

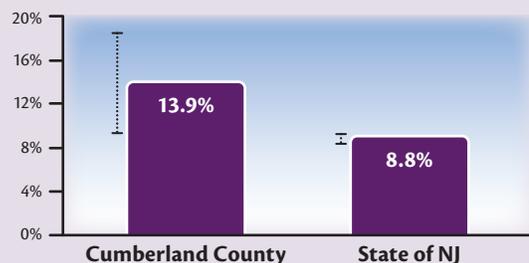
Asthma in New Jersey



Cumberland County Asthma Profile

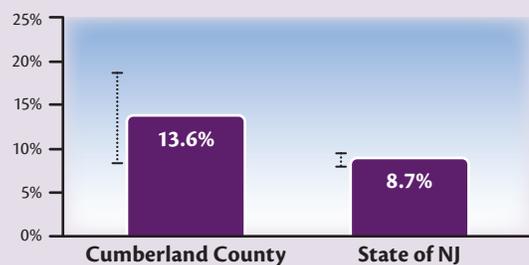
Asthma is a serious chronic disease that is marked by inflammation and bronchoconstriction in the airways. Asthma symptoms can be triggered by many factors and include shortness of breath, coughing, wheezing and chest tightness. Asthma cannot be cured, but it can be controlled. Uncontrolled asthma can 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**

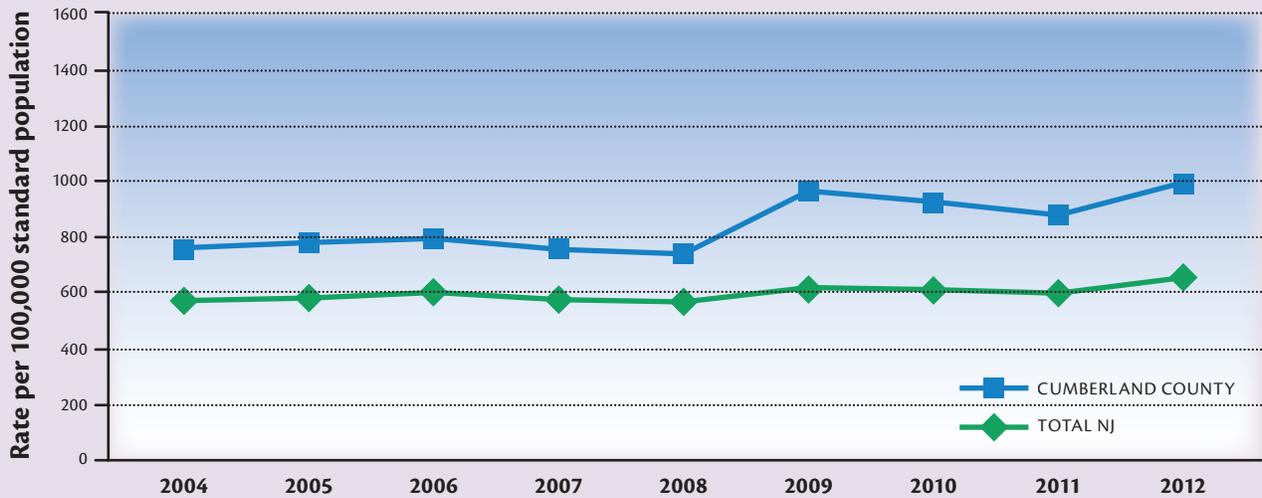


Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

Prevalence

Health survey data show that for 2011–2012, an estimated 16,090 adults (13.9 percent) and 4,533 children (13.6 percent) currently had asthma in Cumberland 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, the rate of current asthma prevalence among Cumberland County adults was above the state average, but we cannot say that Cumberland County's current asthma prevalence among children differed from the state average.

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



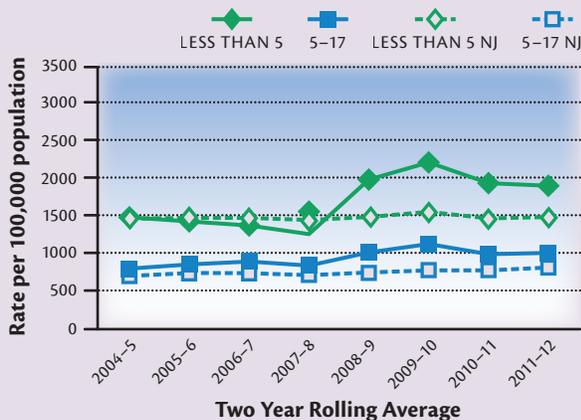
Direct method of age-adjustment using the 2000 U.S. standard population
 Note: 2010 values are an average of 2009 & 2011²
 Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal 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 Cumberland County had 1,543 total asthma ED visits, or 978 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Cumberland County contains 1.8 percent of the state’s population and accounted for 2.7 percent of the state’s asthma ED visits in 2012. Figure 3

