia counties had the highest hospitalization rates in the Capital Region.

**Capital Region Age-Adjusted Hospitalization Rates by
Neighborhood, Ages 18+, 2012-2014¹⁰**

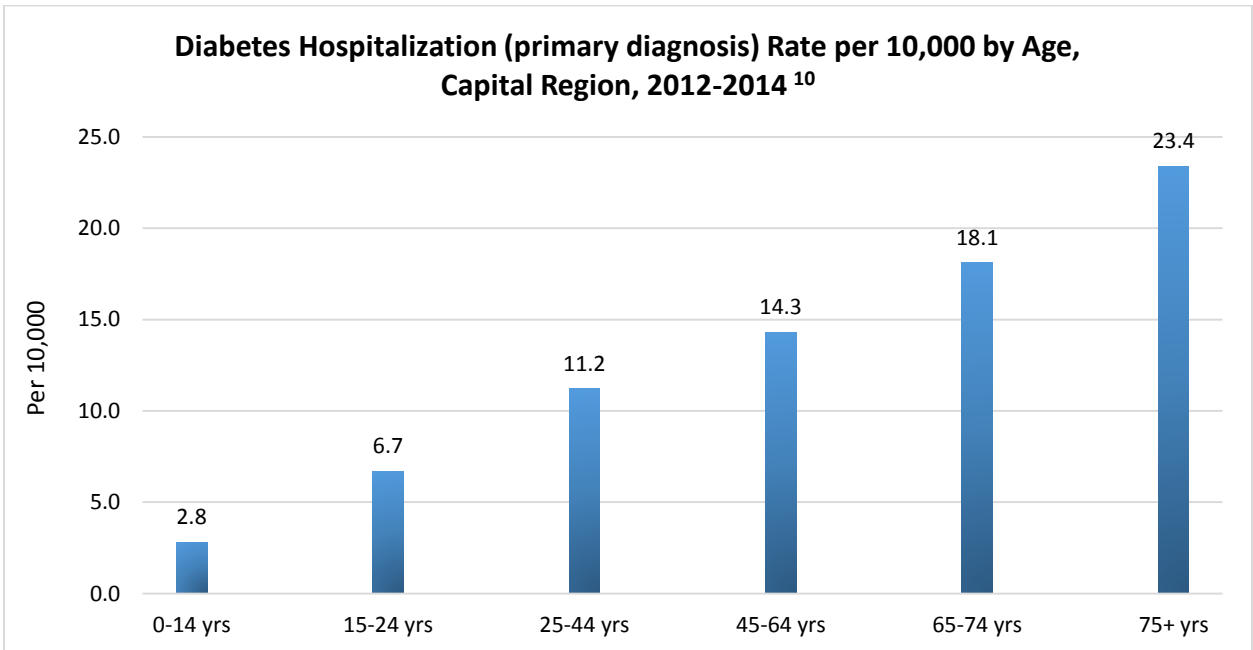


Diabetes hospitalizations were highest in the Capital Region urban neighborhoods, but also in rural areas of southeast Albany, northwest Rensselaer, and northern Saratoga and Columbia counties.

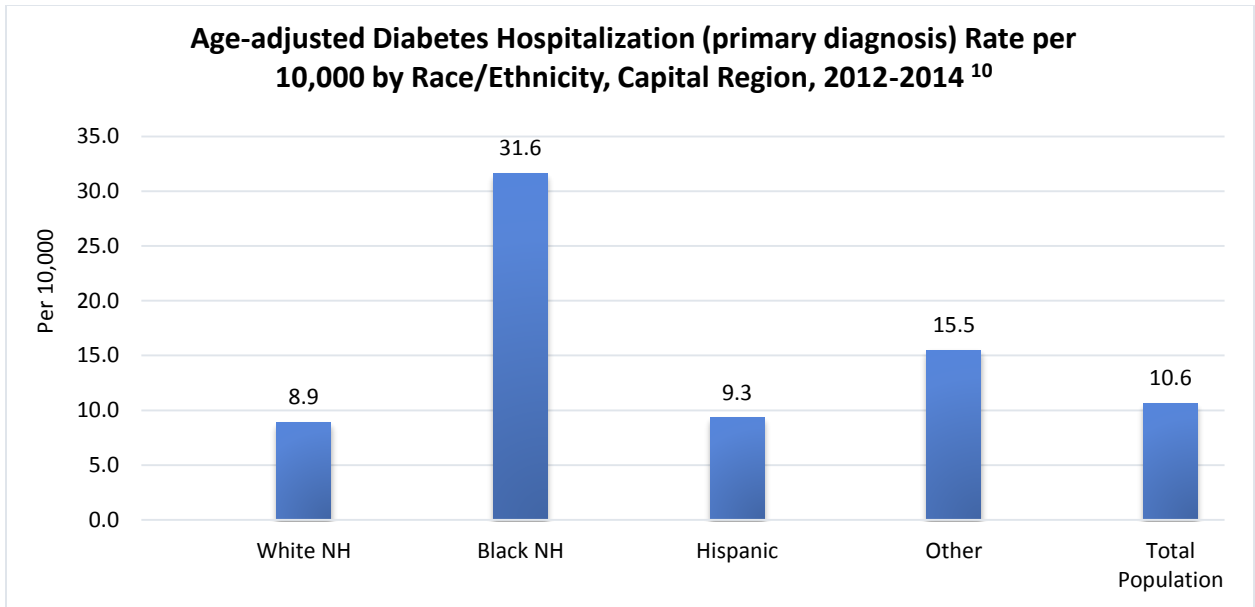


The Capital Region had consistently lower diabetes hospitalization rates compared to Upstate NY. The Regions rate decreased 28% between 2011 and 2014 (12.2 to 9.6/10,000).

Male residents had 36% higher age-adjusted diabetes hospitalization rates compared to female Capital Region residents (12.4 vs 9.1/10,000).¹⁰



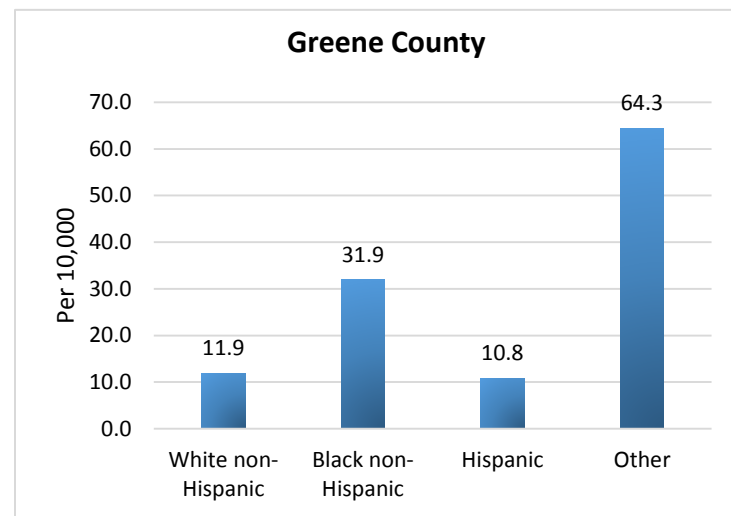
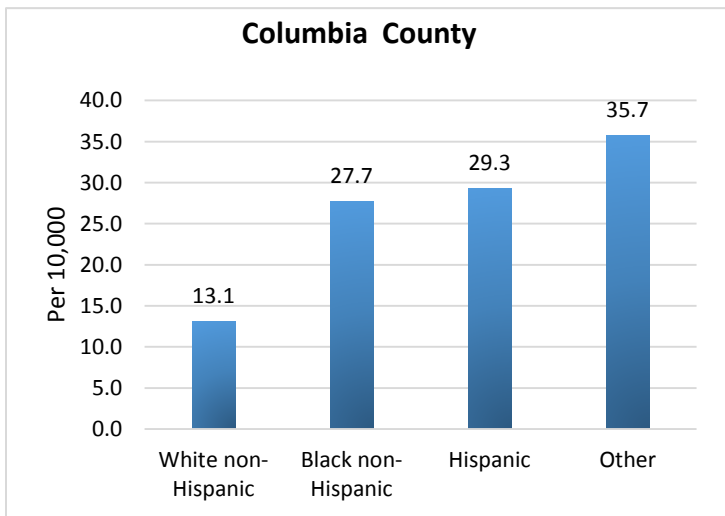
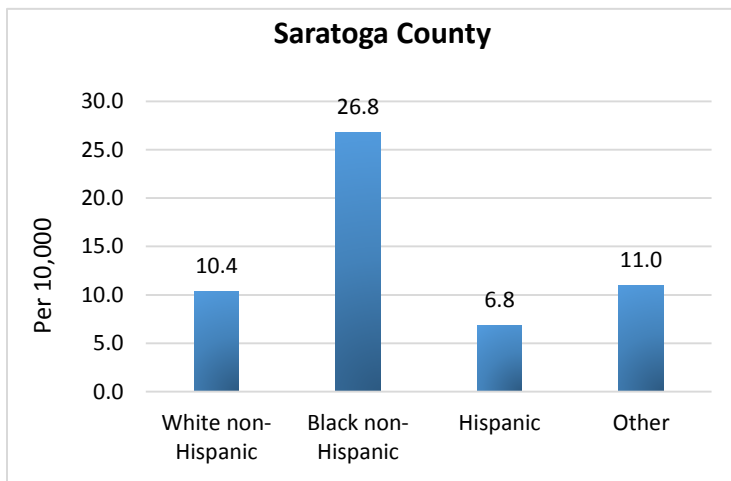
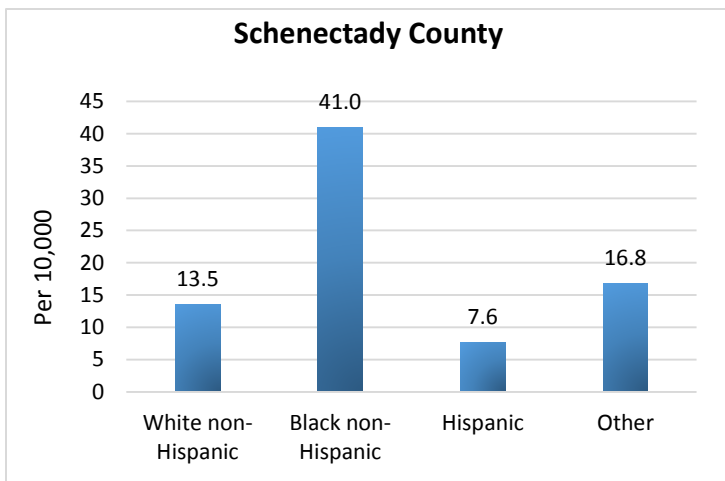
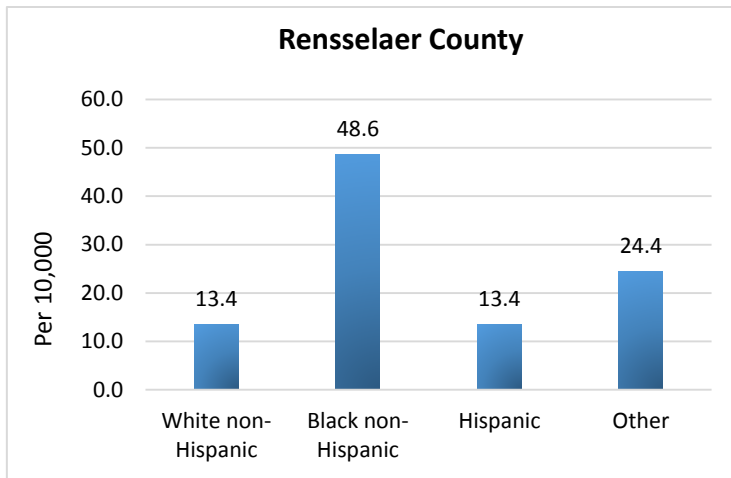
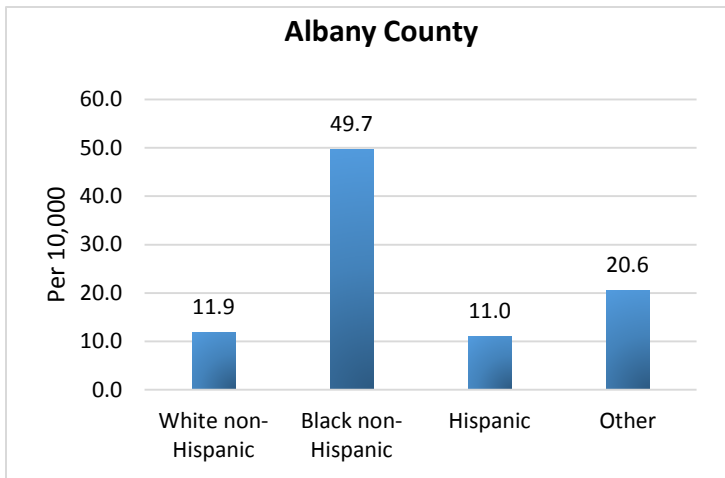
As with diabetes mortality, the diabetes hospitalization rate increases with age from 2.8/10,000 in the 0-14 yr. age group to 23.4 in the 75+ age group.

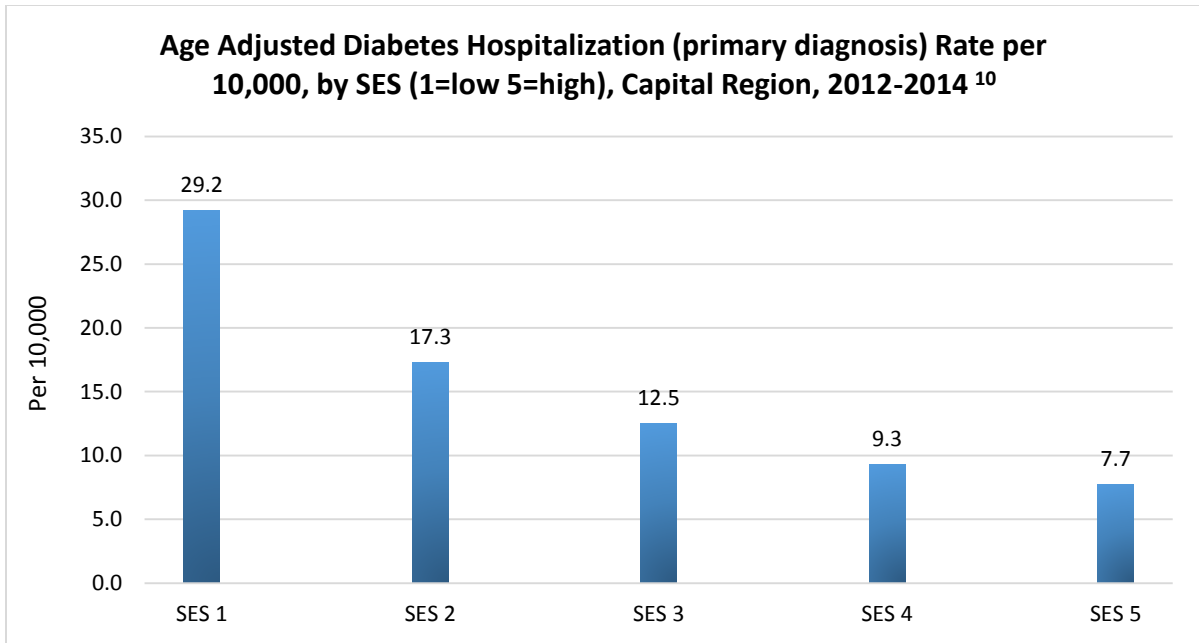


The Capital Region’s Black non-Hispanic age-adjusted diabetes hospitalization rate of 31.6/10,000 was 4 times higher than White non-Hispanic residents (8.9). The Capital Region Hispanic rate of 9.3 was similar to that of the White non-Hispanic resident.

Further, while all counties had disparities by race/ethnicity, the disparity was not the same among all counties. With the exception of Columbia County, Hispanic residents in all counties had similar or lower age-adjusted diabetes (primary diagnosis) hospitalization rates when compared to non-Hispanic White counterparts. Black non-Hispanic residents in all Capital Region counties had 2.5 to over 4 times higher hospitalization rates due to diabetes when compared with White non-Hispanic residents. The disparity was largest in Albany County, where rates were 4.2 times higher in Black non-Hispanic residents. Those residents who identified as “other” had consistently higher hospitalization rates as well, ranging from marginally higher when compared to non-Hispanic White residents (1.05 times higher rate in Saratoga County), to exceptionally high rates when compared to non-Hispanic White residents (5.8 times higher rate in Greene County).

Age-Adjusted Diabetes Emergency Department (ED) Visit Rate per 10,000 by Race/Ethnicity, Capital Region Counties, 2012-2014¹⁰





For Capital Region residents, the lower the socioeconomic status, the higher the age-adjusted diabetes hospitalization rate (SES 1- 29.2/10,000; SES 5- 7.7).

Highlights-Diabetes Hospitalizations-Multiple Indicators

Race/Ethnicity and SES

- The SES pattern was consistent within the White non-Hispanic and Black non-Hispanic Capital Region populations--the lower the socioeconomic status, the higher the age-adjusted diabetes hospitalization rate. This was not quite true for the Hispanic population where SES 5 had the 2nd highest hospitalization rate of the five SES categories;
- Black non-Hispanic residents had the highest diabetes hospitalization rates across all SES categories;
- The Black non-Hispanic diabetes hospitalization rate for the highest socioeconomic level (SES 5) of 17.0/10,000 was closer to the rate for the lowest socioeconomic level (SES 1) in the White non-Hispanic population (17.7) than the comparable SES 5 rate for White non-Hispanic resident (7.3);

Race/Ethnicity and Age

- The diabetes hospitalization rates increased with age across all race/ethnicity categories, except for the Hispanic population where the rate was higher in the 45-64 yr. age group compared to the 65-74 yr. age group;

- Black non-Hispanic residents had the highest diabetes hospitalization rates across all age groups;

Race/Ethnicity and Gender

- Capital Region male residents had higher diabetes hospitalization rates than female residents across all race/ethnicity categories;
- The Black non-Hispanic to White non-Hispanic ratio for diabetes hospitalizations was higher for female residents (3.99) compared to their male counterparts (3.18);

SES and Age

- The diabetes hospitalization rates increased with age for all SES categories except SES 1 where the 45-64 yr. age group had a higher rate than the 65-74 yr. age group;
- The diabetes hospitalization rates decreased as the SES increased for all age groups except the 0-14 year age group;

SES and Gender

- Capital Region males had higher diabetes hospitalization rates than females across all SES categories;
- The male to female ratio for diabetes hospitalizations was highest in SES 3 (1.64), and SES 2 (1.39);

Age and Gender

- Female Capital Region residents had equal or higher diabetes hospitalization rates than their male counterparts in the 0-14 year and 15-24 year age groups; males had higher rates across the older age groups.

