

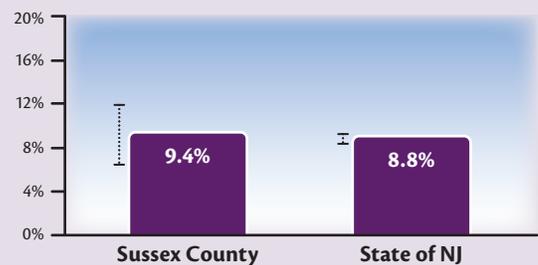
Asthma in New Jersey



Sussex County Asthma Profile

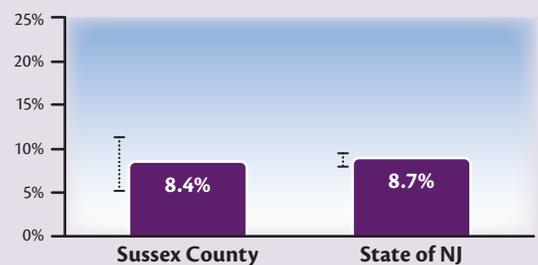
Asthma is a serious chronic disease that is marked by inflammation and bronchoconstriction in the airways. Asthma symptoms can be triggered by many factors and include shortness of breath, coughing, wheezing and chest tightness. Asthma cannot be cured, but it can be controlled. Uncontrolled asthma can lead to emergency department visits, hospitalization and even death. This series of profiles is designed to give an overview of the prevalence of asthma and hospital utilization due to asthma (emergency department and inpatient admissions) in each New Jersey county. The purpose is to inform community based organizations, health care organizations, program planners, and policy makers about geographic areas and demographic groups most affected by asthma for application in effective targeting of asthma interventions.

Figure 1 | **Estimated Percent of Adults with Current Asthma**



Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

Figure 2 | **Estimated Percent of Children with Current Asthma**

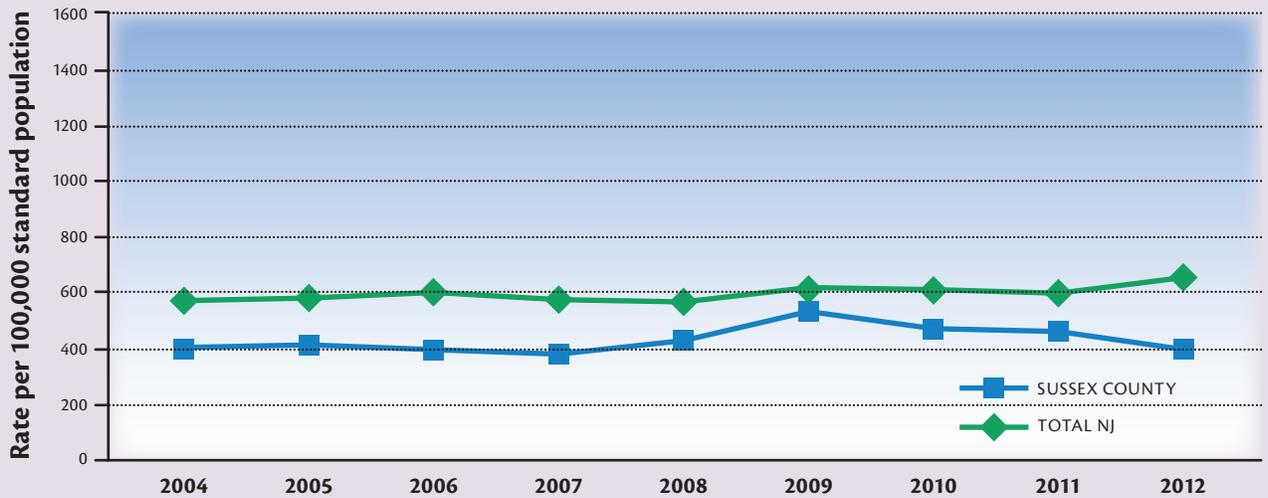


Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

Prevalence

Health survey data show that for 2011–2012, an estimated 10,546 adults (9.4 percent) and 2,714 children (8.4 percent) currently had asthma in Sussex County. This compares with an estimated 8.8 percent of adults and 8.7 percent of children in the state. Figures 1 and 2 show the 95 percent confidence intervals for the survey measurements. Taking into account measurement error, we cannot say that Sussex County's current asthma prevalence among adults or children differed from the state average.