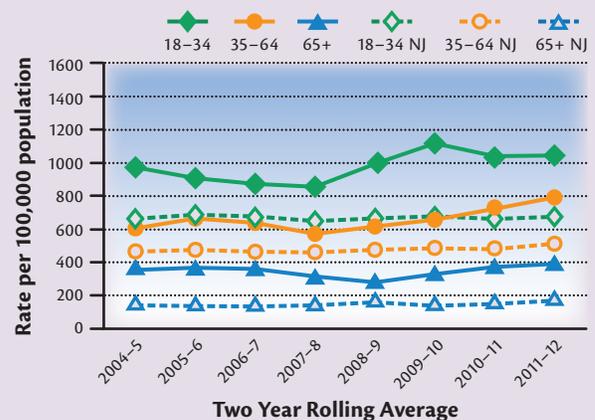
shows Cumberland County’s asthma ED visit rates compared with the overall rate in the state of New Jersey for the years 2004–2012 (adjusted to standardize for age differences in the population). In 2004, Cumberland County’s rate of asthma ED visits was 30 percent higher than the state average. By 2012, it was 49 percent higher.

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



Note: 2010 values are an average of 2009 & 2011²
 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, Cumberland County and State of NJ

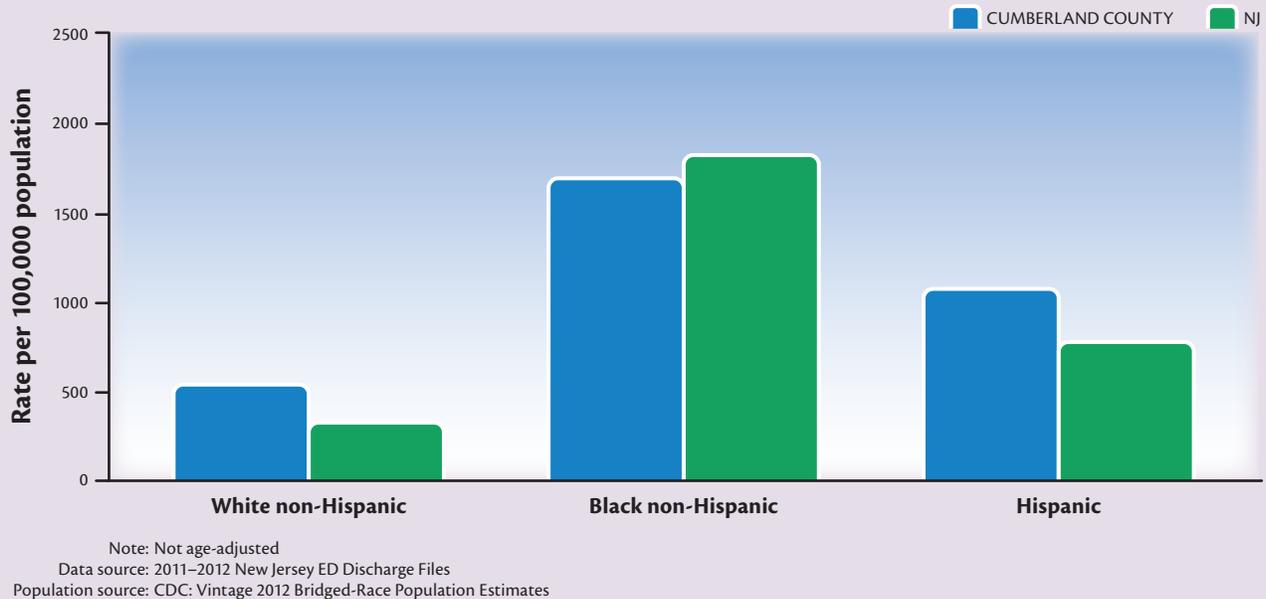


Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

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 Cumberland 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 were above their state averages over the period. In addition, rates for all age groups except adults over age 65 grew faster than their respective state averages, with children under age five growing the most over the period (28 percent, versus no growth in the state average for that group).