Age-Adjusted Diabetes Hospitalization (primary diagnosis) Rates per 10,000, by Race/Ethnicity and SES, Capital Region, 2012-2014¹⁰					
Race/Ethnicity					
Socio-Economic Status	White non-Hispanic	Black non-Hispanic	Hispanic	Other	Total
SES 1	17.7	46.0	17.1	113.5	29.2
SES 2	14.4	38.3	11.7	42.9	17.2
SES 3	11.4	28.4	7.5	57.5	12.5
SES 4	8.7	34.5	6.4	52.3	9.3
SES 5	7.3	17.0	13.2	37.5	7.7
Total	10.0	35.8	10.1	50.5	10.6

The Capital Region age-adjusted diabetes hospitalization rates show a similar pattern within all race/ethnicity categories—the lower the socioeconomic status, the higher the rate. The exception is in the Hispanic population where the highest socioeconomic group (SES 5) had the 2nd highest diabetes hospitalization rate. Black non-Hispanic residents had the highest diabetes hospitalization

rates across all SES categories, the Black non-Hispanic to White non-Hispanic ratios varying from 2.3 (SES 5) to 4.0 (SES 4). The Black non-Hispanic diabetes hospitalization rate for the highest socioeconomic level (SES 5) of 17.0/10,000 was closer to the rate for the lowest socioeconomic level (SES 1) in the White non-Hispanic population (17.7) than the comparable SES 5 rate for White non-Hispanic resident (7.3).

Age-Adjusted Diabetes Hospitalization (primary diagnosis) Rates per 10,000, by Race/Ethnicity and Age, Capital Region, 2012-2014¹⁰					
Race/Ethnicity					
Age	White non-Hispanic	Black non-Hispanic	Hispanic	Other	Total
0-14 years	2.9	2.8	1.0	3.7	2.8
15-24 years	5.0	18.2	7.1	6.8	6.7
25-44 years	8.8	38.1	6.0	7.9	11.2
45-64 years	11.8	45.2	17.0	26.2	14.3
65-74 years	16.5	47.0	8.5	39.7	18.1
75+ years	21.3	66.2	31.8	50.5	23.4
Total	9.0	31.6	9.2	15.8	10.6

The diabetes hospitalization rates increased with age across all race/ethnicity categories, except for the Hispanic population where the rate was higher in the 45-64 yr. age group compared to the 65-74 yr. age group. Black non-Hispanic residents had the highest diabetes hospitalization rates across all age groups; the black non-Hispanic to White non-Hispanic ratios varying from 1.0 in the 0-14 yr. age group to 4.33 in the 25-44 yr. age group.

Age-Adjusted Diabetes Hospitalization (primary diagnosis) Rates per 10,000, by Race/Ethnicity and Gender, Capital Region, 2012-2014¹⁰					
Race/Ethnicity					
Gender	White non-Hispanic	Black non-Hispanic	Hispanic	Other	Total
Male	10.6	33.7	10.3	17.9	12.4
Female	7.4	29.5	8.2	13.7	9.1
Total	9.0	31.6	9.2	15.8	10.6

Capital Region male residents had higher diabetes hospitalization rates than female residents across all race/ethnicity categories. The male to female ratio for diabetes hospitalizations in the Capital Region varied from a low of 1.14 in the Black non-Hispanic population, 1.26 in the Hispanic population, and a high of 1.42 in the White non-Hispanic population. The Black non-Hispanic to

White non-Hispanic ratio for diabetes hospitalizations was higher for female residents (3.99) compared to their male counterparts (3.18).

Age-Adjusted Diabetes Hospitalization (primary diagnosis) Rates per 10,000, by SES and Age, Capital Region, 2012-2014¹⁰						
Socio-Economic Status						
Age	SES 1	SES 2	SES 3	SES 4	SES 5	Total
0-14 years	3.3	2.9	2.4	2.9	2.9	2.8
15-24 years	17.5	9.1	6.4	5.7	6.3	7.7
25-44 years	35.2	19.9	13.9	8.3	6.1	13.0
45-64 years	45.2	24.8	18.2	11.6	9.2	16.3
65-74 years	38.6	29.0	21.2	19.6	15.1	21.0
75+ years	49.2	49.3	33.5	25.2	25.2	21.5
Total	29.2	17.2	12.5	9.3	7.7	10.6

The diabetes hospitalization rates increased with age for all SES categories except SES 1 where the 45-64 yr. age group had a higher rate than the 65-74 yr. age group. The diabetes hospitalization rates decreased as the SES increased for all age groups except the 0-14 year age group.

Age-Adjusted Diabetes Hospitalization (primary diagnosis) Rates per 10,000, by SES and Gender, Capital Region, 2012-2014¹⁰						
Socio-Economic Status						
Gender	SES 1	SES 2	SES 3	SES 4	SES 5	Total
Male	31.5	20.4	15.7	10.2	8.8	14.1
Female	27.0	14.7	9.6	8.6	6.7	10.4
Total	29.5	17.5	12.7	9.4	7.8	12.2

Capital Region males had higher diabetes hospitalization rates than females across all SES categories. The male to female ratio for diabetes hospitalizations was highest in SES 3 (1.64), and SES 2 (1.39), and lowest in SES 1 (1.17) and SES 4 (1.19).

Age-Adjusted Diabetes Hospitalization (primary diagnosis) Rates per 10,000, by Gender and Age, Capital Region, 2012-2014¹⁰			
Gender			
Age	Male	Female	Total
0-14 years	2.7	2.8	2.8
15-24 years	5.7	7.7	6.7
25-44 years	13.6	8.8	11.2
45-64 years	16.8	11.9	14.3
65-74 years	22.5	14.3	18.4
75+ years	28.8	19.7	24.3
Total	12.4	9.1	10.6

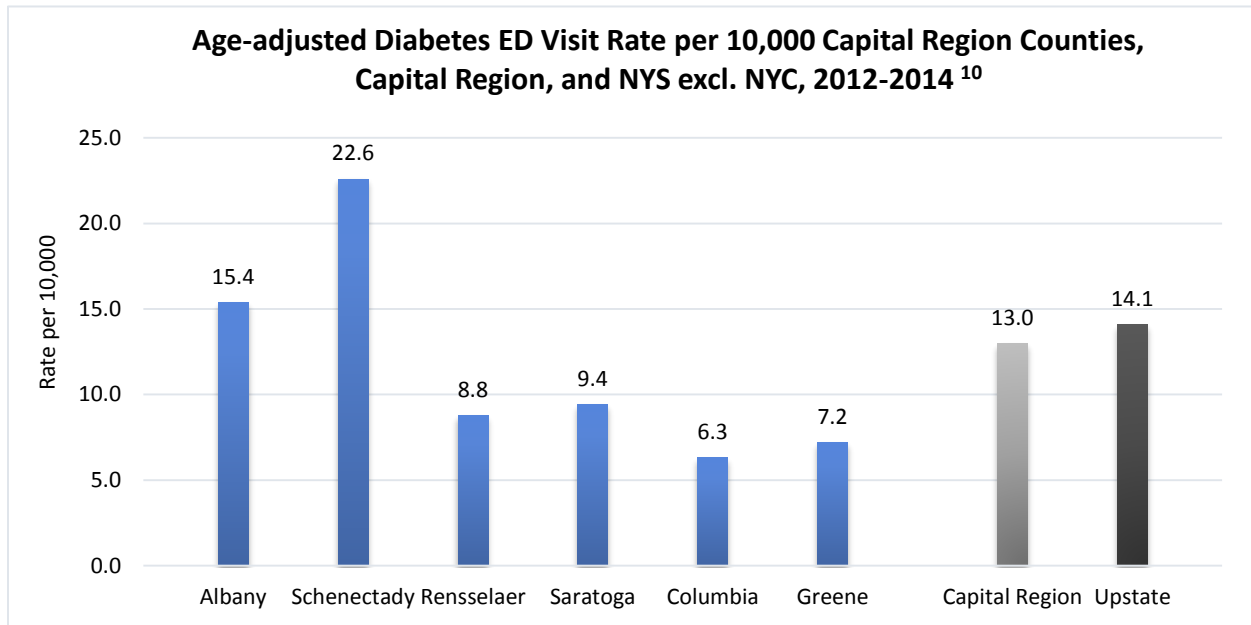
Female Capital Region residents had equal or higher diabetes hospitalization rates than their male counterparts in the 0-14 year and 15-24 year age groups; males had higher rates across the older age groups.

VIII. Diabetes ED Visits (Primary Diagnosis)

Highlights-Diabetes ED Visits

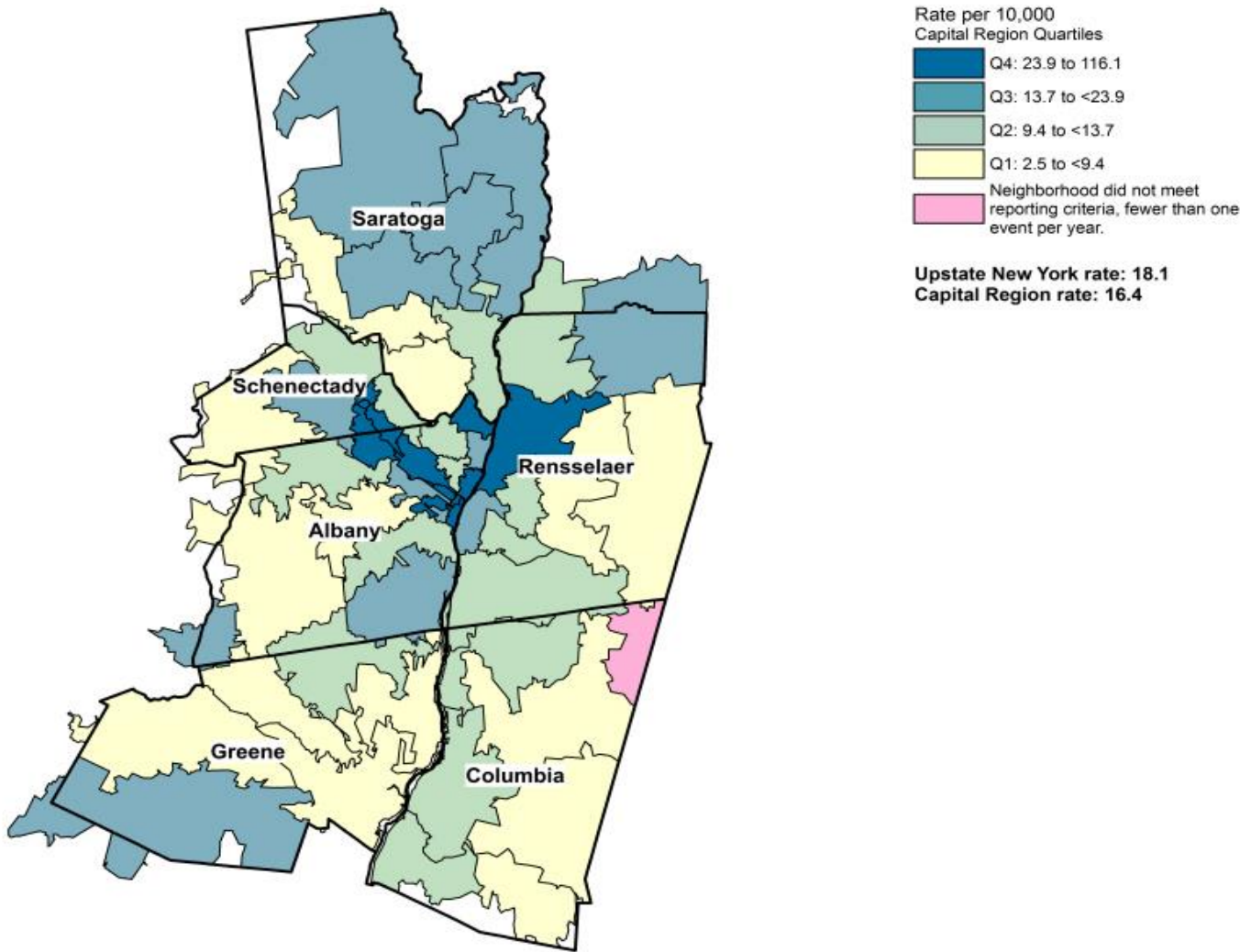
- The Capital Region had over 1,400 diabetes ED visits per year. The Region's age-adjusted diabetes ED visit rate of 13.0 per 10,000 was lower than the comparable rate for Upstate NY (14.1);
- Schenectady (22.6/1000) and Albany (15.4) had the highest age-adjusted diabetes ED visit rates in the Capital Region;
- The age-adjusted diabetes ED visit rates for the Capital Region were higher than Upstate NY from 2005 through 2011, but they were lower from 2012 to 2014. The Region's ED visit rate dropped 8% from 2005 to 2014;
- Capital Region females had a slightly higher age-adjusted diabetes ED visit rate compared to male residents (13.7 vs 12.4/10,000);
- Diabetes ED visits in the Capital Region increased with age, from 7.0/10,000 in the 15-24 yr. age group to 24.2 in the 75+ age group;
- Capital Region Black non-Hispanics had over 5 times the rate of age-adjusted diabetes ED visits compared to the White non-Hispanic population (50.8 vs 9.6/10,000). The Hispanic rate of 18.6 was twice the rate of the White non-Hispanic population;
- For Capital Region residents, the lower the socioeconomic status, the higher the age-adjusted diabetes ED visit rate (SES 1- 58.3/10,000; SES 5- 7.6).

There were 1,423 ED visits to Capital Region residents in 2013, where diabetes was the primary diagnosis.⁸



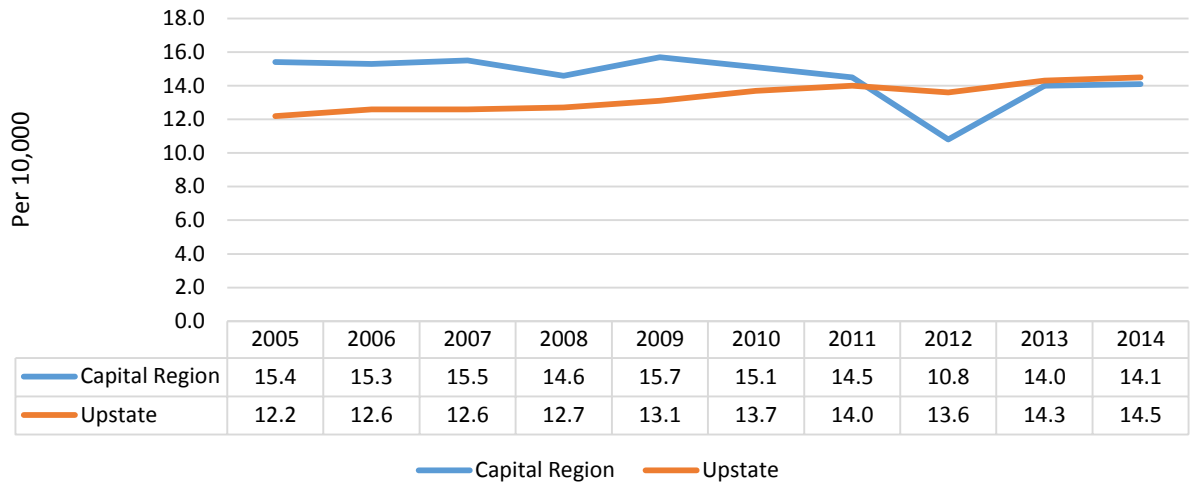
Capital Region residents had lower age-adjusted diabetes ED visit rates than Upstate NY (13.0 vs 14.1/10,000). The urban counties of Schenectady (22.6) and Albany (15.4) had the highest rates in the Region.¹⁰

**Capital Region Age-Adjusted Emergency Department Rates by
Neighborhood, Ages 18+, 2012-2014¹⁰**



As with the hospitalizations, the Capital Region urban neighborhoods had the highest ED visit rates, in addition to rural neighborhoods in north Saratoga, northeast Rensselaer, southeast Albany, and southwest Greene counties.

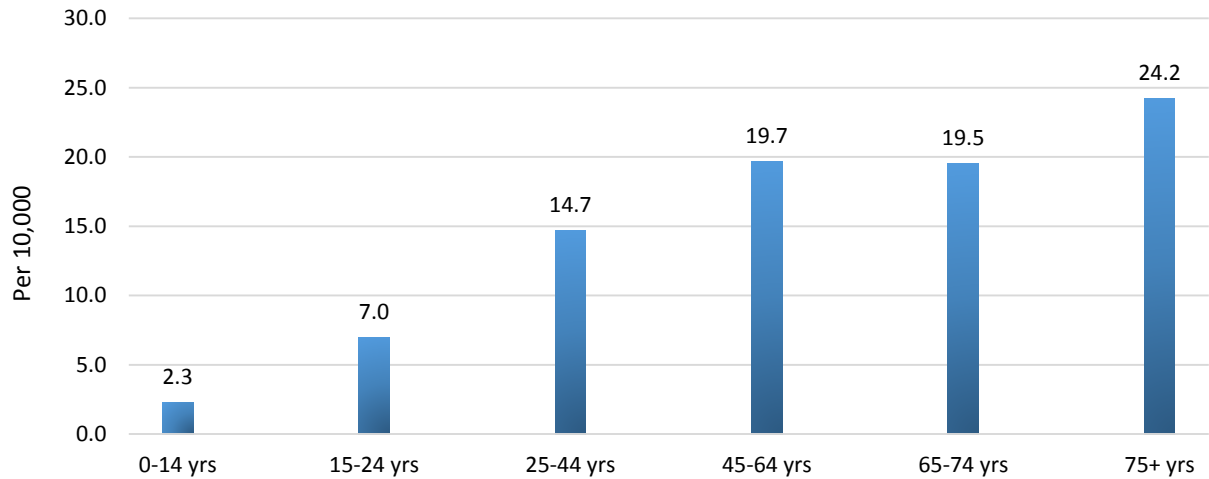
Age-adjusted Diabetes ED Visit Rate per 10,000, Capital Region and NYS, excl. NYC, 2005-2014 ¹⁰



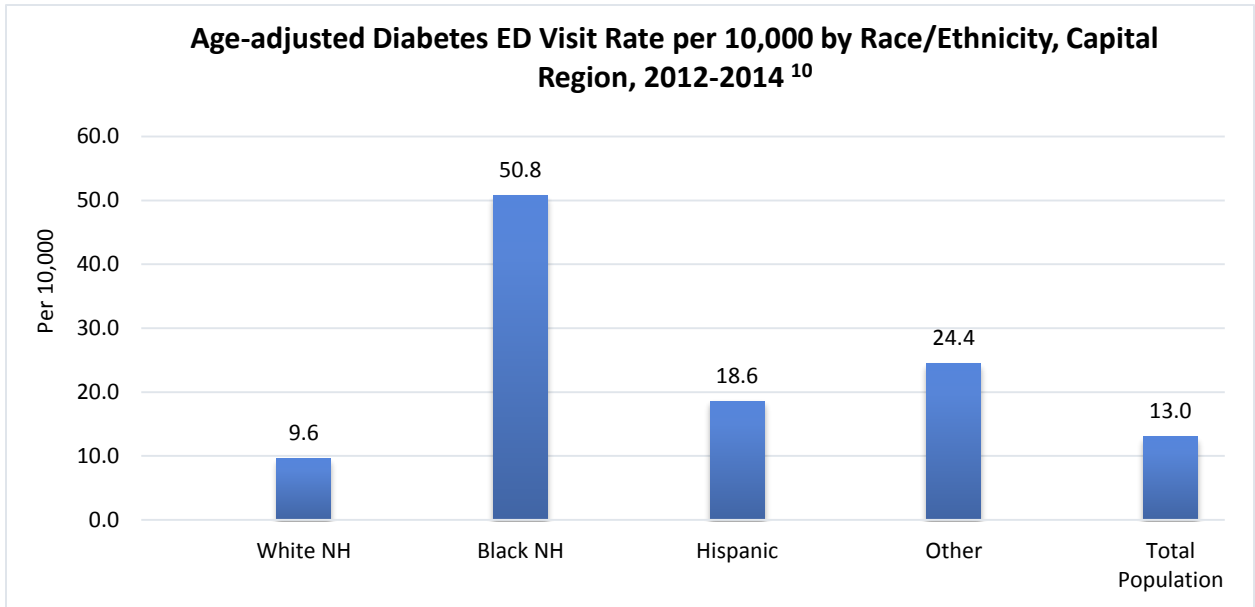
The Capital Region had higher age-adjusted diabetes ED visit rates than Upstate NY from 2005 through 2011, but they were lower from 2012 through 2014. Overall, the Region’s ED visit rate dropped 8% from 2005 to 2014.

