

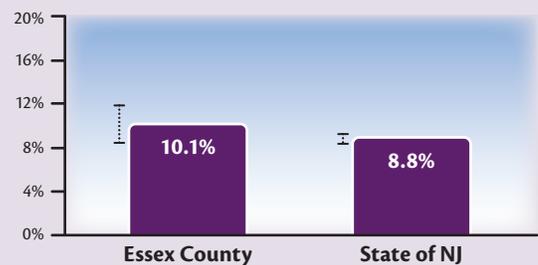
Asthma in New Jersey



Essex County Asthma Profile

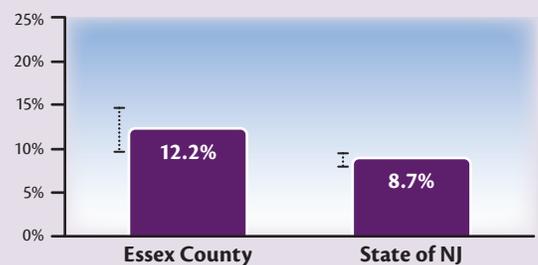
Asthma is a serious chronic disease that is marked by inflammation and bronchoconstriction in the airways. Asthma symptoms can be triggered by many factors and include shortness of breath, coughing, wheezing and chest tightness. Asthma cannot be cured, but it can be controlled. Uncontrolled asthma can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

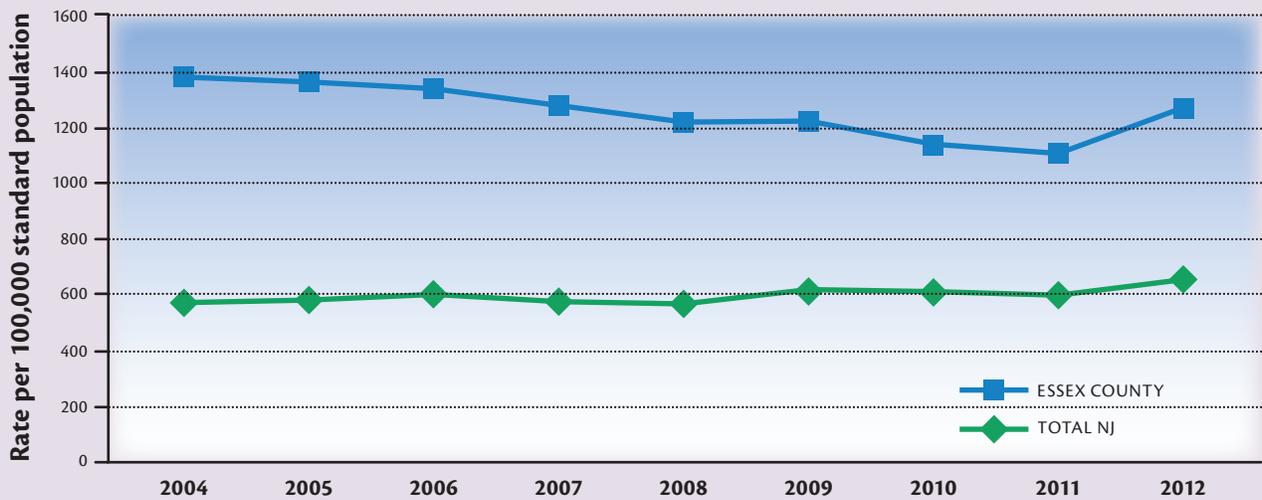


Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

Prevalence

Health survey data show that for 2011-2012, an estimated 57,100 adults (10.1 percent) and 23,766 children (12.2 percent) currently had asthma in Essex 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 Essex County children was above the state average, but we cannot say that Essex County's current asthma prevalence among adults 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 Essex County had 10,060 total asthma ED visits, or 1,277 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Essex County contains 8.9 percent of the state’s population and accounted for 17.8 percent of the state’s asthma ED visits in 2012.