Figure 3 | Age-adjusted asthma ED visits per 100,000 population



Direct method of age-adjustment using the 2000 U.S. standard population
 Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Emergency Department (ED) Visits¹

With appropriate management, asthma can be controlled so that most visits to the ED are avoided. In 2012, residents of Sussex County had 525 total asthma ED visits, or 356 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Sussex County contains 1.7 percent of the state’s population and accounted for 0.9 percent of the state’s asthma ED visits in 2012. Figure 3 shows Sussex County’s

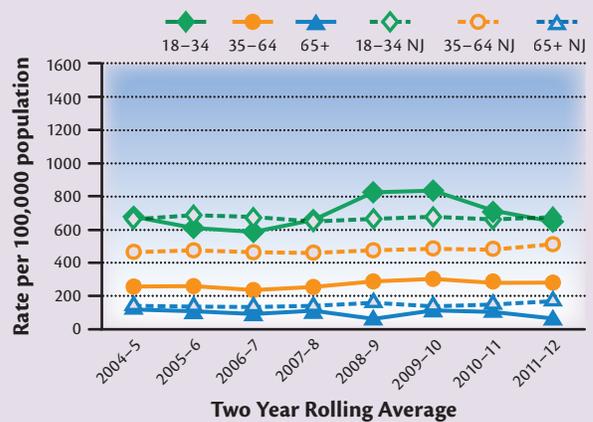
asthma ED visit rates compared with the overall rate in the state of New Jersey for the years 2004–2012 (adjusted to standardize for age differences in the population). Sussex County’s rate of asthma ED visits was below the state average by 15 to 40 percent during the period, and increased by two percent while the state average increased 14 percent.

Figure 4 | Asthma ED visits per 100,000 population for children, Sussex County and State of NJ



Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Figure 5 | Asthma ED visits per 100,000 population for adults, Sussex County and State of NJ

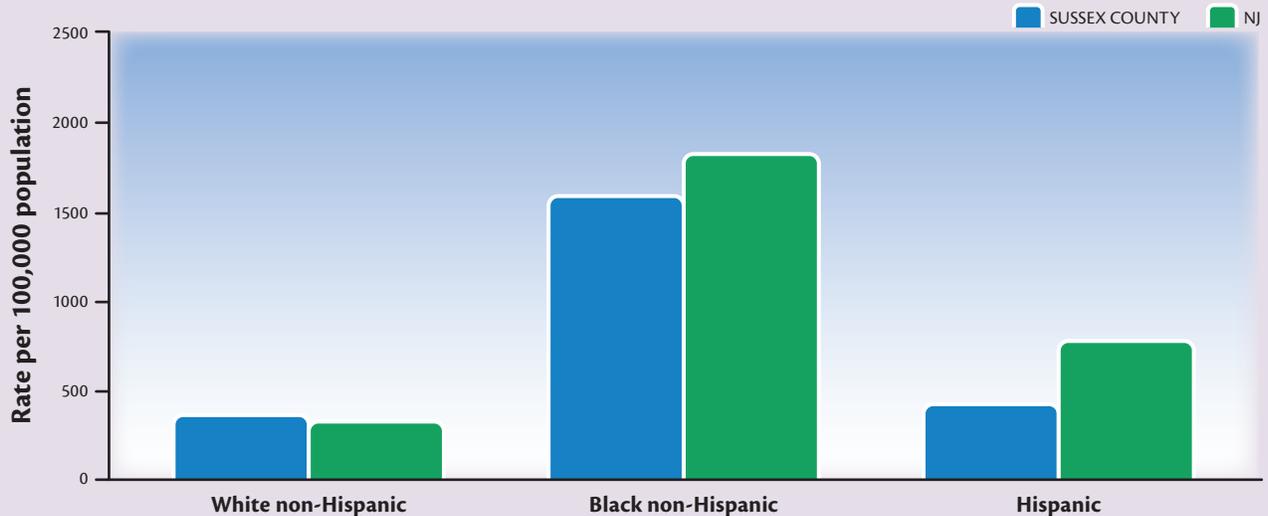


Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Asthma ED visits tend to vary by age, with children having higher visit rates than adults. Figures 4 and 5 show asthma ED visit rates per 100,000 population for Sussex County children and adults, and children and adults in the state of New Jersey from 2004–2012 (rolling averages are used for comparability because of low numbers in some age groups in some counties). Rates for all age groups except adults ages 18–34 were below their respective state averages over the period (rates for adults

18–34 ranged from 14 percent below the state average to 24 percent above). Rates for all age groups except children under age five either decreased or increased less than their state average—rates for children under age five increased by 27 percent over the period compared with a flat state average; however, by the end of the period, the asthma ED visit rate for children under five was still 48 percent below the state average for children under five.