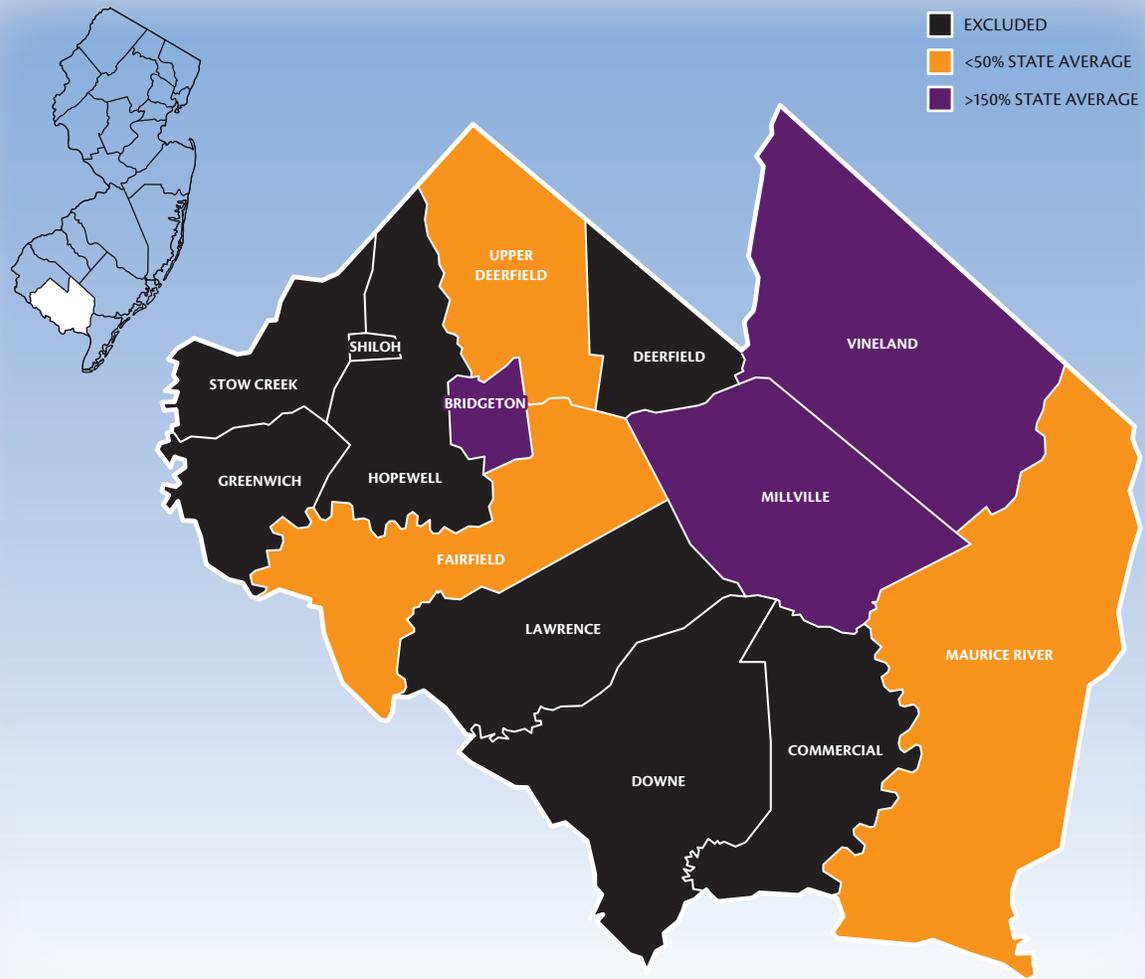
Figure 6 | Asthma ED visit rate per 100,000 population, 2011–2012



Asthma ED visits also vary quite a bit among racial and ethnic groups. The figure below shows asthma ED visit rates per 100,000 population for select racial/ethnic groups in Cumberland County and the state of New Jersey for 2011–2012.³ The highest rate was for non-Hispanic black residents of Cumberland County, at 3.3 times the rate for non-Hispanic white residents and 1.6 times the rate for Hispanic residents. The asthma ED visit rate for Hispanic residents was 2.1 times the rate for non-Hispanic white residents. When comparing Cumberland County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents was seven percent below the state average for non-Hispanic black people. The rate for Hispanic residents was 38 percent above the state average for Hispanic people, and the rate for non-Hispanic white residents was 65 percent above their state average.

The following map and table show the asthma ED visit rate by municipality of residence in Cumberland County (only municipalities with a population of 5,500 or greater are shown). Bridgeton, Millville and Vineland had rates more than 1.5 times the state average and accounted for 94 percent of Cumberland County’s asthma ED visits while only constituting 72 percent of the county’s population.