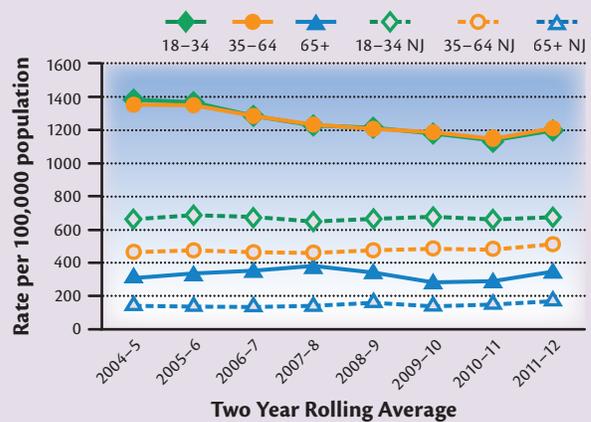
Figure 3 shows Essex County’s asthma ED visit rates compared with the overall rate in the state of New Jersey for the years 2004–2012 (adjusted to standardize for age differences in the population). Essex County’s rate of asthma ED visits was consistently higher than the state average in these years, though the gap between the two rates narrowed over the decade (from 2.4 times the state average in 2004 to 1.9 times in 2012).

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

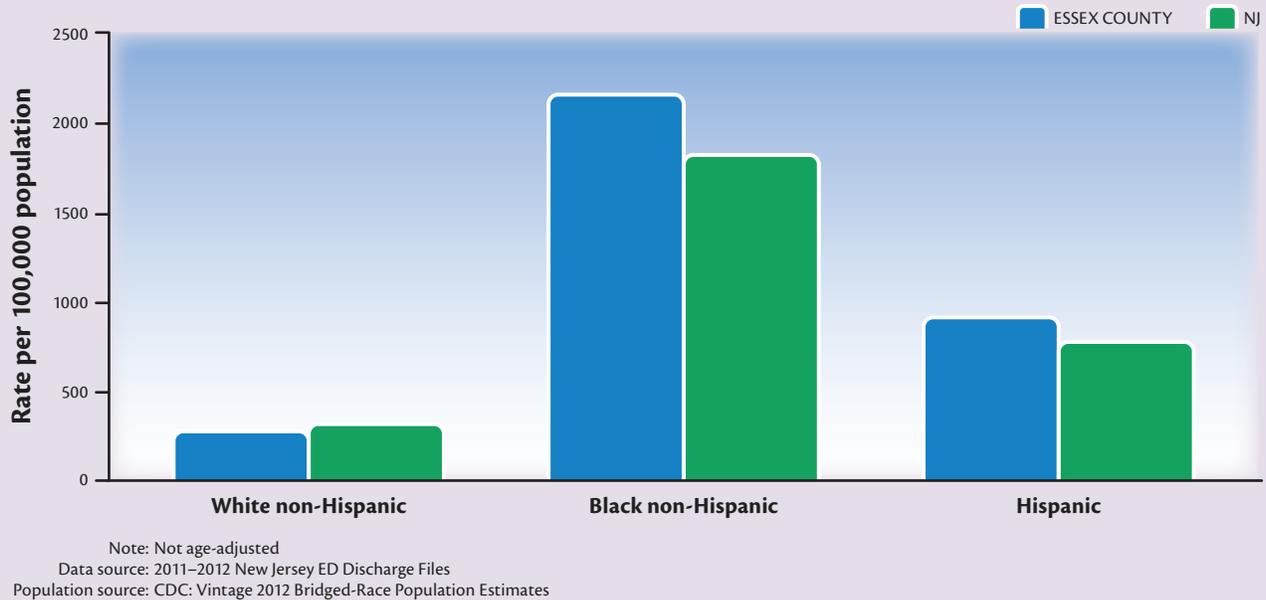


Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

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 Essex County children and adults, and children and adults in the state of New Jersey. In each age group, Essex County's asthma ED visit rate was higher than the state average for 2004-2012 (rolling averages are used for comparability because of low numbers in some age groups

in some counties). However, all age groups in Essex County narrowed their distance from the state average over this period, with the asthma ED visit rate for children under age 5 declining by nearly 29 percent and the average for adults 18-34 declining by almost 15 percent. By contrast, the statewide averages for all age groups held steady or increased over the same period.