As opposed to hospitalizations, female Capital Region residents had a higher age-adjusted diabetes ED visit rate compared to male residents (13.7 vs 12.4/10,000).¹⁰

Diabetes ED Visit Rate per 10,000 by Age, Capital Region, 2012-2014 ¹⁰



Diabetes ED visits in the Capital Region increased with age, from 7.0/10,000 in the 15-24 yr. age group to 24.2 in the 75+ age group.



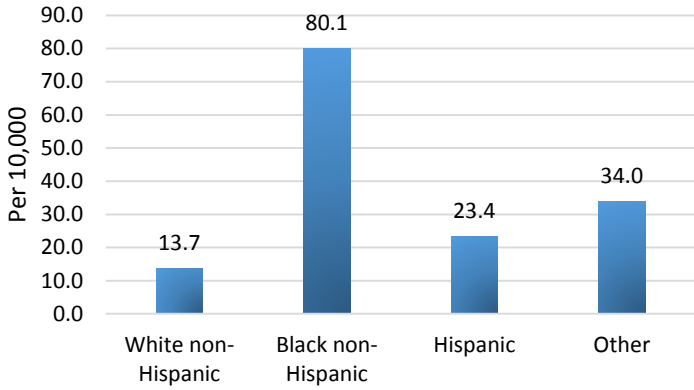
Capital Region Black non-Hispanics had over 5 times the rate of age-adjusted diabetes ED visits compared to the White non-Hispanic population (50.8 to 9.6/10,000). The Hispanic rate of 18.6 was twice the rate of the White non-Hispanic population.

All counties had 3-6 times higher ED visit rates in Black non-Hispanic residents than White non-Hispanic residents. Black non-Hispanic residents in Columbia County had a 3 times higher diabetes-related emergency department visit rate when compared to White non-Hispanic residents, while Black non-Hispanic residents in Albany County had a 6 times higher rate.

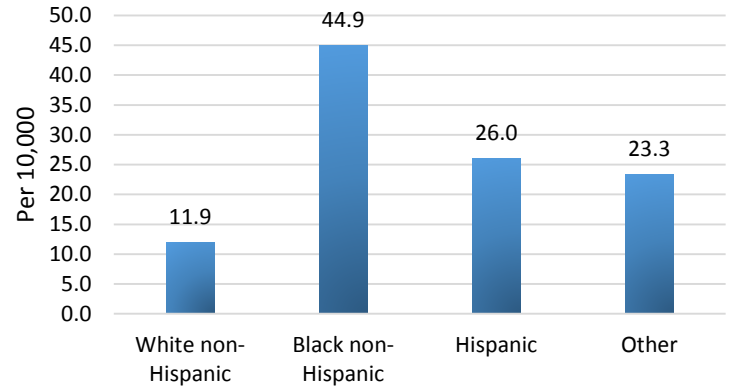
Unlike with hospitalizations, all Capital Region counties had higher ED visit rates in Hispanic residents when compared with White non-Hispanic residents, ranging from a 1.1 times higher rate in Greene County to a 2.3 times higher rate in Columbia County.

Age-Adjusted Diabetes ED Visit Rate per 10,000 by Race/Ethnicity, Capital Region Counties, 2012-2014¹⁰

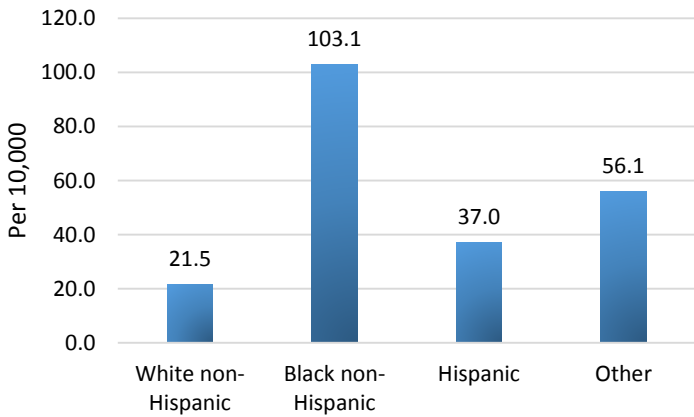
Albany County



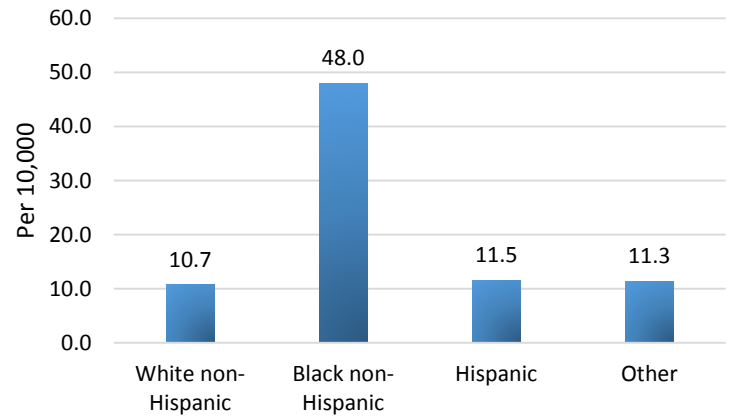
Rensselaer County



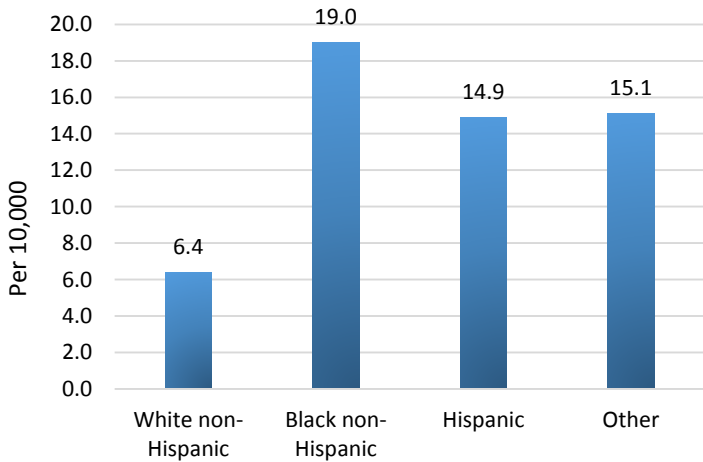
Schenectady County



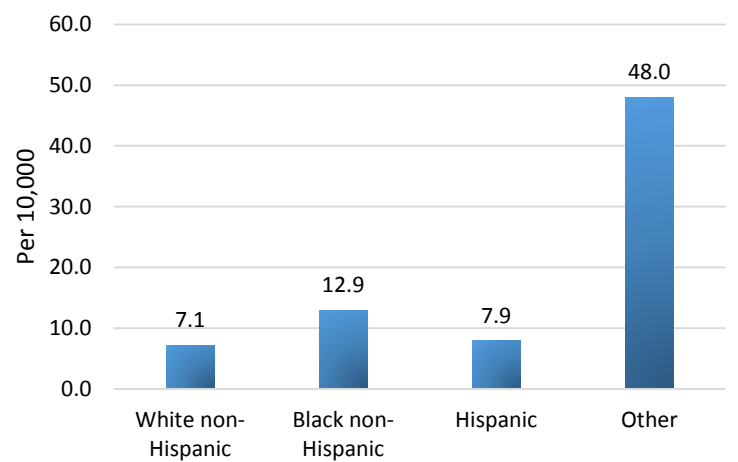
Saratoga County

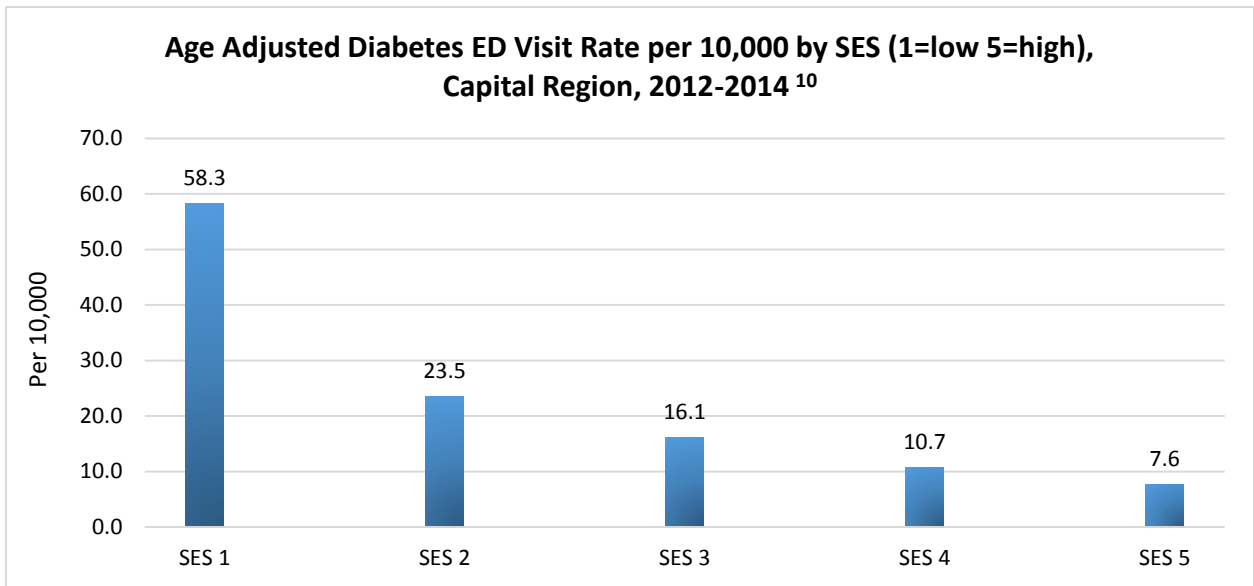


Columbia County



Greene County





When reviewing Capital Region age-adjusted diabetes ED Visit rates by socioeconomic status, the lower the SES the higher the ED visit rate. Residents in SES 1 had over 7.5 times the rate as residents in SES 5.

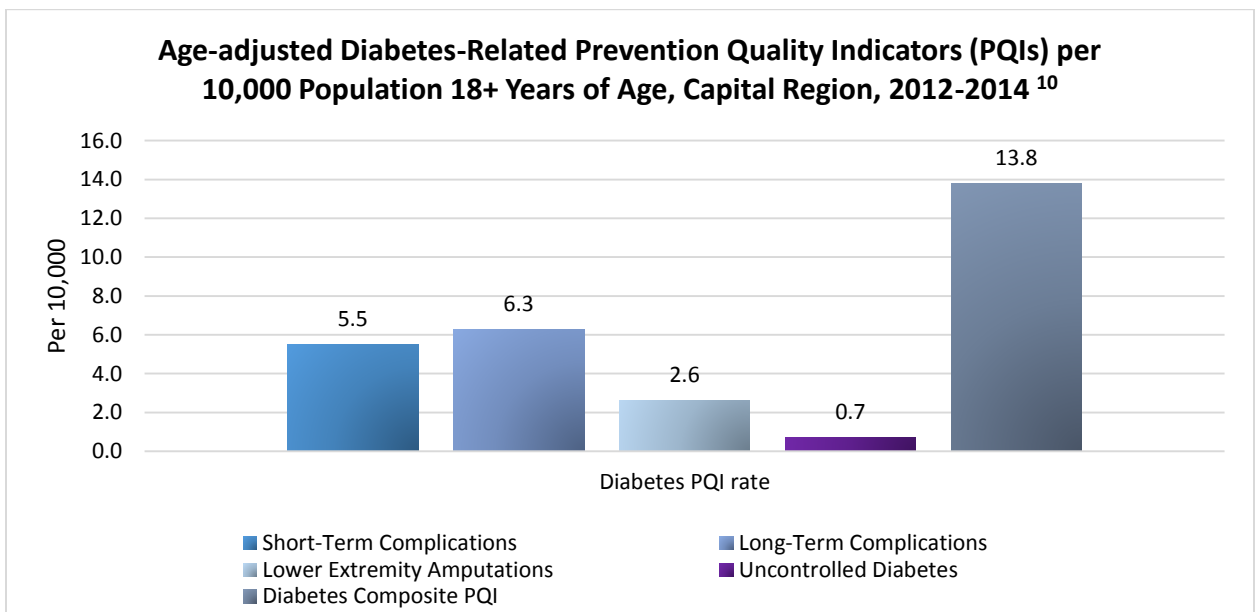
IX. Diabetes Prevention Quality Indicators (PQIs)

Prevention quality indicators (PQIs) are measures used to assess good primary and preventive health care. These are ambulatory-sensitive care conditions where good primary care can potentially prevent related hospitalizations. Prevention quality indicators look at the adult population 18 years of age or older. The Diabetes Composite PQI rate includes information on the four diabetes-related PQI categories: short-term complications; long-term complications; uncontrolled diabetes; and lower-extremity amputations among diabetics. The NYS Prevention Agenda has identified the PQI short-term complications of diabetes as a Prevention Agenda Tracking indicator.

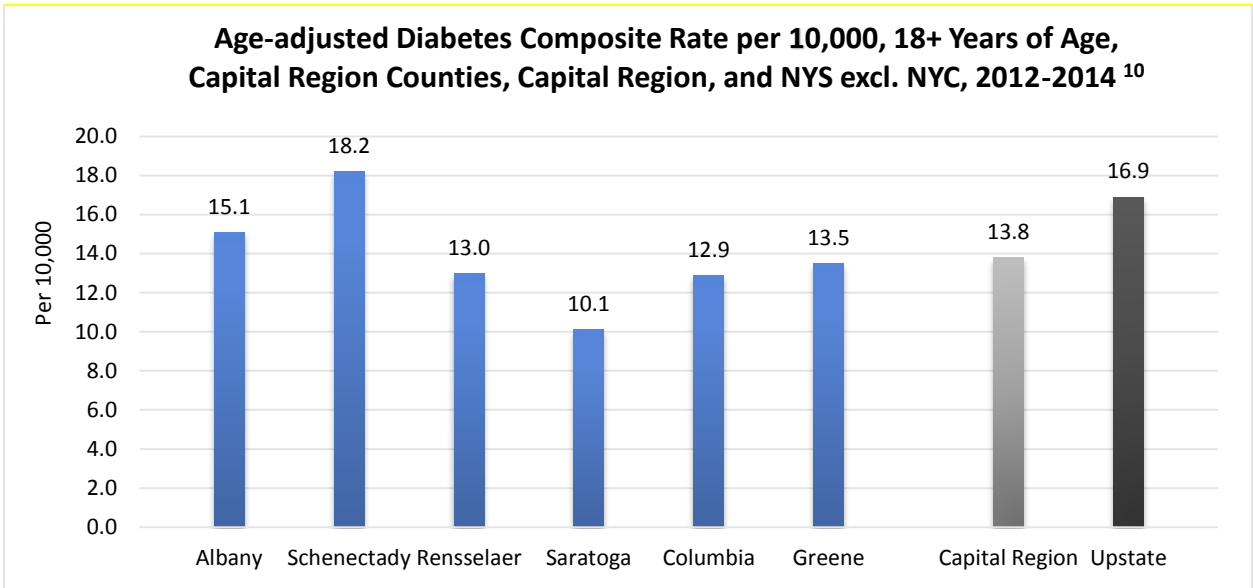
Highlights-Diabetes PQIs

- The age-adjusted diabetes composite PQI rate for Capital Region residents of 13.8 per 10,000 was approximately 40% lower than Upstate NY (16.9). Schenectady had the highest diabetes composite PQI rate in the Region at 18.2/10,000;
- Over the last decade, the Capital Region's diabetes composite PQI rate has been consistently lower than Upstate NY. The Region's rate has decreased 24% from 2005 to 2014 (16.5 to 12.6/10,000);
- Capital Region males had a higher age-adjusted diabetes composite PQI rate compared to female residents (16.1 vs 11.4/10,000);
- The Capital Region's diabetes composite PQI rate increased with age, from 7.0 per 10,000 in the 18-24 yr. age group to 24.2 in the 75+ yr. age group;

- Black non-Hispanic Capital Region residents had 3.7 times the age-adjusted diabetes composite PQI rate than White-non-Hispanic residents (42.6 vs 11.5/10,000). The Hispanic resident rate of 11.4 was similar to the White non-Hispanic population;
- For Capital Region residents, the lower the socioeconomic status, the higher the age-adjusted diabetes composite PQI rate (SES 1- 40.9/10,000; SES 5- 9.4);
- The Capital Region’s age-adjusted diabetes short-term complication PQI rate of 5.5/10,000 was lower than the Upstate rate of 5.8, yet higher than the Prevention Agenda objective of 4.9/10,000. Of the Region’s counties, Schenectady (8.6) , Albany (5.9), and Rensselaer (5.3) did not meet the Prevention Agenda objective;
- Capital Region Black non-Hispanics had 4 times the age-adjusted diabetes short-term complication PQI rate compared to White non-Hispanic residents (17.9 vs 4.4/10,000). Hispanic residents had the same rate (4.4) as white-non-Hispanic residents.