Figure 6 | Asthma ED visit rate per 100,000 population, 2011–2012

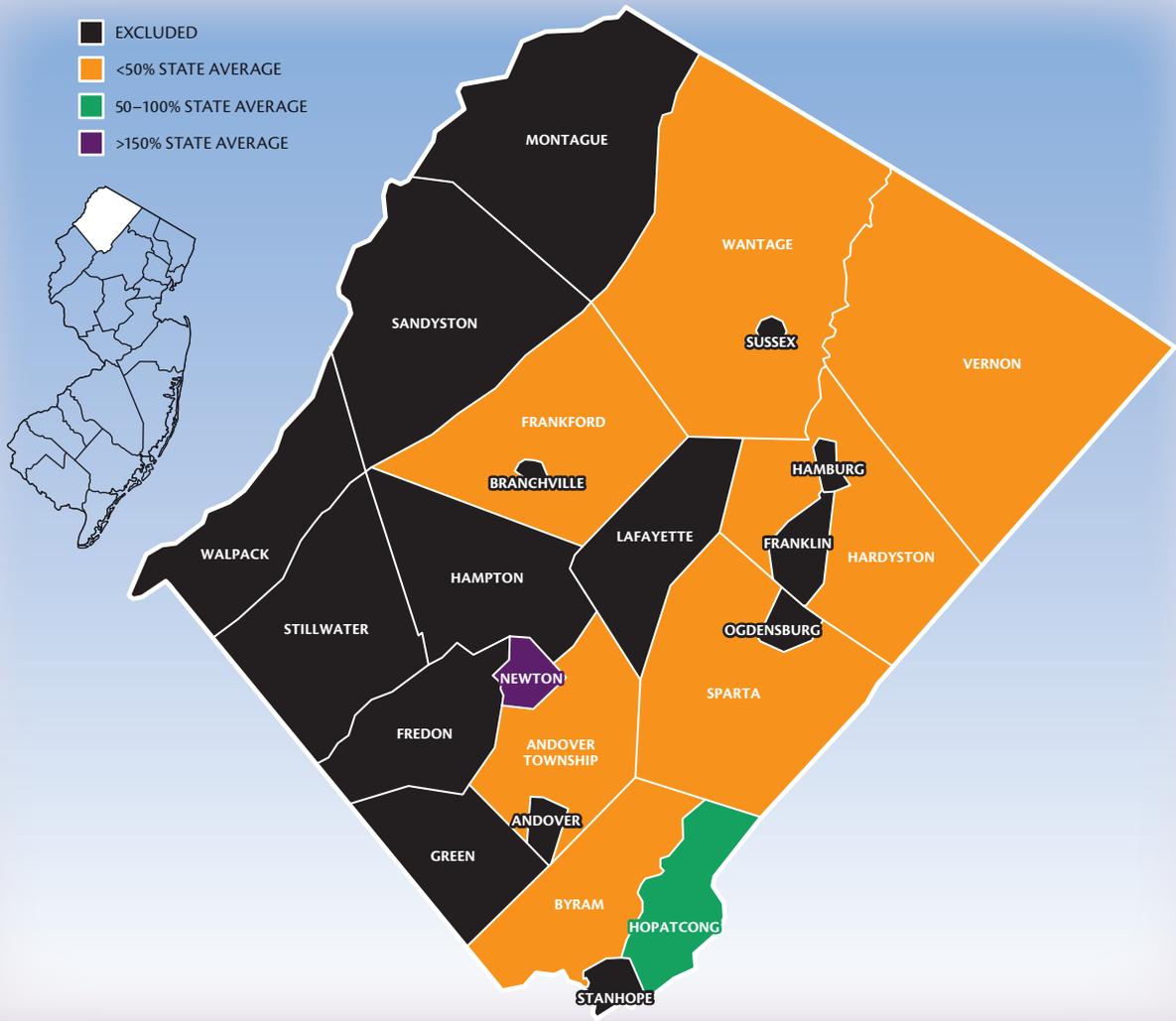


Note: Not age-adjusted
 Data source: 2011–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates

Asthma ED visits also vary quite a bit among racial and ethnic groups. Figure 6 shows asthma ED visit rates per 100,000 population for select racial/ethnic groups in Sussex County and the state of New Jersey for 2011–2012.² The highest rate was for non-Hispanic black residents of Sussex County, at 4.6 times the rate for non-Hispanic white residents and 3.9 times the rate for Hispanic residents. The asthma ED visit rate for Hispanic residents was 1.2 times the rate for non-Hispanic white residents. When comparing Sussex County racial and ethnic groups to their state averages, the rate for Hispanic residents was below their state average by 47 percent and the rate for non-Hispanic black residents was below their state average by 12 percent. The rate for non-Hispanic white residents was above their state average by ten percent.