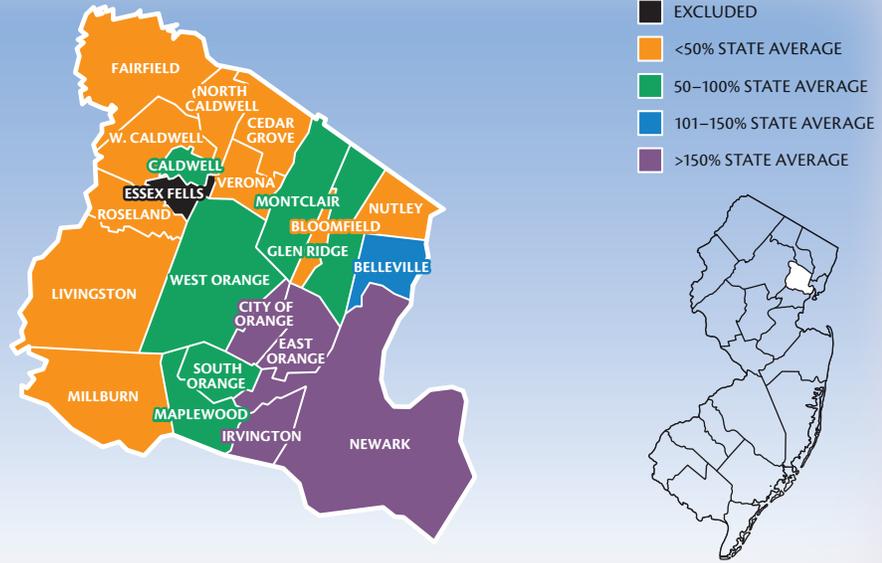
Figure 6 | Asthma ED visit rate per 100,000 population, 2011-2012



Asthma ED visits also vary quite a bit among racial and ethnic groups. Figure 6 shows asthma ED visit rates per 100,000 population for select racial/ethnic groups in Essex County and the state of New Jersey.² Non-Hispanic black residents of Essex County had the highest rate of asthma ED visits in the 2011-2012 period, 8.1 times the rate for non-Hispanic white residents and 2.4 times the rate for Hispanic residents. The rate of asthma ED visits among Hispanic residents from Essex County was 3.4 times the rate for non-Hispanic white residents from 2011-2012. The rate of asthma-related ED visits for non-Hispanic black residents in Essex County was 18 percent higher than the rate among non-Hispanic black people in the state; for Hispanic residents of Essex County, the rate was also 18 percent higher. For non-Hispanic white residents of Essex County, the rate of asthma-related ED visits was lowest overall, and was 15 percent below the state average for non-Hispanic white people.

Asthma ED visit rates also vary quite a bit among municipalities. The following map and table show the asthma ED visit rate by municipality of residence in Essex County (only municipalities with a population of 5,500 or greater are shown). Newark, East Orange, Irvington and the City of Orange had the highest rates (more than 1.5 times the state average) and together accounted for 86 percent of Essex County's asthma ED visits from 2008-2012 (while only constituting 55 percent of Essex County's population). Belleville township, though not as high as the aforementioned municipalities, was still higher than the state average.