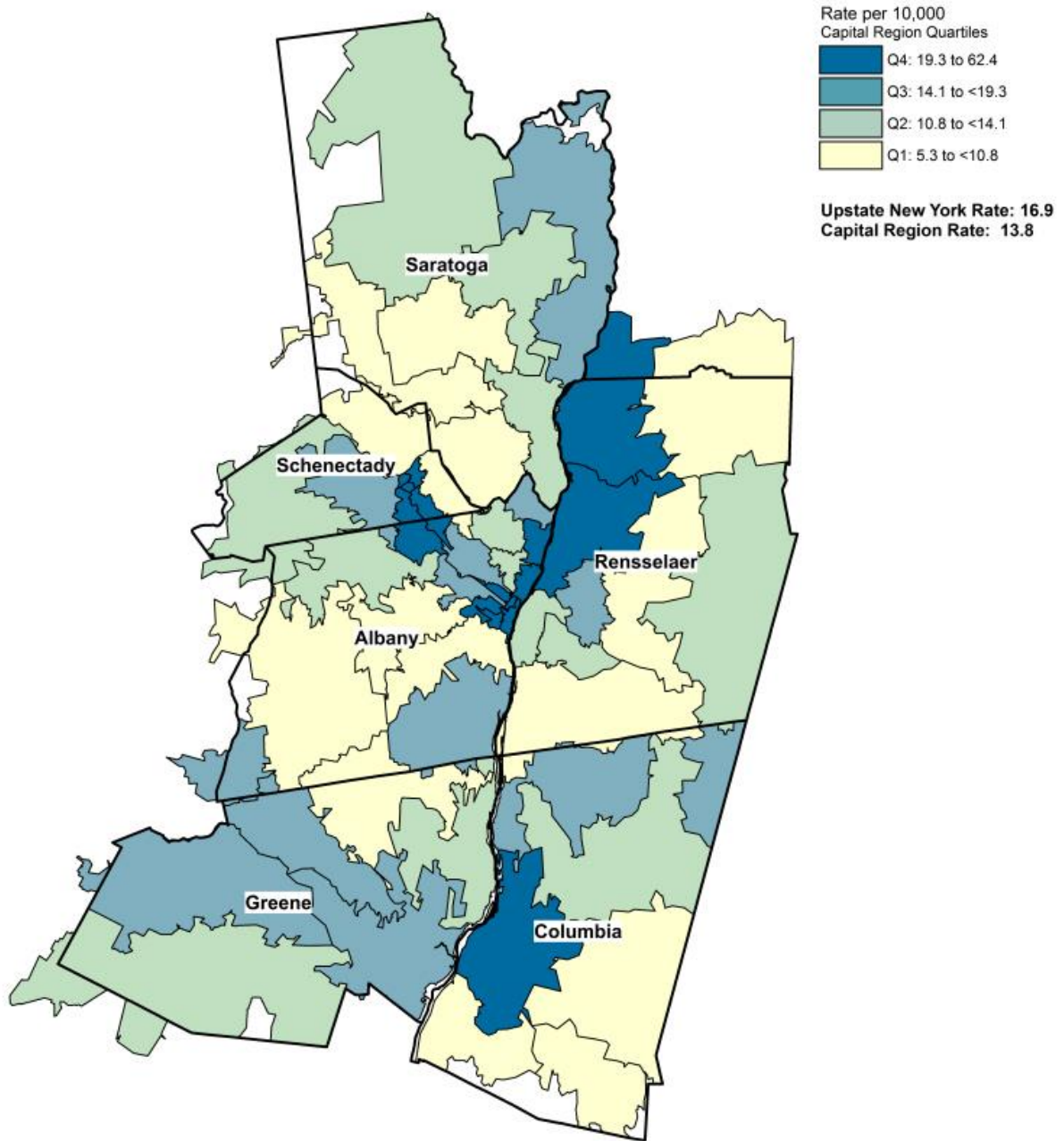


The Capital Region’s diabetes composite PQI rate was 13.8/10,000 pop. 18+ years of age. Long-term complications made up 46%, and short-term complications an additional 40% of the diabetes composite rate.

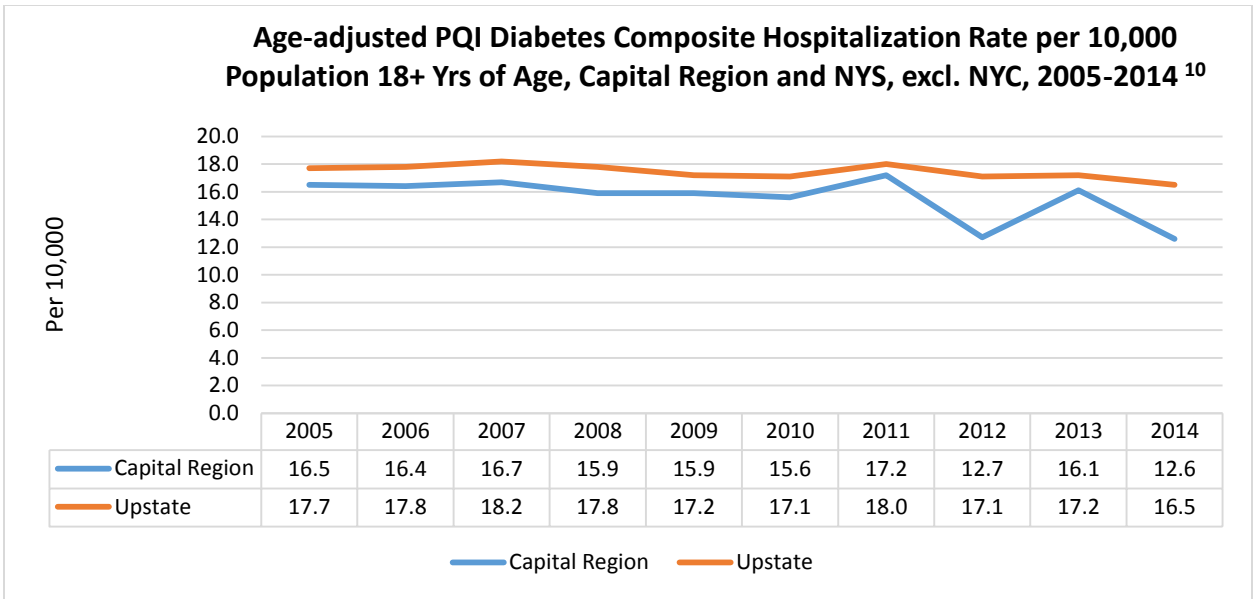


The age-adjusted diabetes composite PQI rate for Capital Region residents of 13.8 per 10,000 was approximately 40% lower than Upstate NY (16.9). Schenectady had the highest diabetes composite PQI rate in the Region at 18.2/10,000.

**Capital Region Age-Adjusted Composite PQI Rates by
Neighborhood, Ages 18+, 2012-2014¹⁰**

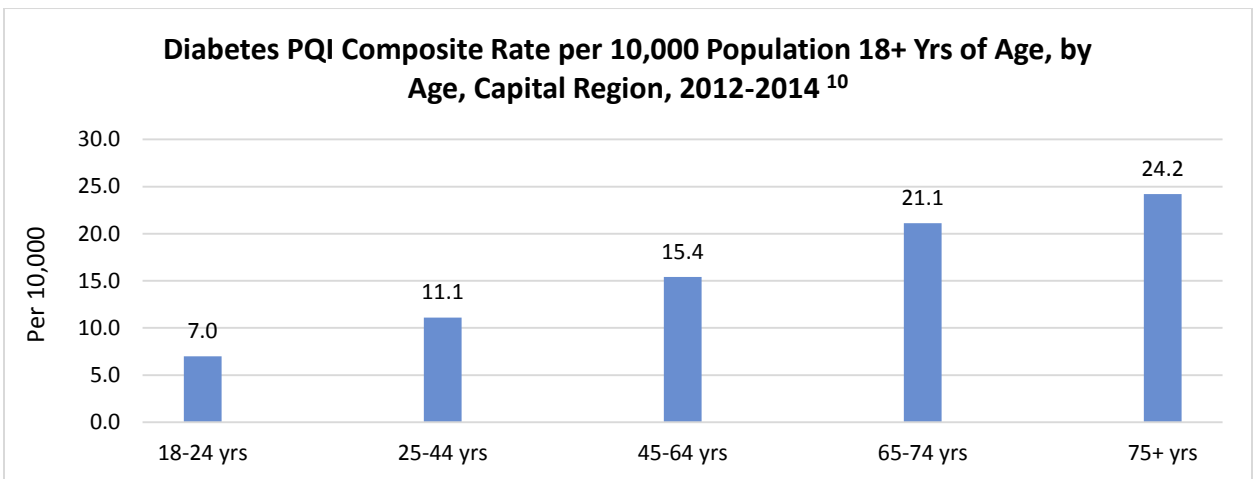


The urban neighborhoods in Albany, Columbia, Rensselaer, and Schenectady counties had the highest diabetes composite PQI rates in the Capital Region. Rural neighborhoods in north Columbia, northwest Rensselaer, northeast Saratoga, and northwest Greene counties also had high PQI rates.

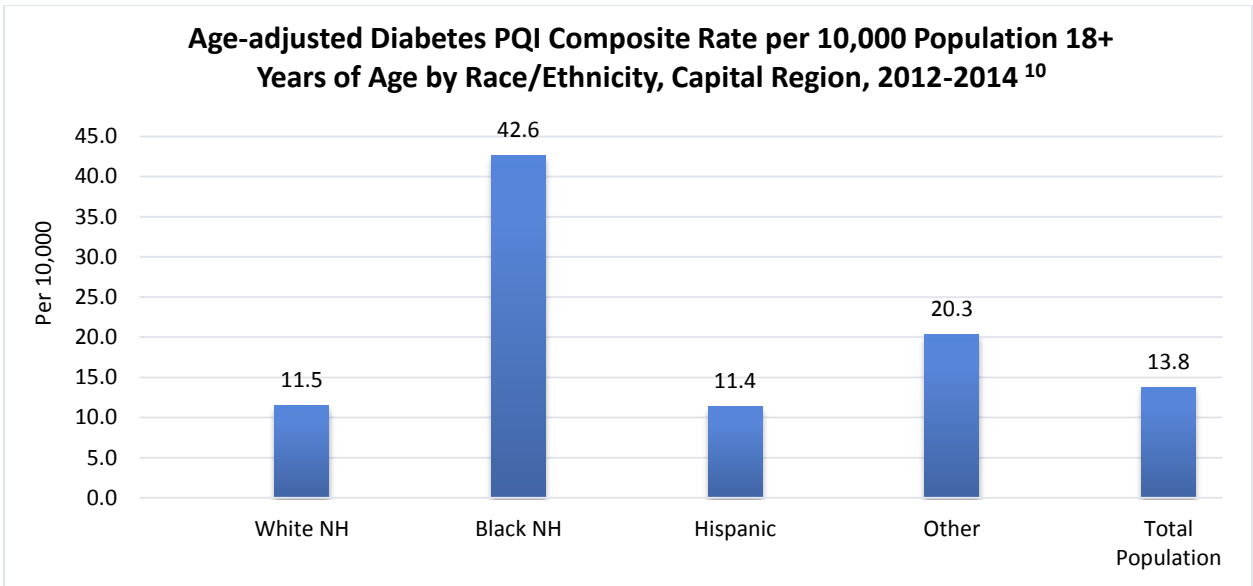


The Capital Region had lower age-adjusted diabetes composite PQI rates than Upstate NY throughout the last decade. The Region’s diabetes composite PQI rate decreased 24% from 2005 to 2014.

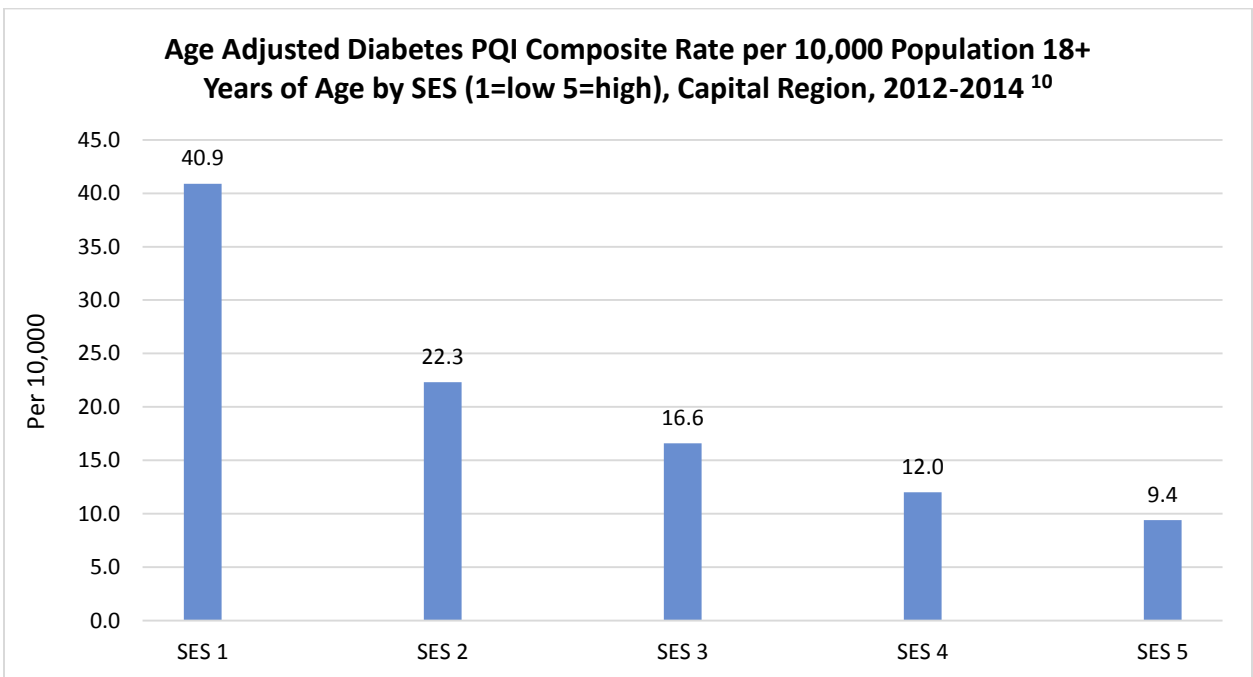
Capital Region males had a higher age-adjusted diabetes composite PQI rate compared to female residents (16.1 vs 11.4/10,000).¹⁰



The Capital Region’s diabetes composite PQI rate increased with age, from 7.0 per 10,000 in the 18-24 yr. age group to 24.2 in the 75+ yr. age group.

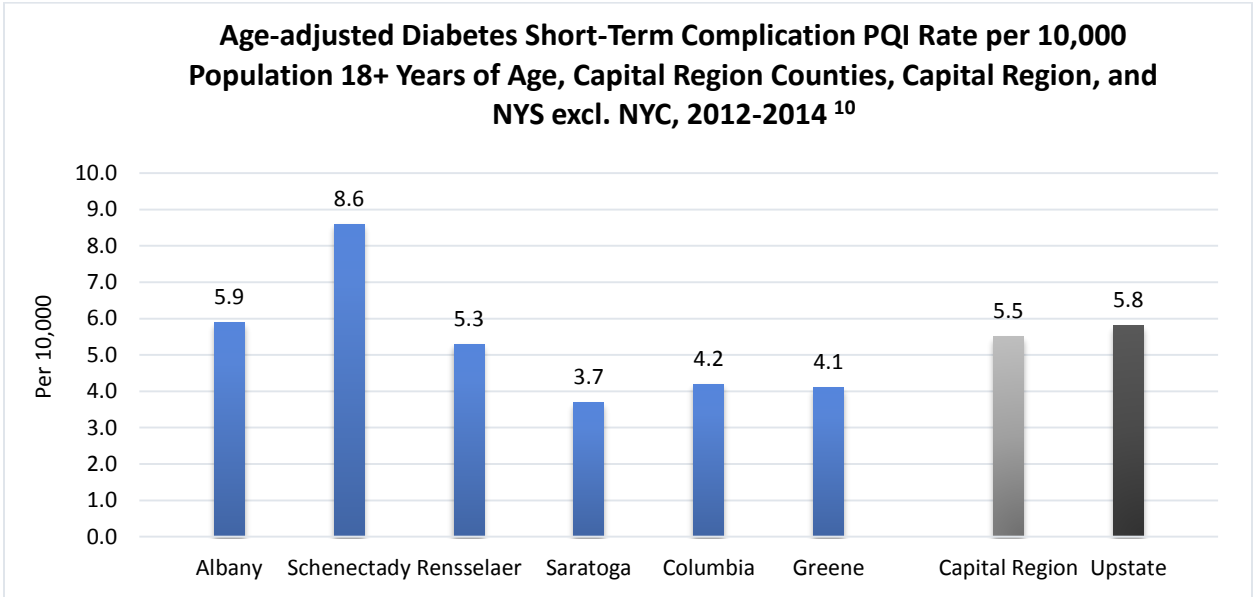


Black non-Hispanic Capital Region residents had 3.7 times the age-adjusted diabetes composite PQI rate than White-non-Hispanic residents. The Hispanic resident rate was similar to the White non-Hispanic population.

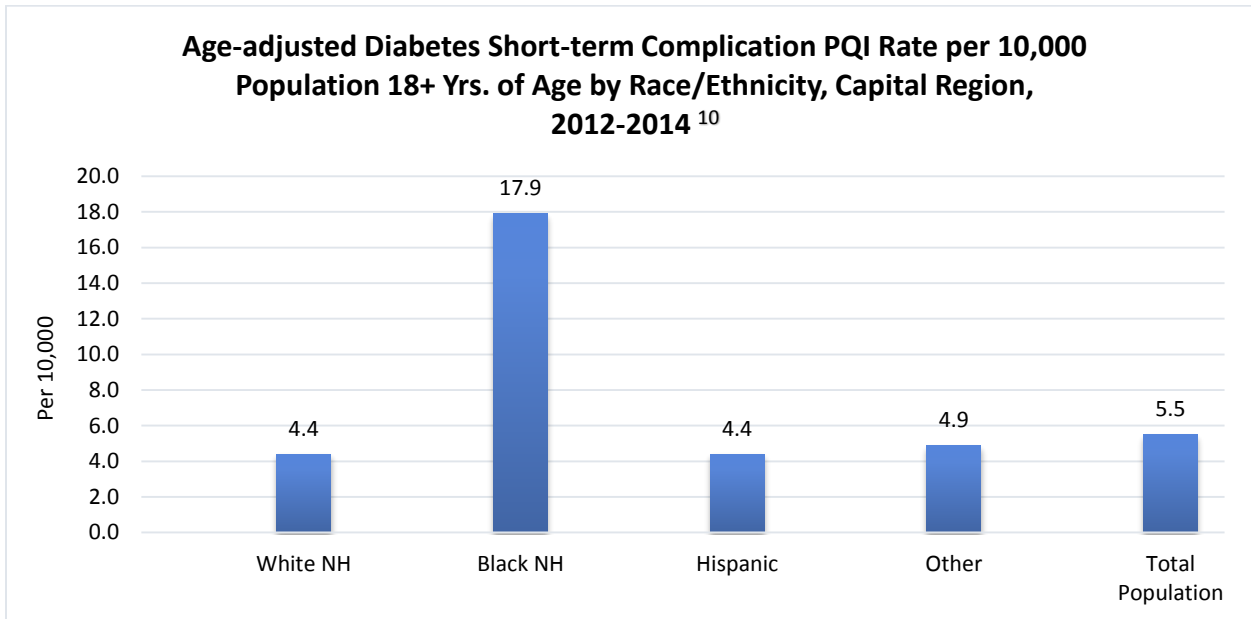


For Capital Region residents, the lower the socioeconomic status, the higher the age-adjusted diabetes composite PQI rate. Residents in SES 1 had almost 4.4 times the rate as those living in SES 5.

The NYS Prevention Agenda Objective for diabetes short-term complication hospitalizations was 4.9/10,000 population 18+ years of age.



The Capital Region’s age-adjusted diabetes short-term complication PQI rate of 5.5/10,000 was lower than the Upstate rate of 5.8, yet higher than the Prevention Agenda objective of 4.9/10,000. Of the Region’s counties, Schenectady (8.6), Albany (5.9), and Rensselaer (5.3) did not meet the Prevention Agenda objective.



Capital Region Black non-Hispanics had 4 times the age-adjusted diabetes short-term complication PQI rate compared to White non-Hispanic residents. Hispanic residents had the same rate as white-non-Hispanic residents.

X. Diabetes Costs

Cost information was generated from the SPARCS database. The cost information from SPARCS represents billing data that were submitted by hospitals in New York State. Total diabetes hospitalization costs included the accommodation charge and the ancillary charge for all patients hospitalized within a given year. The ED visit costs include only ancillary charges.