The following map and table show the asthma ED visit rate by municipality of residence in Sussex County from 2008–2012 (only municipalities with a population of 5,500 or greater are shown). Newton’s asthma ED visit rate was about twice the state rate—Newton accounted for 15 percent of Sussex County’s asthma ED visits while only holding five percent of the population. The collective total of the municipalities with a population less than 5,500 had asthma ED visit rates above the state average—these smaller municipalities together accounted for 53 percent of asthma ED visits while only constituting 29 percent of the resident population.

Figure 7 | Asthma Emergency Department Visits for Sussex County Residents, 2008–2012



| Municipality | Average population, 2008–2012 | Asthma ED visits, 2008–2012 | Percent of County ED visits | Percent of County Population | Asthma ED visit rate per 100,000 residents, 2008–2012 | Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012 |
|---------------------------------------|-------------------------------|-----------------------------|-----------------------------|------------------------------|---|---|
| Andover township | 6,395 | 58 | 1.9% | 4.3% | 181 | 215 |
| Byram township | 8,359 | † | 0.0% | 5.6% | † | † |
| Frankford township | 5,572 | 36 | 1.2% | 3.7% | 129 | 164 |
| Hardyston township | 8,228 | 38 | 1.2% | 5.5% | 92 | 95 |
| Hopatcong borough | 15,241 | 310 | 10.0% | 10.2% | 407 | 441 |
| Newton town | 8,010 | 455 | 14.7% | 5.4% | 1136 | 1268 |
| Sparta township | 19,495 | 241 | 7.8% | 13.0% | 247 | 269 |
| Vernon township | 24,197 | 279 | 9.0% | 16.2% | 231 | 247 |
| Wantage township | 11,440 | 41 | 1.3% | 7.6% | 72 | 81 |
| Municipalities below 5,500 population | 42,609 | 1,628 | 52.6% | 28.5% | 764 | n/a |
| Sussex County | 149,546 | 3,095 | | | 414 | 456 |
| State of NJ | 8,774,778 | 261,822 | | | 597 | 622 |

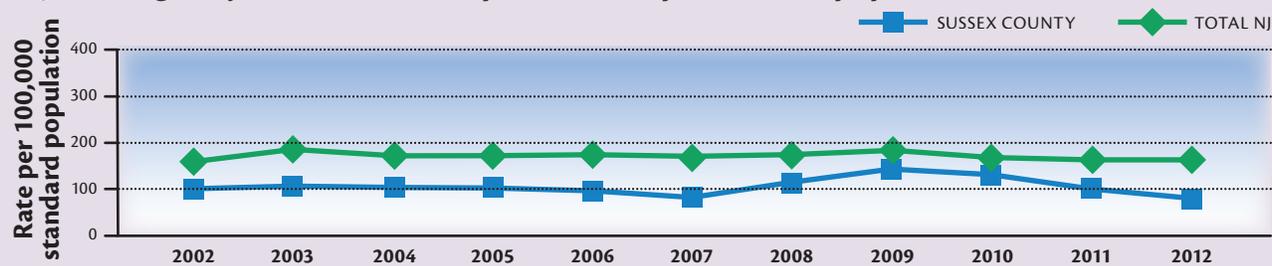
* Direct method of age-adjustment using the 2000 U.S. standard population

† Not included because number of visits was below confidentiality reporting threshold

Data source: 2008–2012 New Jersey ED Discharge Files

Population sources: NJ Department of Labor and Workforce Development: Municipal Estimates; US Bureau of the Census, 2010 Census Summary File 2 (QT-P2)