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



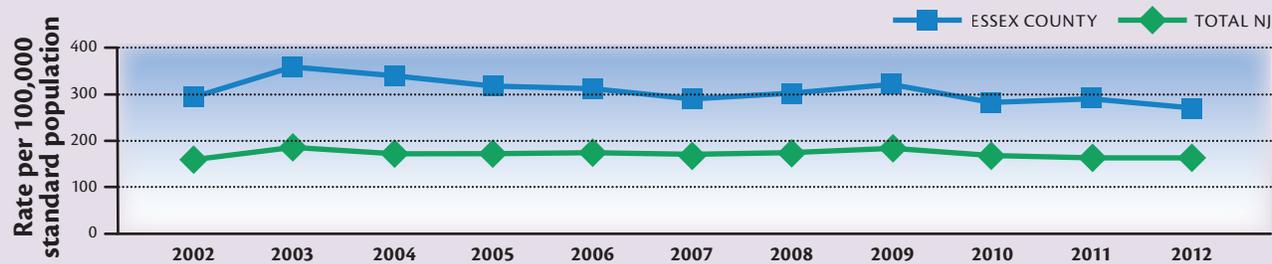
Municipality	Average population, 2008–2012	Asthma ED visits, 2008–2012	Percent of County ED visits	Percent of County Population	Asthma ED visit rate per 100,000 residents, 2008–2012	Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012
Belleville township	35,148	1,121	2.4%	4.5%	638	644
Bloomfield township	45,998	1,341	2.9%	5.9%	583	594
Caldwell borough	7,550	125	0.3%	1.0%	331	355
Cedar Grove township	12,553	106	0.2%	1.6%	169	208
City of Orange township	30,639	1,955	4.2%	3.9%	1,276	1,289
East Orange city	64,588	6,158	13.1%	8.3%	1,907	1,922
Fairfield township	7,471	44	0.1%	1.0%	118	142
Glen Ridge borough	7,202	92	0.2%	0.9%	255	248
Irvington township	54,872	4,552	9.7%	7.0%	1,659	1,649
Livingston township	28,702	253	0.5%	3.7%	176	185
Maplewood township	23,193	588	1.2%	3.0%	507	490
Millburn township	19,487	149	0.3%	2.5%	153	162
Montclair township	37,511	947	2.0%	4.8%	505	525
Newark city	277,667	27,660	58.8%	35.6%	1,992	1,964
North Caldwell borough	6,573	35	0.1%	0.8%	107	124
Nutley township	27,534	318	0.7%	3.5%	231	239
Roseland borough	5,651	66	0.1%	0.7%	234	297
South Orange Village township	16,119	355	0.8%	2.1%	440	443
Verona township	13,039	105	0.2%	1.7%	161	171
West Caldwell township	10,645	33	0.1%	1.4%	62	74
West Orange township	44,878	1,021	2.2%	5.8%	455	473
Municipalities below 5,500 population	2,143	n/a	0.0%	0.3%	n/a	n/a
Total - Essex County	779,162	47,041			1,207	1,204
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

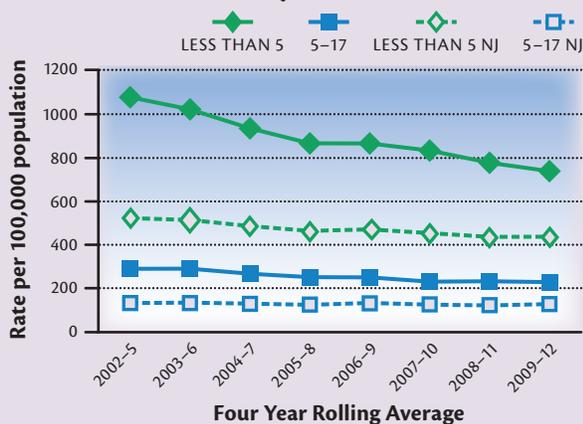
Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Hospitalizations¹

As with ED visits, most asthma-related hospitalizations can be avoided through appropriate management. In 2012, residents of Essex County had 2,129 total asthma hospitalizations, or 270 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Essex County contains 8.9 percent of the state’s population and accounted for 14.3 percent of the state’s asthma hospitalizations in 2012. Figure 8 shows Essex

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). Essex County’s rate of asthma hospitalizations was consistently higher than the state average in these years, though the gap between the two rates narrowed over the decade (from 1.9 times the state average from 2002-2005 to 1.7 times in 2010-2012).