Highlights-Diabetes Hospitalization Costs

Percentage of Total Costs

- The average 2012-14 diabetes hospitalization (primary diagnosis) costs for the Capital Region was \$33.2 million per year;
- Albany contributed 38% (\$12.6M), Saratoga 18% (\$5.82 M), and Schenectady 17% (\$5.77M), of the Capital Region's diabetes hospitalization costs;
- Capital Region males made up approximately 58% (\$19.3M) of the diabetes hospitalization costs;
- The 45-64 yr. age group contributed 41% (\$13.6M) of the Capital Region's diabetes hospitalization costs, followed by the 25-44 yr. age group with 19% (\$6.4M), and the 65-74 yr. age group with 18% (\$6.0M);
- White non-Hispanic residents made up 73% (\$24.3M) of the diabetes hospitalization costs, while Black non-Hispanic residents contributed 19% (\$6.3M), and Hispanic residents 2% (\$732,000) of the costs;
- Capital Region's SES 3 contributed 29% (\$10.4M) to the diabetes hospitalization costs, followed by SES 4 with 23% (\$8.1M). Of the lower socioeconomic categories, SES 2 contributed 19% (\$6.8M) and SES 1 contributed 13% (\$4.6M) to the total diabetes hospitalization costs.

Cost per Hospitalization

- The Capital Region's average cost per diabetes hospitalization was \$30,150. Greene had the highest cost per hospitalization at \$34,536 followed by Albany at \$33,587. Rensselaer residents had the lowest cost per hospitalization at \$25,859;
- Male Capital Region residents had higher average costs per diabetes hospitalizations compared to female residents (\$31,721 vs \$28,217);
- Cost per diabetes hospitalization increased with age in the Capital Region until the 75+ yr. age group. The cost per hospitalization in 0-14 yrs. was \$14,084, while the cost was \$40,652 in the 65-74 yr. age group. The 75+ age group had a cost of \$32,797 per hospitalization;
- Capital Region White non-Hispanic residents had a higher cost per diabetes hospitalization (\$30,436) than either Black non-Hispanic (\$27,927) or Hispanic (\$22,861) residents;
- Capital Region residents in SES 3 (\$32,933) and SES 4 (\$31,628) had the highest costs per diabetes hospitalization. Residents in SES 2 (\$23,464) and SES 1 (\$27,888) had the lowest cost per diabetes hospitalization.

Cost per Population

- The diabetes hospitalization cost per Capital Region resident was \$34.7. Greene had the highest cost per resident at \$44.3 followed by Albany at \$41.1. Saratoga had the lowest rate at \$26 per resident;
- Male Capital Region residents had higher diabetes hospitalization costs per resident compared to female residents (\$41.0 vs \$28.6);
- Diabetes hospitalization costs per resident increased with age, from \$3.8 in the 0-14 yr. age group to \$76.1 in the 75+ yr. group;
- Capital Region Black non-Hispanic residents had a much higher per diabetes hospitalization cost per resident (\$79.6) than either White non-Hispanic (\$30.6) or Hispanic (\$16.1) residents;
- The lower the socioeconomic status in the Capital Region, the higher the diabetes hospitalization cost per resident. Residents in SES 1 had a rate of \$70.8 per resident while SES 5 had a corresponding rate of \$24.7.

Highlights-Diabetes ED Visit Costs

Percentage of Total Costs

- The average 2012-14 diabetes ED visit (primary diagnosis) costs for the Capital Region was \$3.6 million per year;
- Albany contributed 41% (\$1.5M), Schenectady 21% (\$760,000), and Saratoga 20% (\$725,000), of the Capital Region's diabetes ED visit costs;
- Capital Region males made up approximately 51% (\$1.8M) of the diabetes ED visit costs;
- The 45-64 yr. age group contributed 37% (\$1.3M) of the Capital Region's diabetes ED visit costs, followed by the 25-44 yr. age group with 24% (\$856,000) of the diabetes ED visit costs;
- White non-Hispanic residents made up 66% (\$2.4M) of the diabetes ED visit costs, while Black non-Hispanic residents contributed 24% (\$856,000), and Hispanic residents 4% (\$155,000) of the costs;
- Capital Region's SES 3 contributed 29% (\$1.2M) to the diabetes ED visit costs, followed by SES 4 with 20% (\$827,000). Of the lower socioeconomic categories, SES 2 contributed slightly over 19% (\$781,000) and SES 1 contributed 19% (\$754,000) to the total diabetes ED visit costs.

Cost per Hospitalization

- The Capital Region's average cost per diabetes ED visit was \$2,701. Saratoga (\$3,151) and Columbia (\$3,147) had the highest cost per ED visit. Schenectady residents had the lowest cost per ED visit at \$2,089;
- As opposed to diabetes hospitalizations, female Capital Region residents had higher average costs per diabetes ED visit compared to male residents (\$2,778 vs \$2,625);
- Cost per diabetes ED visits were highest in the younger ages, \$4,475 in the 0-14 yr. age group and \$3,123 in the 15-24 yr. age group;

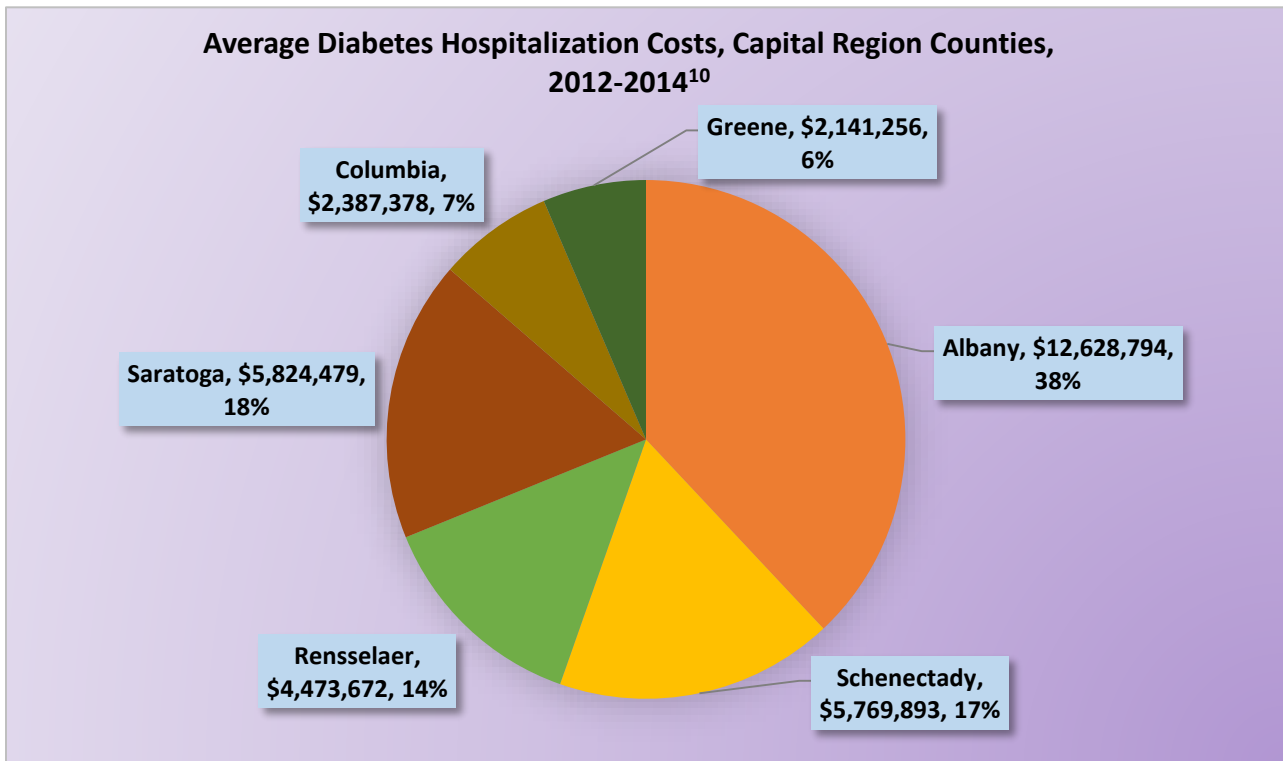
- Capital Region White non-Hispanic residents had a higher cost per diabetes ED visit (\$2,814) than either Black non-Hispanic (\$2,489) or Hispanic (\$2,387) residents;
- Capital Region residents in SES 4 (\$2,850) and SES 3 (\$2,812) had the highest costs per diabetes ED visit. Residents in SES 2 (\$2,028) and SES 1 (\$2,426) had the lowest cost per diabetes ED visits.

Cost per Population

- The diabetes ED visit cost per Capital Region resident was \$3.7. Schenectady and Albany had the highest cost per resident at \$4.8. Greene (\$2.1) and Columbia (\$2.2) had the lowest rates per resident;
- Male Capital Region residents had similar diabetes ED visit cost per resident compared to female residents (\$3.8 vs \$3.7);
- Diabetes ED visit costs per resident increased with age, from \$1.0 in the 0-14 yr. age group to \$7.4. in the 75+ yr. group;
- Capital Region Black non-Hispanic residents had a much higher per diabetes ED visit cost per resident (\$10.8) than either Hispanic (\$3.4) or White non-Hispanic (\$3.0) residents;
- The lower the socioeconomic status in the Capital Region, the higher the diabetes ED visit cost per resident. Residents in SES 1 had a rate of \$11.6 per resident while SES 5 had a corresponding rate of \$2.3.

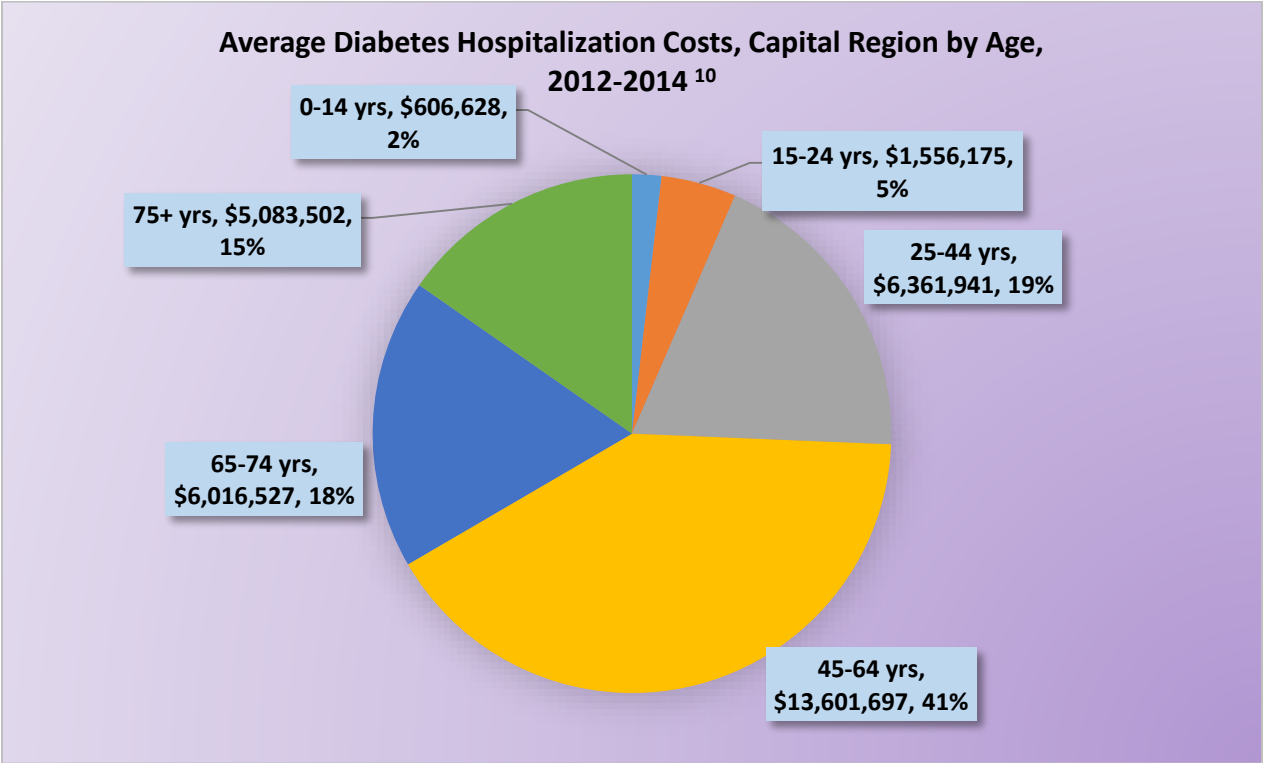
Diabetes Hospitalization Costs

The average 2012-14 diabetes hospitalization (primary diagnosis) costs for the Capital Region was **\$33.225 million per year**.

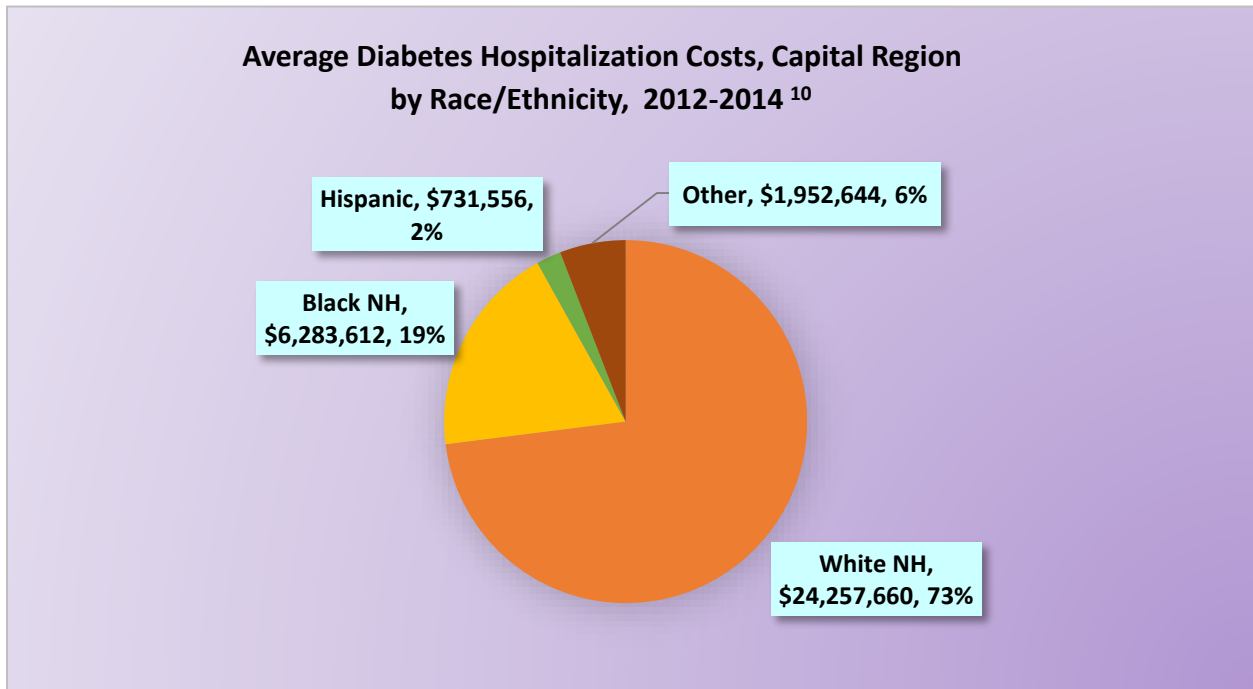


Albany contributed 38% (\$12.6M), Saratoga 18% (\$5.82 M), and Schenectady 17% (\$5.77M), of the Capital Region’s diabetes hospitalization costs.

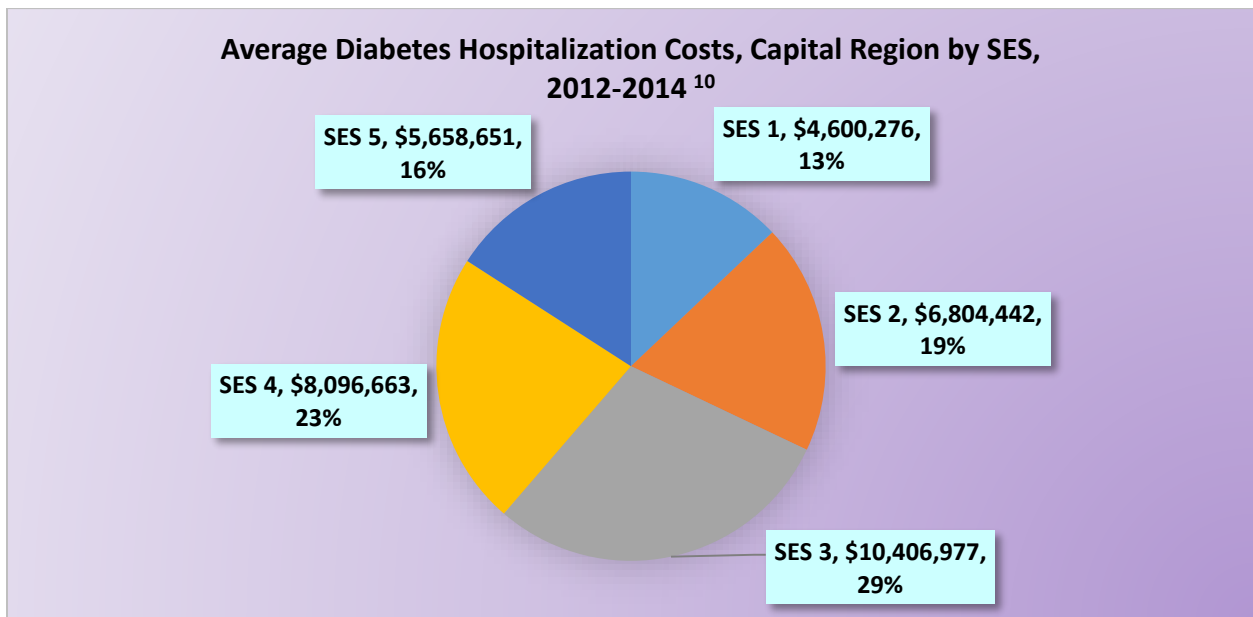
Capital Region males made up approximately 58% (\$19.3M) of the diabetes hospitalization costs.¹⁰



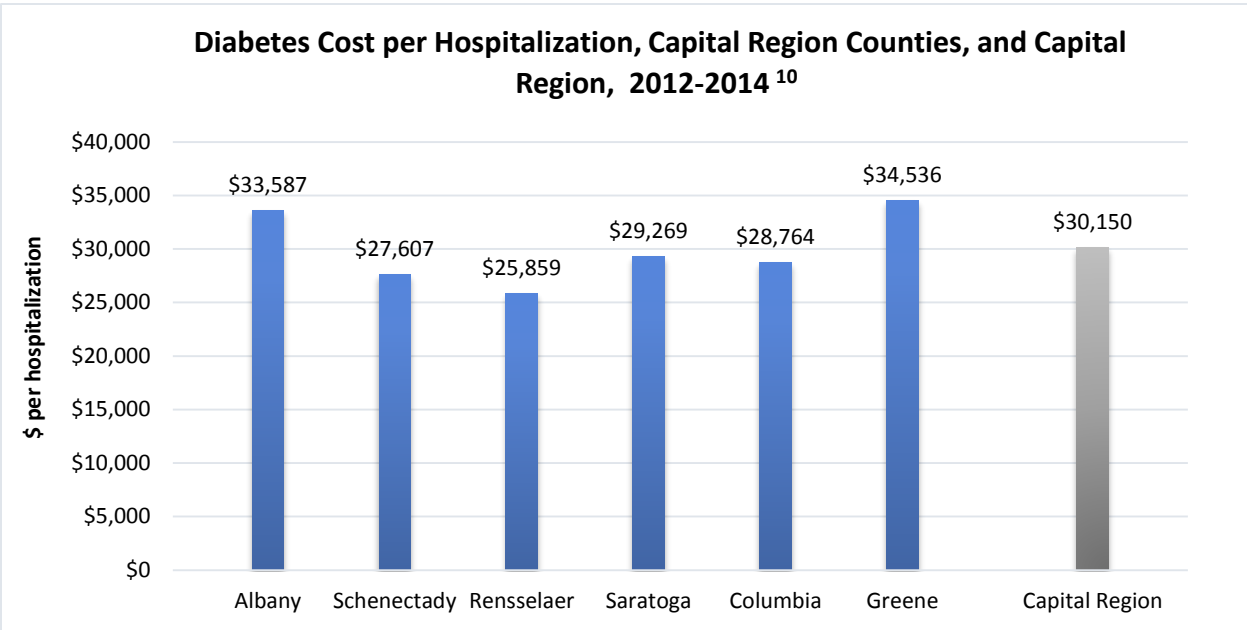
The 45-64 yr. age group contributed 41% of the Capital Region’s diabetes hospitalization costs, followed by the 25-44 yr. age group with 19%, and the 65-74 yr. age group with 18%.