Figure 8 | **Age-adjusted asthma hospitalizations per 100,000 population**



Direct method of age-adjustment using the 2000 U.S. standard population

Data source: 2002–2012 New Jersey Hospital Discharge Files

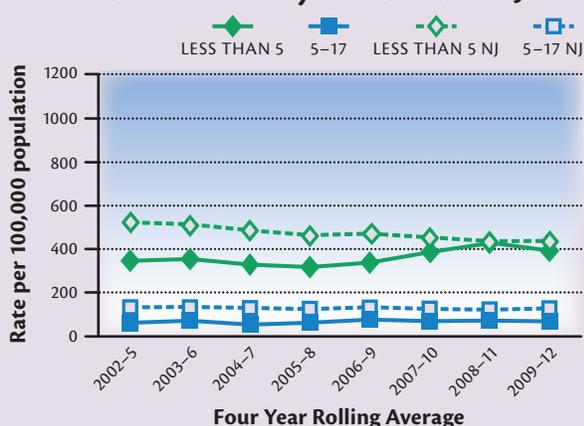
Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Hospitalizations¹

As with ED visits, most asthma-related hospitalizations can be avoided through appropriate management. In 2012, residents of Sussex County had 117 total asthma hospitalizations, or 79 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Sussex County contains 1.7 percent of the state’s population and accounted for 0.8 percent of

the state’s asthma hospitalizations in 2012. Figure 8 shows Sussex County’s asthma hospitalization rates compared with the overall rate in the state of New Jersey for the years 2002–2012 (adjusted to standardize for age differences in the population). Sussex County’s rate of asthma hospitalizations was consistently below the state average by 37 percent, on average.

Figure 9 | **Asthma hospitalizations per 100,000 population for children, Sussex County and State of NJ**

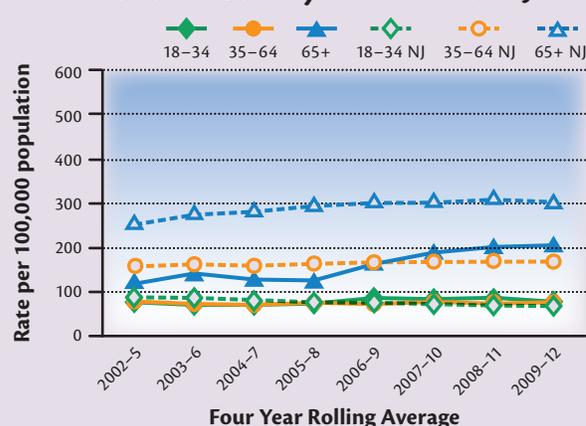


Data source: 2002–2012 New Jersey Hospital Discharge Files

Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Asthma hospitalizations tend to be highest among the youngest and oldest residents. Figures 9 and 10 show asthma hospitalization rates per 100,000 population for Sussex County children and adults, and children and adults in the state of New Jersey from 2002–2012 (rolling averages are used for comparability because of low numbers in some age groups in some counties). Rates for all age groups except adults ages 18–34 were at or below their

Figure 10 | **Asthma hospitalizations per 100,000 population for adults, Sussex County and State of NJ**

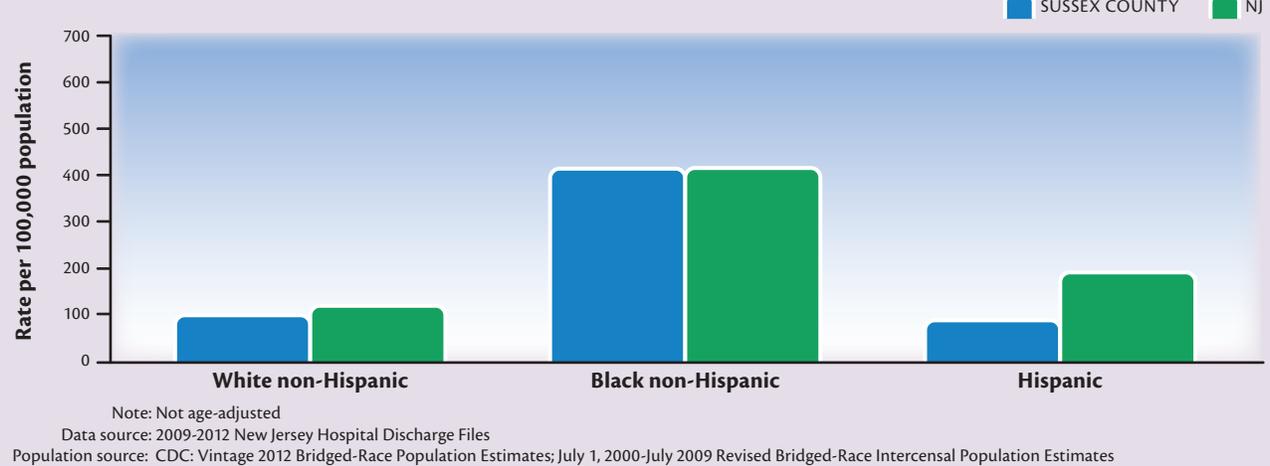


Data source: 2002–2012 New Jersey Hospital Discharge Files

Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

respective state averages over the period (adults ages 18–34 were above their state average by seven percent, on average, over the period). Rates for all age groups except adults 35–64 grew faster than their respective state averages over the period. The highest growth was in rates for adults 65 and over—61 percent over the period, compared with an 18 percent increase in the state average.