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



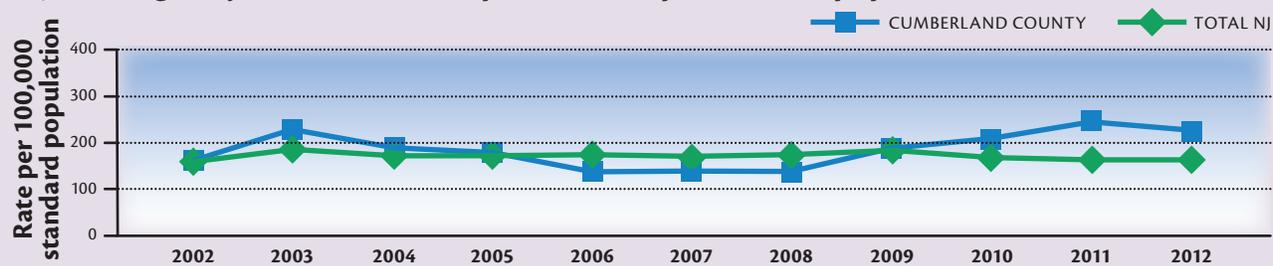
Municipality	Average population, 2008–2012	Asthma ED visits, 2008–2012	Percent of County ED visits	Percent of County Population	Asthma ED visit rate per 100,000 residents, 2008–2012	Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012
Bridgeton city	25,094	2,562	30.8%	16.0%	2042	1948
Fairfield township	6,597	32	0.4%	4.2%	97	113
Maurice River township	8,028	61	0.7%	5.1%	152	191
Millville city	28,737	1,961	23.5%	18.3%	1365	1408
Upper Deerfield township	7,947	58	0.7%	5.1%	146	180
Vineland city	60,108	3,343	40.1%	38.2%	1112	1132
Municipalities below 5,500 population	20,805	313	3.8%	13.2%	301	n/a
Cumberland County	157,316	8,330			1059	1081
State of NJ	8,774,778	261,822			597	622

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

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

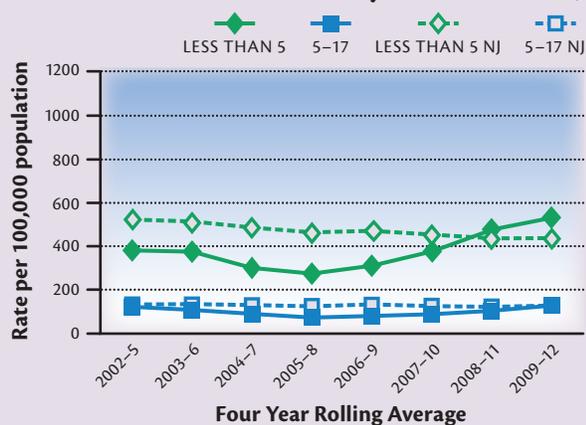
Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Hospitalizations¹

As with ED visits, most asthma-related hospitalizations can be avoided through appropriate management. In 2012, residents of Cumberland County had 360 total asthma hospitalizations, or 228 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Cumberland County contains 1.8 percent of the state’s population and accounted for 2.4 percent of the state’s asthma hospitalizations in 2012. Figure

8 shows Cumberland 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). Cumberland County’s rate of asthma hospitalizations ranged from 21 percent below the state average to 51 percent above—on average over the period, it was eight percent higher than the state average.

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

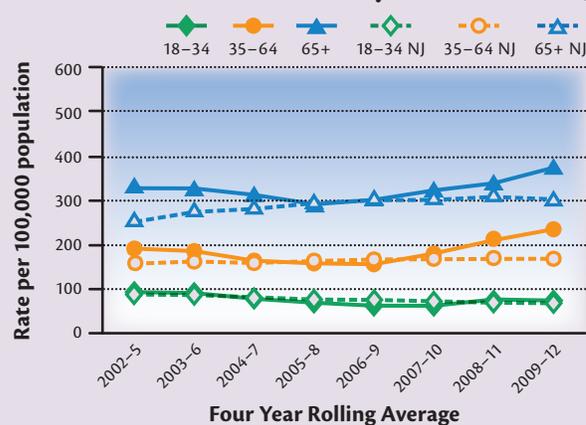


Data source: 2002–2012 New Jersey Hospital Discharge Files

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 Cumberland County children and adults, and children and adults in the state of New Jersey (rolling averages are used for comparability because of low numbers in some age groups in some counties). Rates for all age groups were both above and below their respective state averages