White non-Hispanic residents made up 73% of the diabetes hospitalization costs, while Black non-Hispanic residents contributed 19%, and Hispanic residents 4% of the costs.

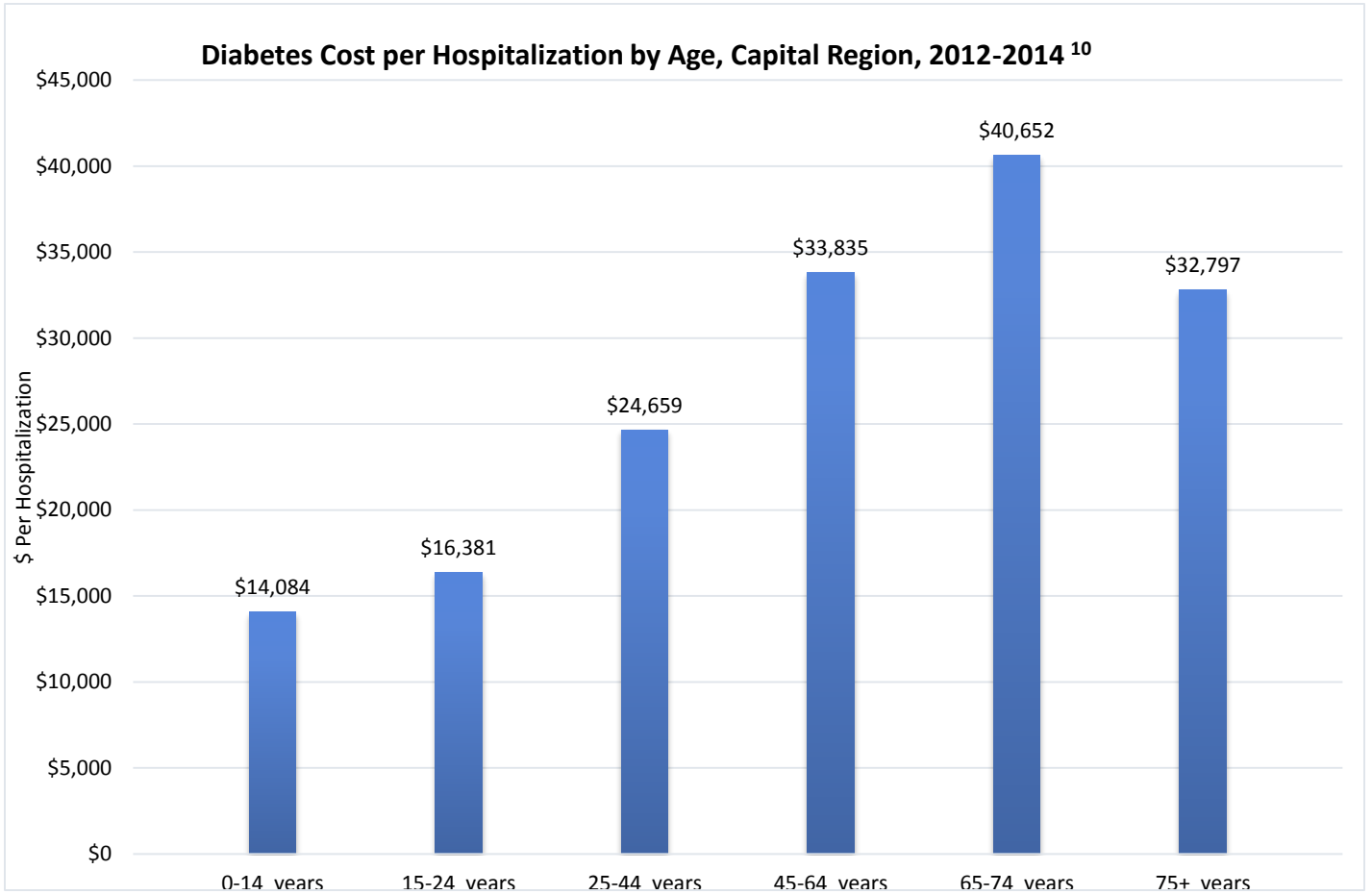


Capital Region’s SES 3 contributed 29% to the diabetes hospitalization costs, followed by SES 4 with 23%. Of the lower socioeconomic categories, SES 2 contributed 19% and SES 1 contributed 13% to the total diabetes hospitalization costs.

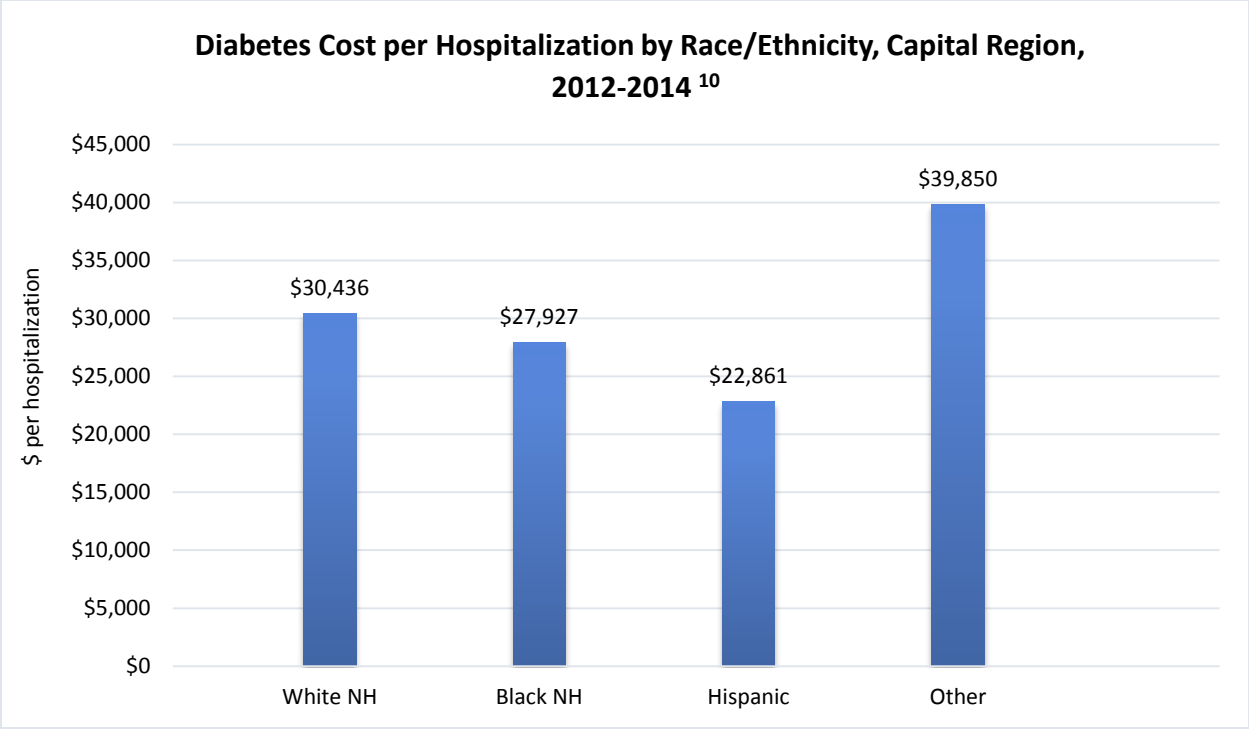


The Capital Region’s average cost per diabetes hospitalization was \$30,150. Greene had the highest cost per hospitalization at \$34,536 followed by Albany at \$33,587. Rensselaer residents had the lowest cost per hospitalization at \$25,859.

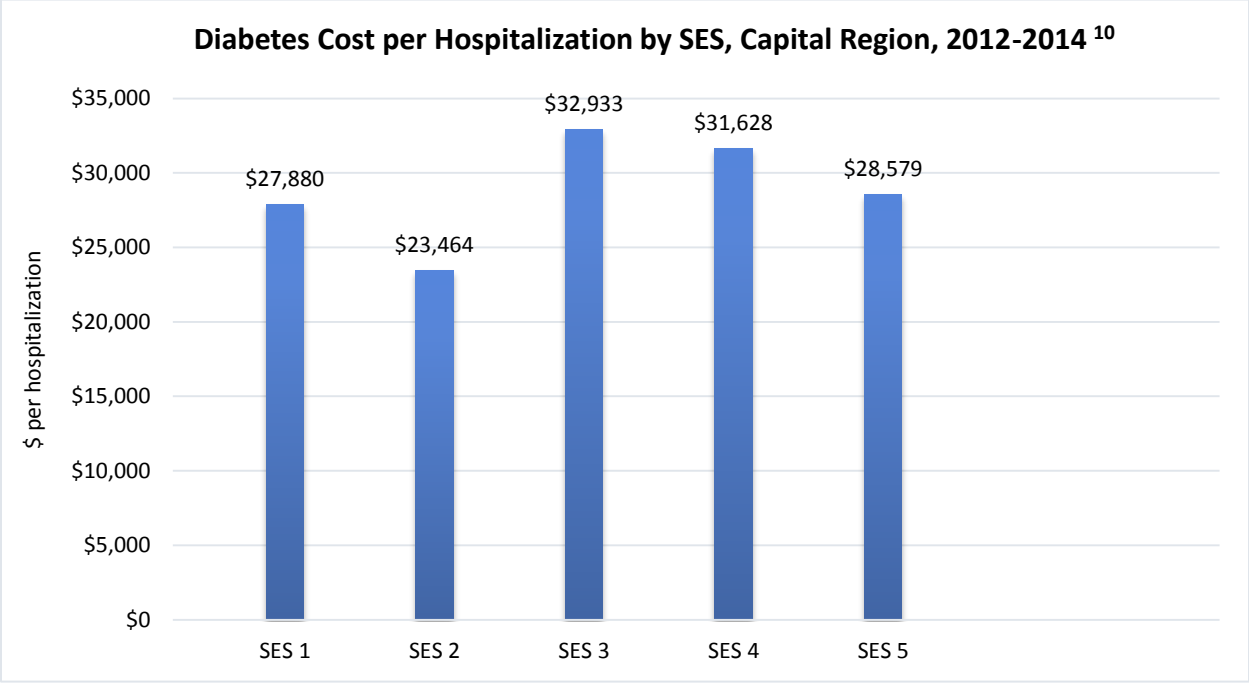
Male Capital Region residents had higher average costs per diabetes hospitalizations compared to female residents (\$31,721 vs \$28,217).¹⁰



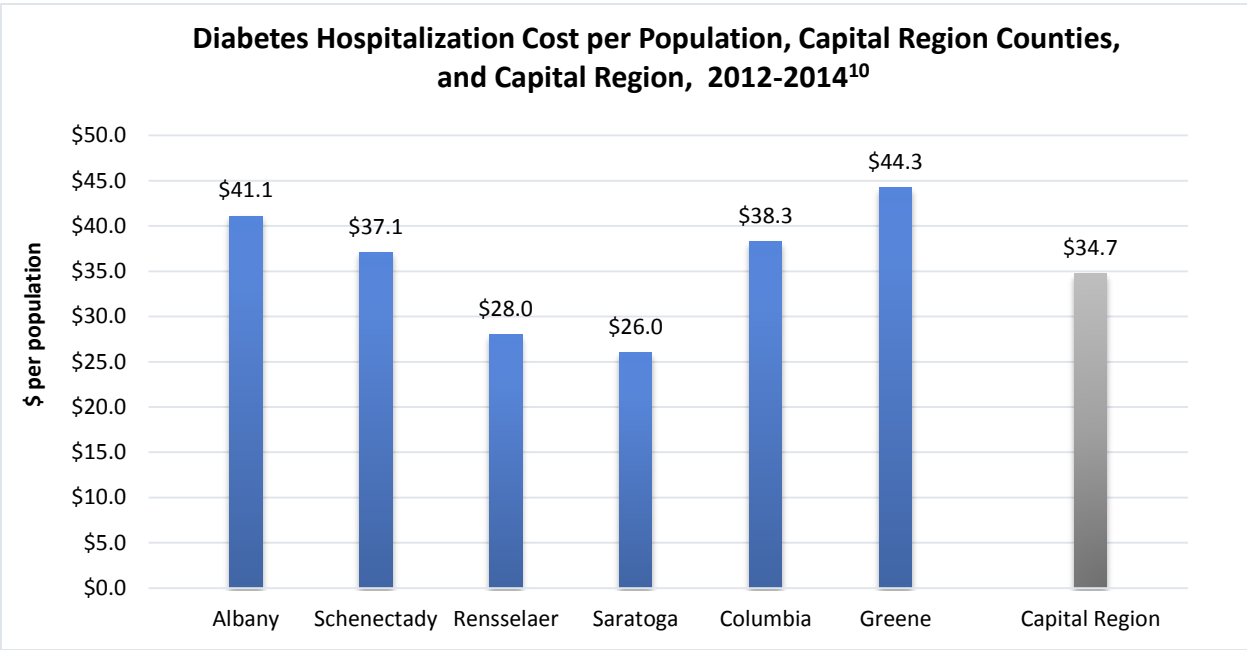
Cost per diabetes hospitalization increased with age in the Capital Region until the 75+ yr. age group.



Capital Region White non-Hispanic residents had a higher cost per diabetes hospitalization than either Black non-Hispanic or Hispanic residents.

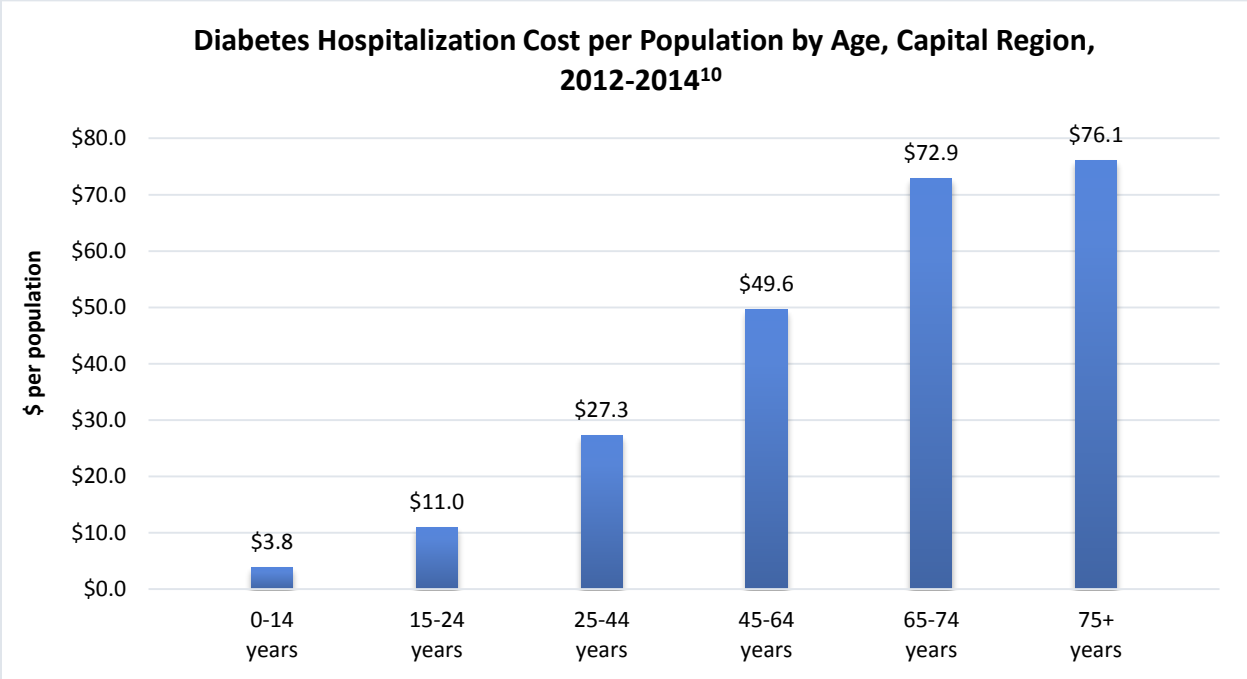


Capital Region residents in SES 3 and SES 4 had the highest costs per diabetes hospitalization. Residents in SES 2 and SES 1 had the lowest cost per diabetes hospitalization.

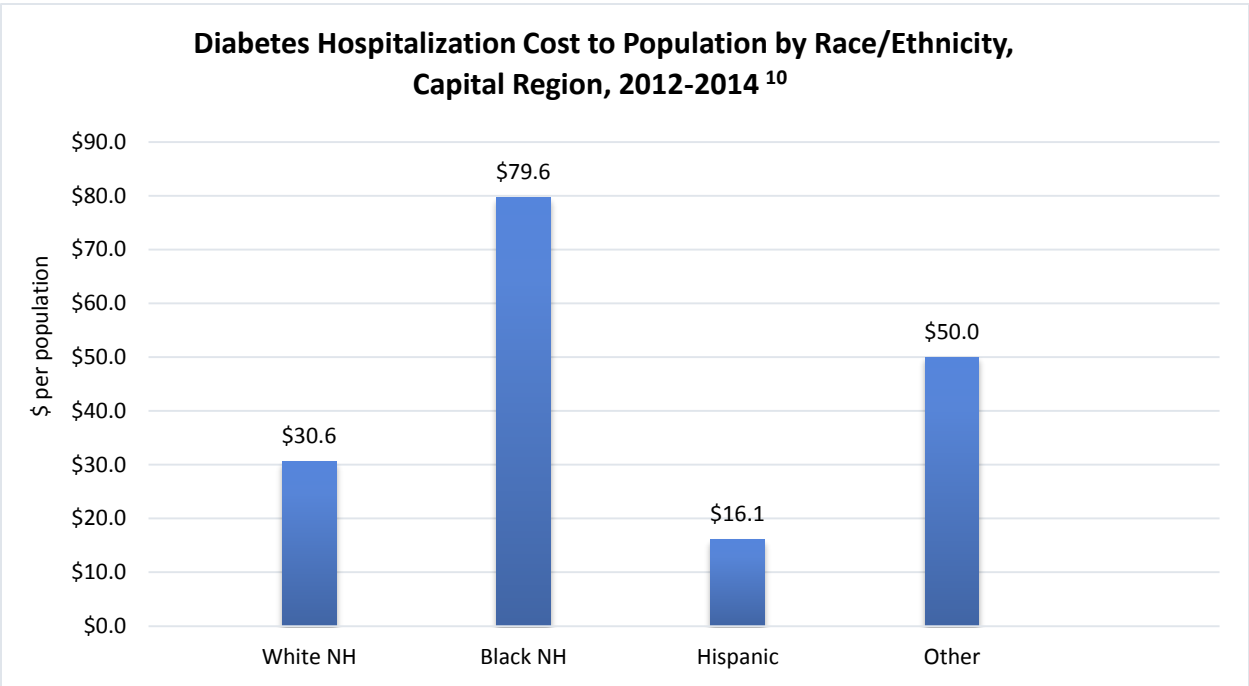


The diabetes hospitalization cost per Capital Region resident was \$34.7. Greene had the highest cost per resident followed by Albany. Saratoga had the lowest rate per resident.