Figure 11 | **Asthma hospitalizations per 100,000 population, 2009–2012**



Asthma hospitalizations also vary quite a bit among racial and ethnic groups. Figure 11 shows asthma hospitalization rates per 100,000 population for select racial/ethnic groups in Sussex County and the state of New Jersey from 2009–2012.² Non-Hispanic black residents of Sussex County had the highest asthma hospitalization rate—4.2 times the rate for non-Hispanic white residents and 4.6 times the rate for Hispanic residents. The asthma hospitalization rate for Hispanic residents was 0.91 times (nine

percent below) the rate for non-Hispanic white residents. When comparing Sussex County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents differed less than one percent from the state average for non-Hispanic black people, while the rate for non-Hispanic white residents was below their state average by 18 percent and the rate for Hispanic residents was below their state average by 53 percent.

Summary

Sussex County’s asthma prevalence in 2011–2012 does not differ significantly from the state average when looking at current asthma among adults and children. Rates of asthma-related emergency department (ED) visits and asthma-related hospitalizations were consistently below the state average over the past decade. Asthma ED visit and asthma hospitalization rates for nearly all Sussex County age groups were at or below their respective state averages over the period (the exception was adults ages 18–34, for whom both rates were higher, on average). Asthma ED visit rates for all age groups except children under age five either decreased or increased less than their state average from 2004–2012. Asthma ED visit rates for Sussex County children under age five increased relative to the state average but remained well below the average. Asthma hospitalization rates for almost all Sussex County age groups grew faster than their state averages (the exception was for adults age 35–64). The fastest growth in the asthma hospitalization rate was for Sussex County adults ages 65 and over, who saw an increase of 61 percent over the period, compared with an 18 percent increase in the state average for people in that age group.

Non-Hispanic black residents of Sussex County had the highest rates of both asthma ED visit rates and asthma hospitalizations compared with non-Hispanic white and Hispanic residents. The asthma ED visit rate for non-Hispanic black residents was 4.6 times the rate for non-Hispanic white residents and the asthma hospitalization rate was 4.2 times as high. The asthma ED visit rate for Hispanic residents was 1.2 times the rate for non-Hispanic white residents, but the asthma hospitalization rate for Hispanic residents was 0.91 times (nine percent below) the rate for non-Hispanic white residents.

An analysis of asthma-related ED visits by municipality showed that Newton’s asthma ED visit rate was about twice the state rate. Newton accounted for 15 percent of Sussex County’s asthma ED visit rates while only holding five percent of the population. The collective total of the municipalities with a population less than 5,500 had asthma ED visit rates above the state average—these smaller municipalities together accounted for 53 percent of asthma ED visits while only constituting 29 percent of the resident population.

For more information:

New Jersey Asthma Awareness and Education Program: www.nj.gov/health/asthma

For asthma resources and tools:

Pediatric Adult Asthma Coalition of New Jersey (PACNJ): www.pacnj.org

Notes:

- ¹ Data on asthma-related ED visits and hospitalizations are derived from hospital uniform billing (UB) information, which is used to submit claims for health care. Some variables are not required for claim processing (such as race, ethnicity, and municipality of residence), and should be interpreted with caution. Our figures also use population estimates, which are subject to measurement error that may differ across population subgroups (for example, people who are homeless, move frequently or lack legal documentation for residence may be more difficult to measure).
- ² There are many racial and ethnic groups in addition to the three shown in the figure. However, not all groups are adequately captured in the uniform billing data over time, and many groups do not have sufficient numbers across all counties to allow for a standard presentation. In addition, data on Hispanic ethnicity should be interpreted with caution as it may conceal important differences among sub-groups.

Funding for this effort was provided by the CDC Cooperative Agreement entitled *Addressing Asthma from a Public Health Perspective* (5U59EH000491-05). The contents are solely the responsibility of the authors and do not necessarily represent the official view of the CDC.