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

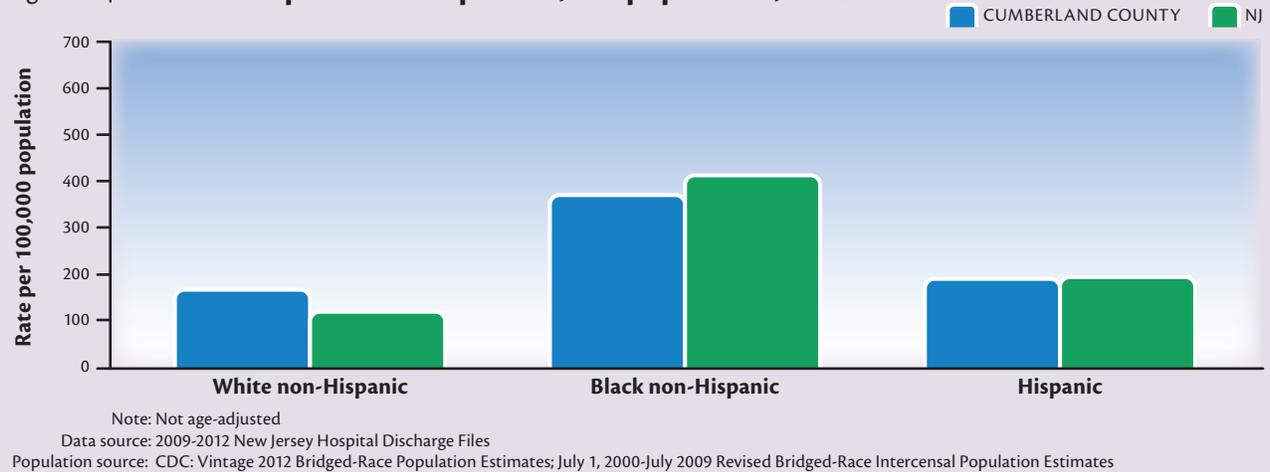


Data source: 2002–2012 New Jersey Hospital Discharge Files

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

during the period, though all groups ended the period above their state average. In 2009–2012, adults ages 35–64 showed the largest difference from their state average (39 percent above), followed by adults ages 65 and over (25 percent above) and children under age five (23 percent above). Rates for children ages 5–17 and adults ages 18–34 were less than 10 percent above their respective state averages in 2009–2012.

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 Cumberland County and the state of New Jersey from 2009–2012.³ Non-Hispanic black residents of Cumberland County had the highest asthma hospitalization rate—2.2 times the rate for non-Hispanic white residents and 1.9 times the rate for Hispanic residents. The asthma hospitalization rate for Hispanic residents was 1.2 times

the rate for non-Hispanic white residents. When comparing Cumberland County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents was ten percent below the state average for non-Hispanic black people. The rate for Hispanic residents was one percent above their state average and the rate for non-Hispanic white residents was 38 percent above their state average.

Summary

Cumberland County’s current asthma prevalence among adults in 2011–2012 was higher than the state average, but the prevalence for children did not differ significantly.

Cumberland County was above the state average for asthma-related emergency department (ED) visits from 2004–2012 by 30 to 49 percent. Rates for all age groups were above their respective state averages over the period, and all except adults over age 65 grew faster than their state averages (rates for children under age five showed the most growth relative to their state average).

Asthma hospitalization rates for Cumberland County residents were above the state average when averaged over the period 2002–2012. Rates for all age groups ended the period above their state averages, with adults over age 35 and children under age five showing the largest difference.

Non-Hispanic black residents of Cumberland County had the highest rates of both asthma ED visit rates (2011–2012) and asthma hospitalizations (2009–2012) compared with non-Hispanic white and Hispanic residents. The asthma ED visit rate for non-Hispanic black residents was 3.3 times the rate for non-Hispanic white residents and the asthma hospitalization rate was 2.2 times as high. The asthma ED visit rate for Hispanic residents was 2.1 times the rate for non-Hispanic white residents, and the asthma hospitalization rate for Hispanic residents was 1.2 times the rate for non-Hispanic white residents.

An analysis of asthma-related ED visits by municipality from 2008–2012 showed that Bridgeton, Millville and Vineland had rates more than 1.5 times the state average and accounted for 94 percent of Cumberland County’s asthma ED visits while only constituting 72 percent of the county’s 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 Asthma ED visits for 2010 for Cumberland County residents (2,801) were nearly double those in 2009 (1,479) and more than double those in 2011 (1,375). We were unable to determine an explanation for this increase, though it may represent a coding error as similar increases were not observed in available primary care data for this county. We manually smoothed the data by replacing actual 2010 values for asthma ED visits with the average of 2009 and 2011 in Figures 3, 4, and 5. Figure 7 (map) and the table were not adjusted-- had we made the adjustment, the map shading would not have changed.

³ 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.

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