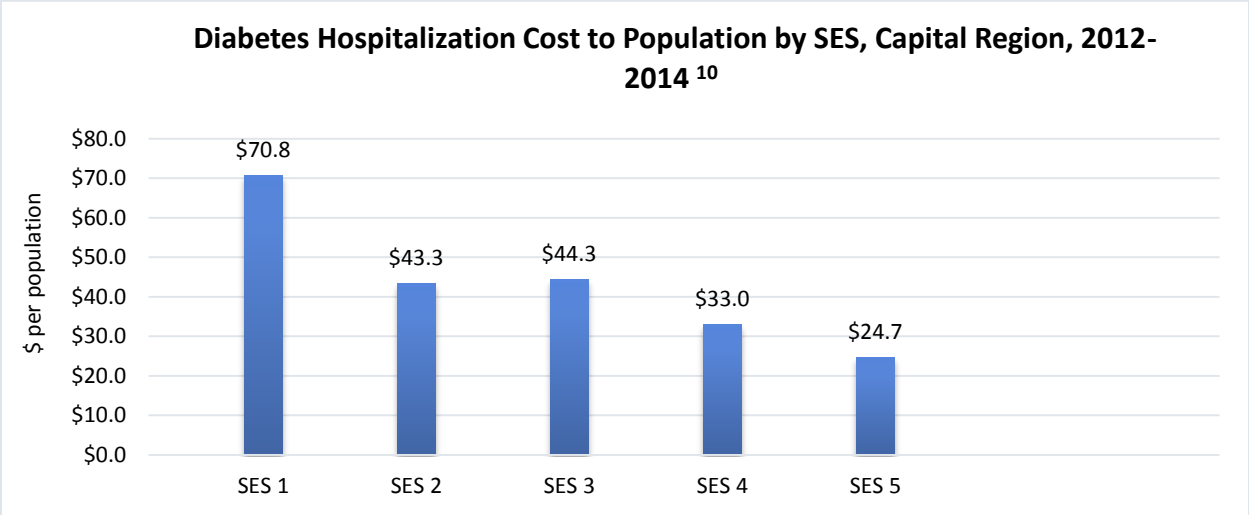
Male Capital Region residents had higher diabetes hospitalization costs per resident compared to female residents (\$41.0 vs \$28.6).¹⁰



Diabetes hospitalization costs per resident increased with age.



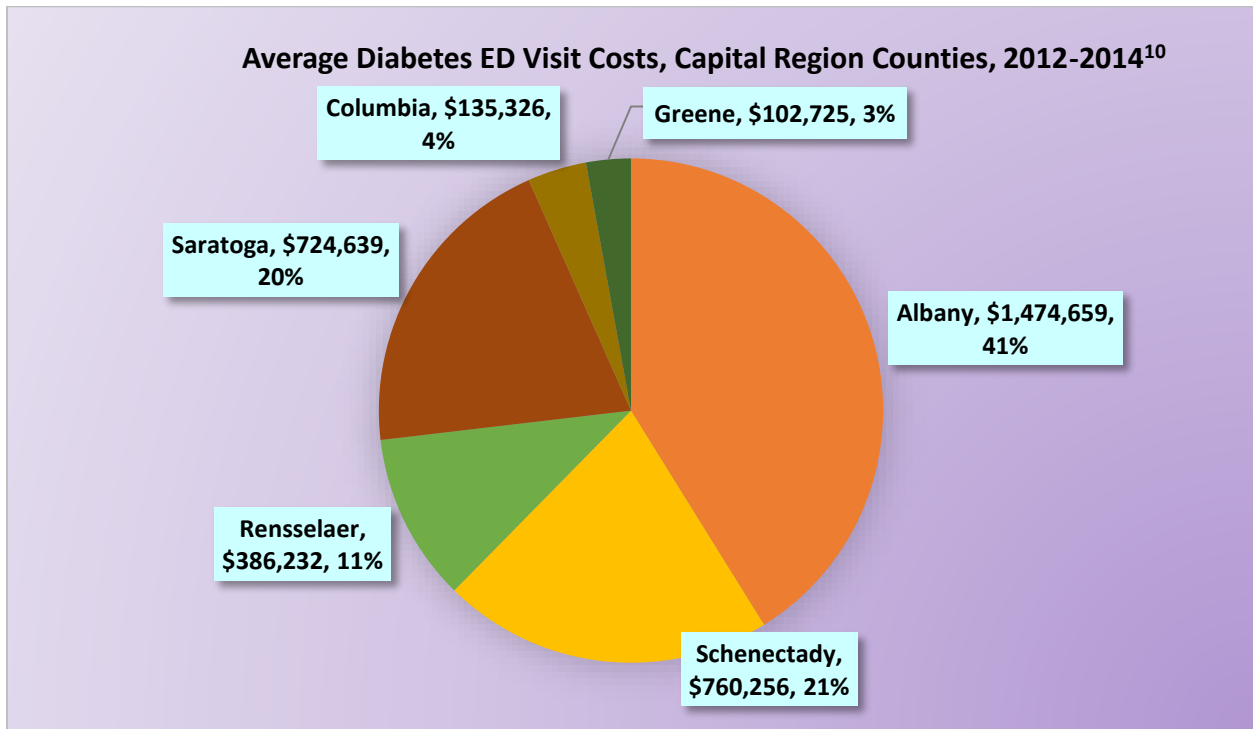
Capital Region Black non-Hispanic residents had a much higher per diabetes hospitalization cost per resident than either White non-Hispanic or Hispanic residents.



The lower the socioeconomic status in the Capital Region, the higher the diabetes hospitalization cost per resident.

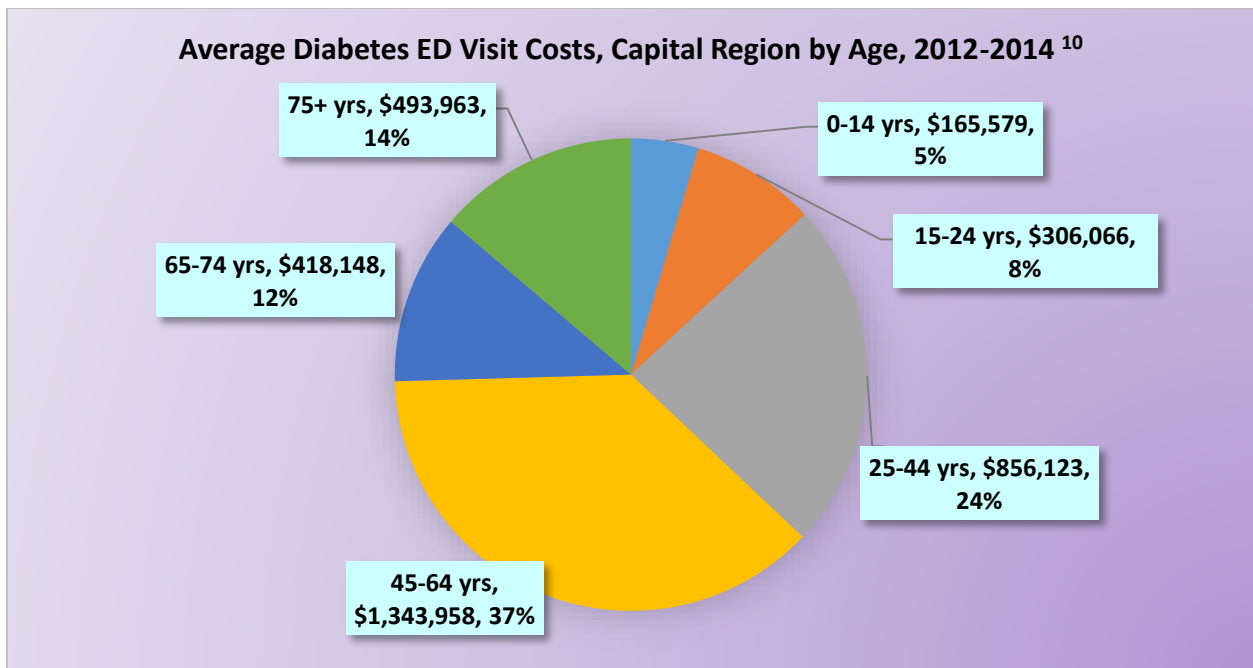
Diabetes ED Costs

The average 2012-14 diabetes ED visit (primary diagnosis) costs for the Capital Region was **\$3.6 million per year**.

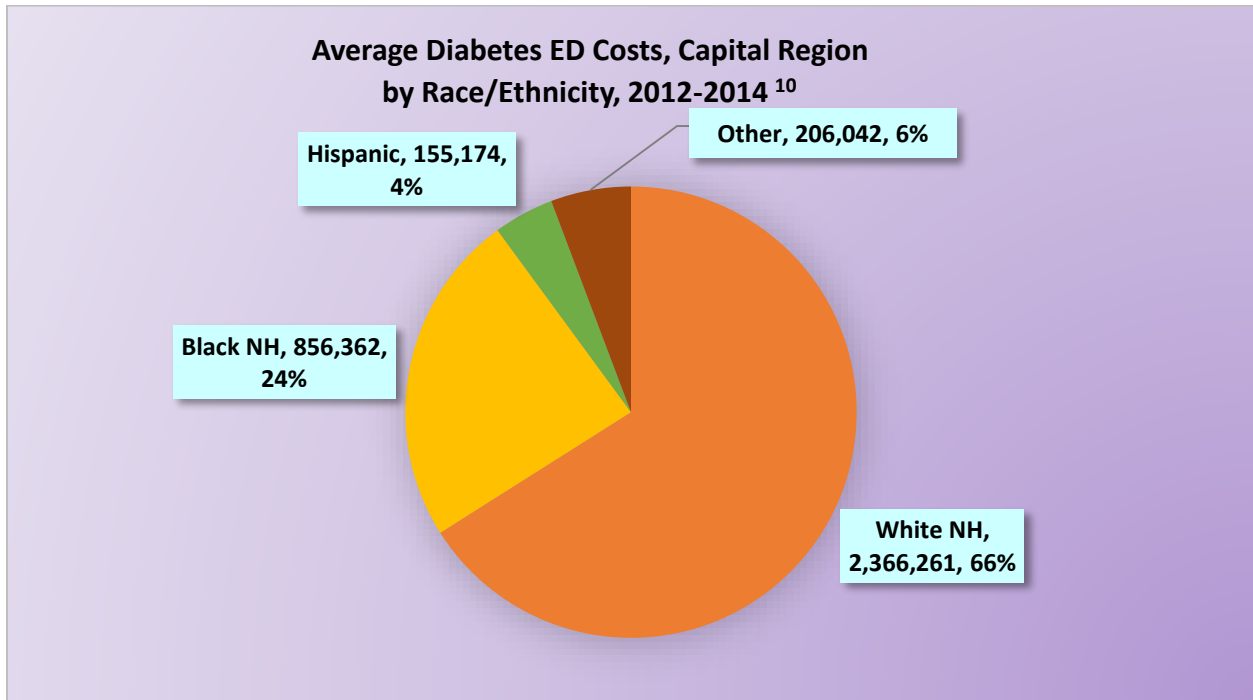


Albany contributed 41%, Schenectady 21%, and Saratoga 20%, of the Capital Region's diabetes ED visit costs.

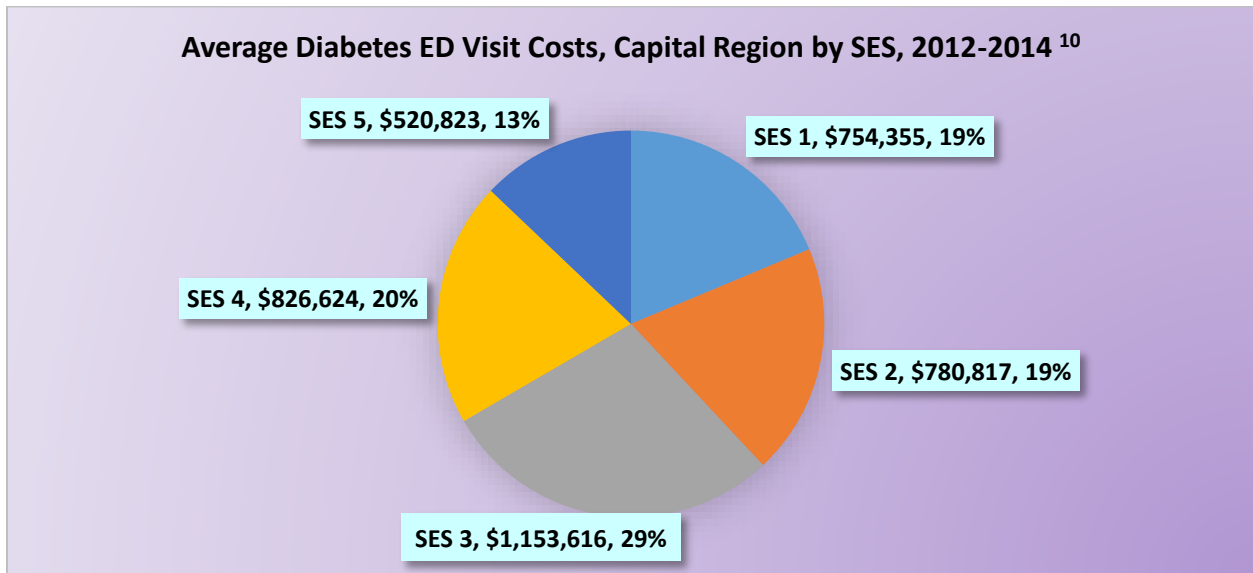
Capital Region males made up approximately 51% (\$1.8M) of the diabetes ED visit costs.¹⁰



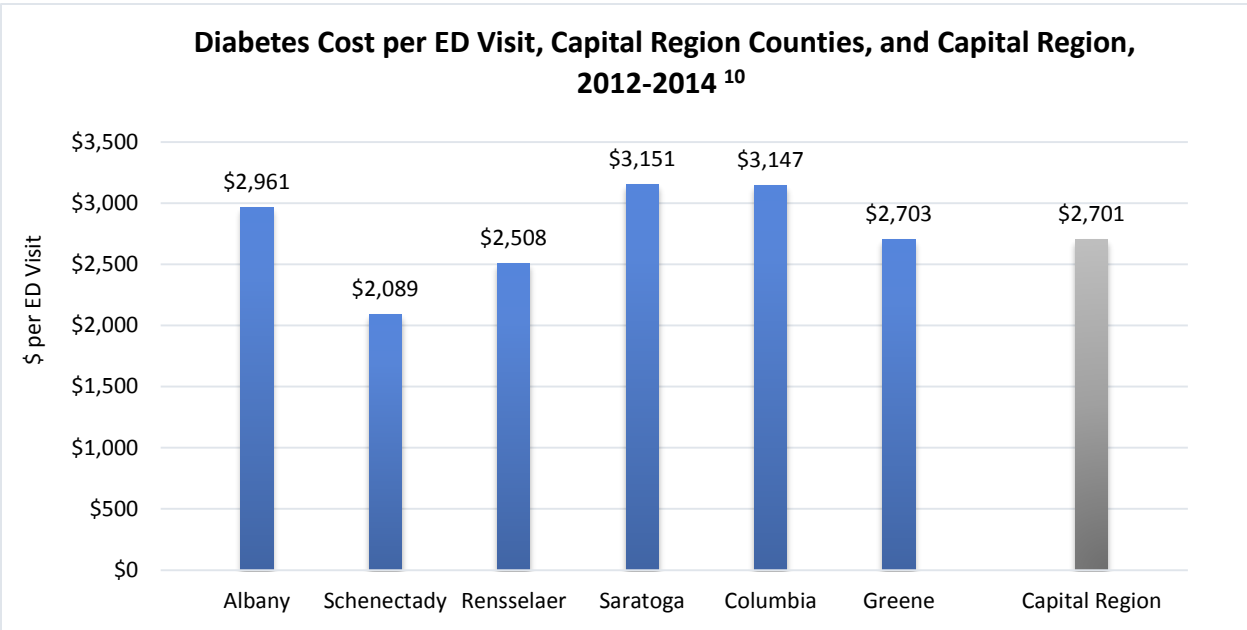
The 45-64 yr. age group contributed 37% of the Capital Region’s diabetes ED visit costs, followed by the 25-44 yr. age group with 24% of the costs.



White non-Hispanic residents made up 66% of the diabetes ED visit costs, while Black non-Hispanic residents contributed 24%, and Hispanic residents 4% of the costs.

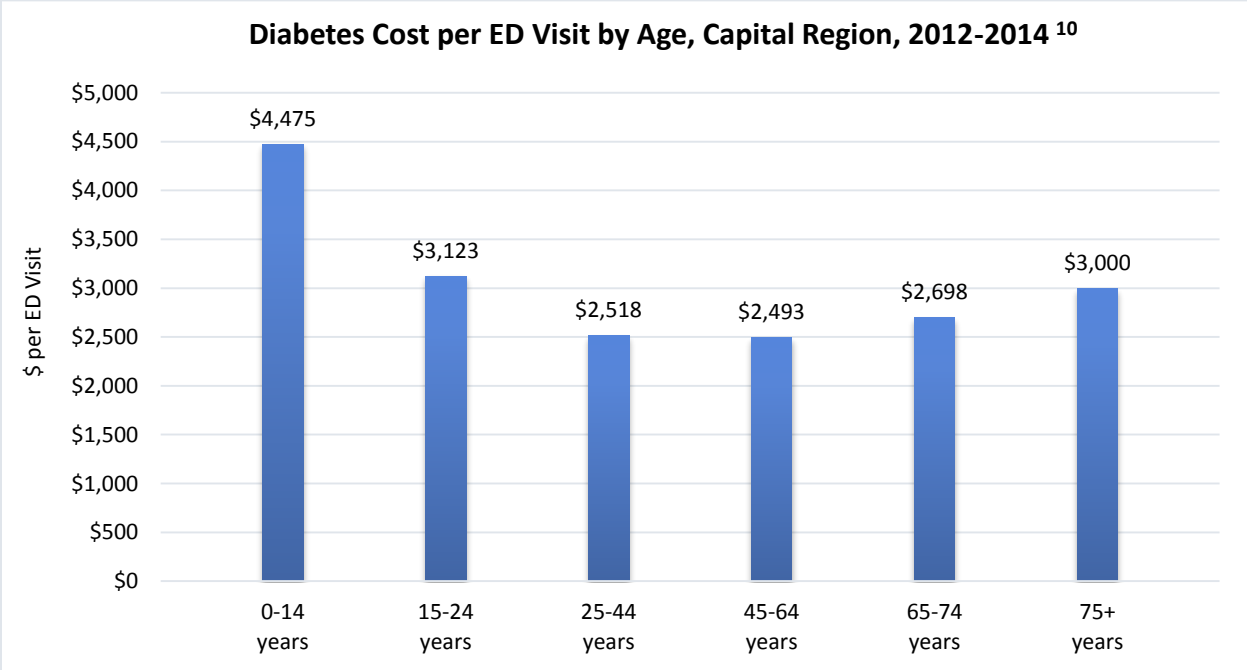


Capital Region’s SES 3 contributed 29% to the diabetes ED visit costs, followed by SES 4 with 20%. Of the lower socioeconomic categories, SES 2 contributed slightly over 19% and SES 1 contributed 19% to the total diabetes ED visit costs.

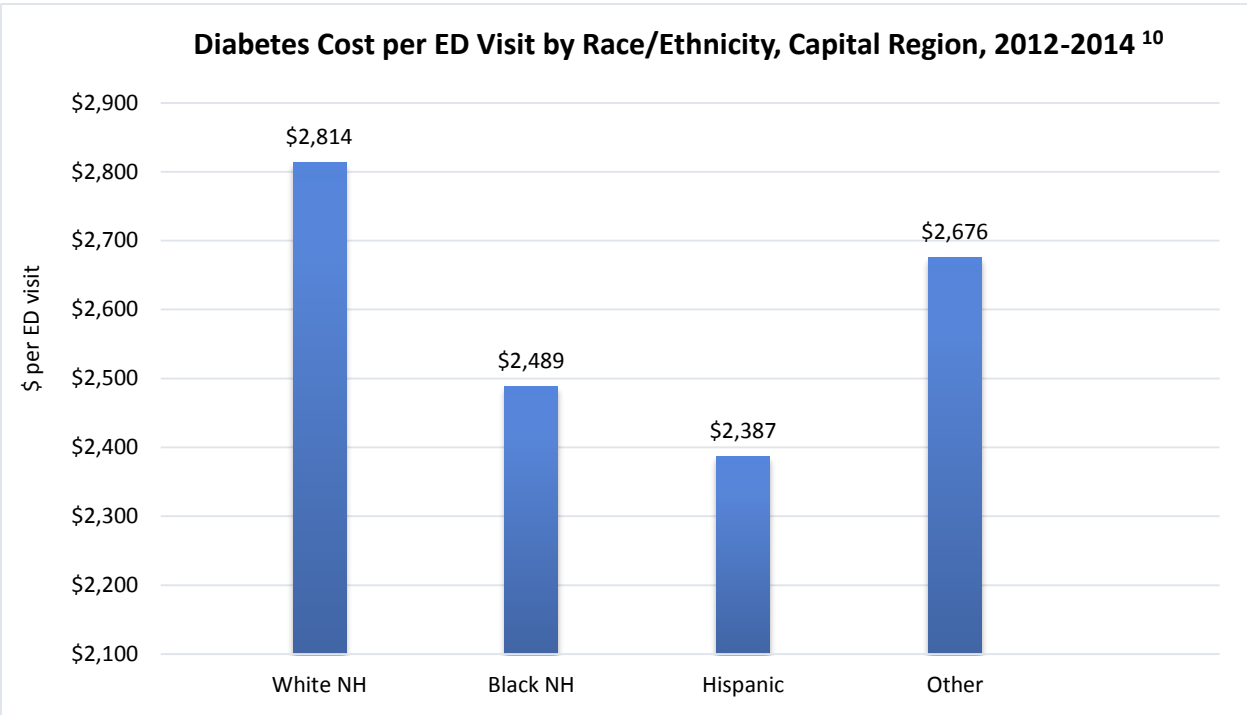


The Capital Region’s average cost per diabetes ED visit was \$2,701. Saratoga and Columbia had the highest cost per ED visit. Schenectady residents had the lowest cost per ED visit.

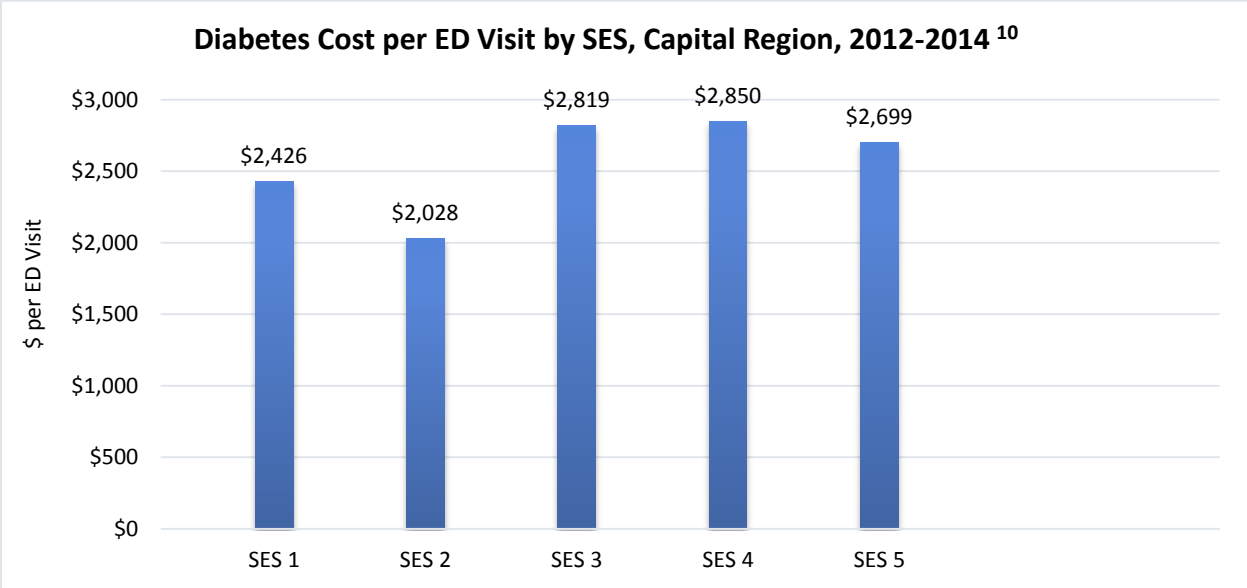
As opposed to diabetes hospitalizations, female Capital Region residents had higher average costs per diabetes ED visit compared to male residents (\$2,778 vs \$2,625). ¹⁰



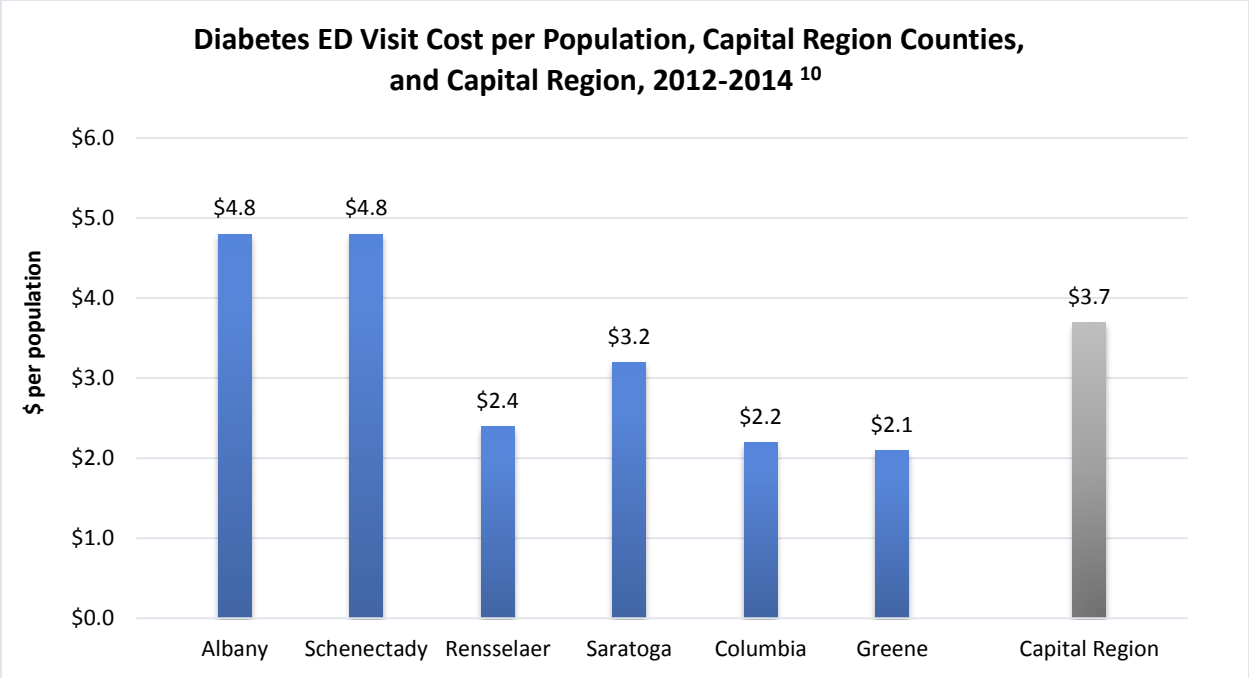
Cost per diabetes ED visits were highest in the younger ages.



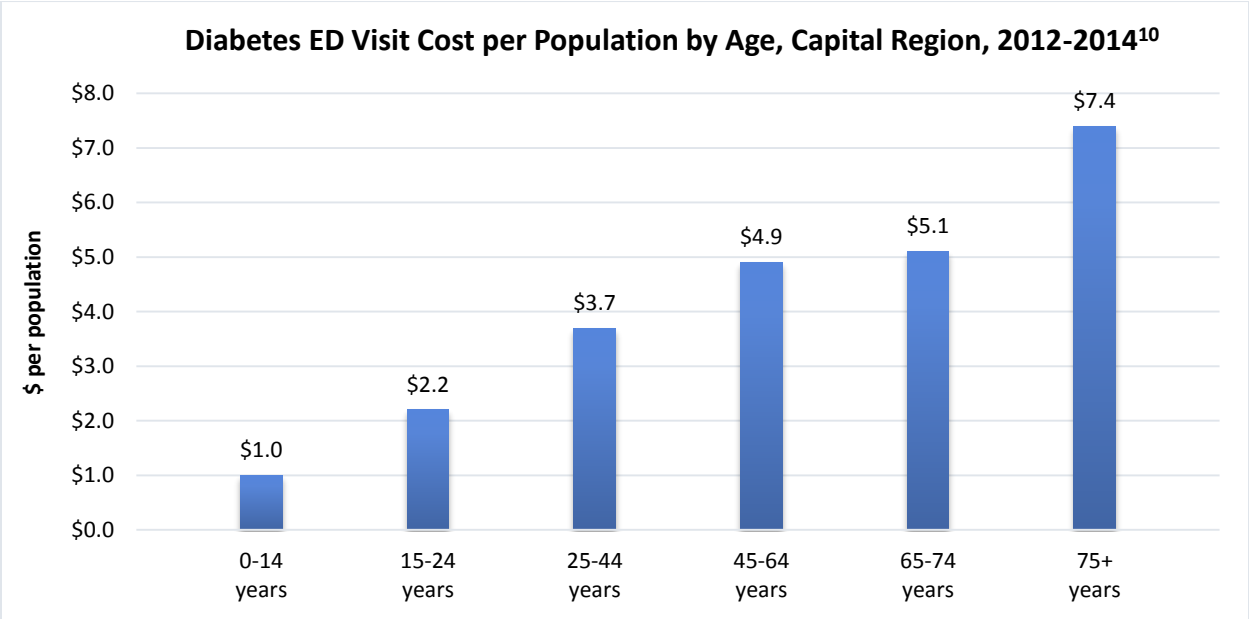
Capital Region White non-Hispanic residents had a higher cost per diabetes ED visit than either Black non-Hispanic or Hispanic) residents.



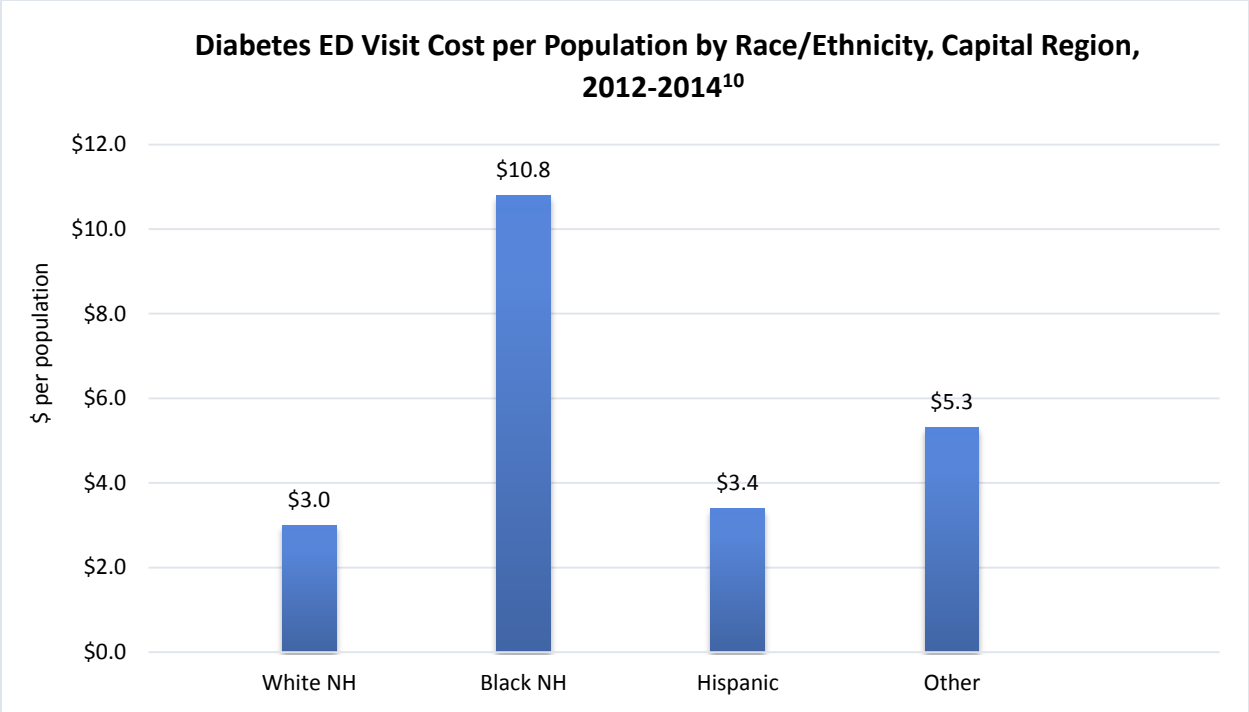
Capital Region residents in SES 4 and SES 3 had the highest costs per diabetes ED visit. Residents in SES 2 and SES 1 had the lowest cost per diabetes ED visits.



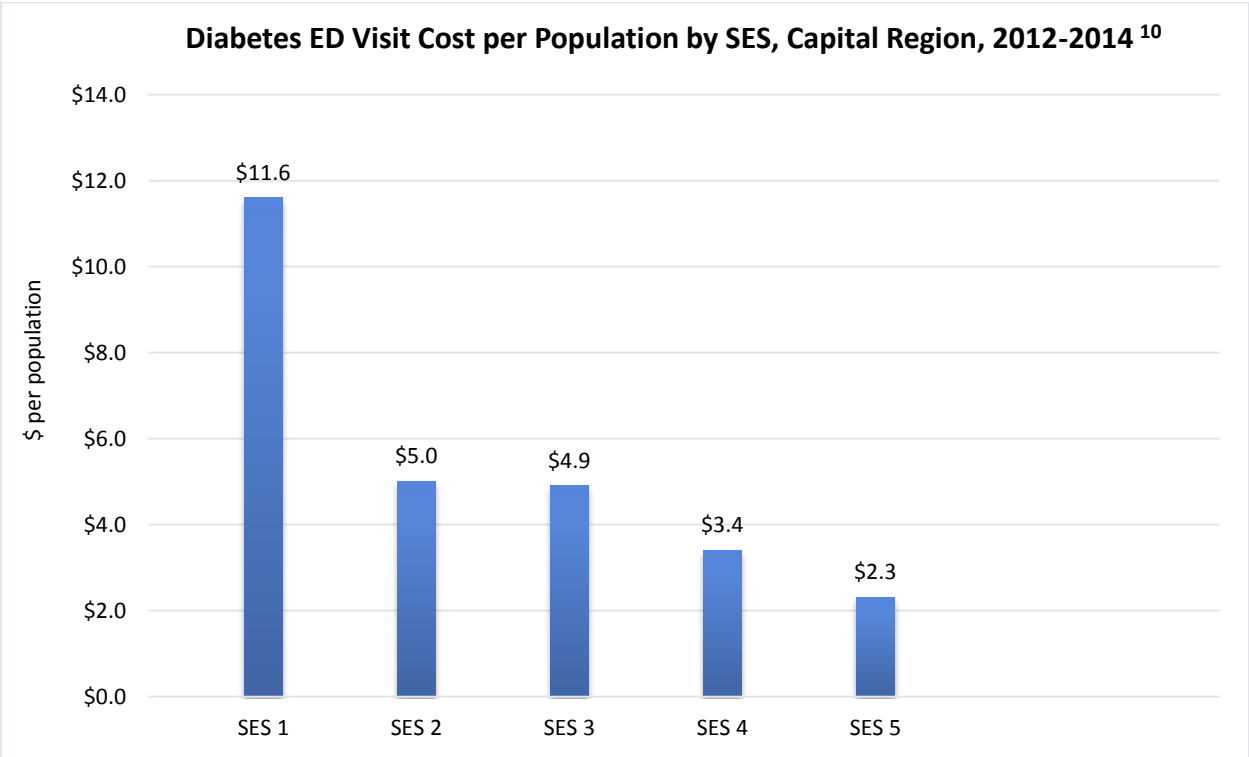
The diabetes ED visit cost per Capital Region resident was \$3.7. Schenectady and Albany (\$4.8) had the highest cost per resident. Greene (\$2.1) and Columbia (\$2.2) had the lowest rates per resident. Male Capital Region residents had similar diabetes ED visit cost per resident compared to female residents (\$3.8 vs \$3.7).¹⁰



Diabetes ED visit costs per resident increased with age.



Capital Region Black non-Hispanic residents had a much higher per diabetes ED visit cost per resident than either Hispanic or White non-Hispanic resident. The Black non-Hispanic cost per population was 3.6 times higher than their white non-Hispanic counterparts.



The lower the socioeconomic status in the Capital Region, the higher the diabetes ED visit cost per resident. Residents in SES 1 had 5 times the ED visit cost per population compared to those residing in SES 5.

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1. 2015 Kelly Report, Health Disparities in America, Washington, D.C.
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