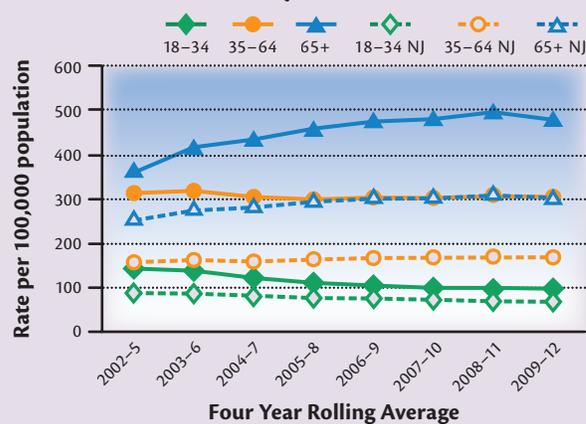
Figure 9 | Asthma hospitalizations per 100,000 population for children, Essex County and State of NJ



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

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



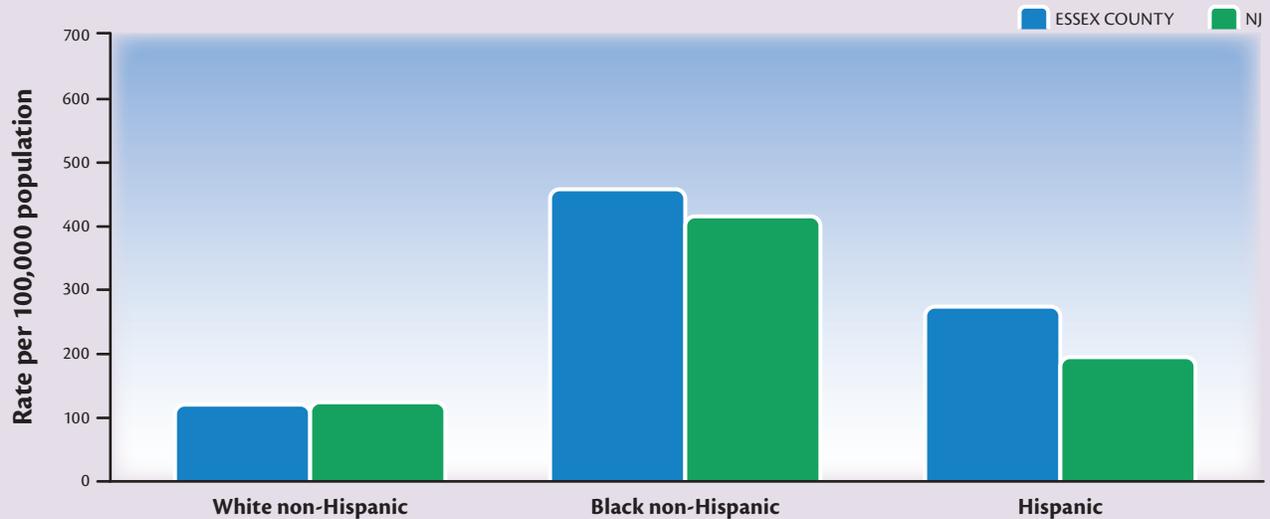
Data source: 2002–2012 New Jersey Hospital Discharge Files

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 Essex County children and adults, and children and adults in the state of New Jersey. In each age group, Essex County’s asthma hospitalization rate was higher than the state average for 2002-2012, and the difference between the county and state average was largest for the youngest and oldest residents (rolling averages are used for comparability

because of low numbers in some age groups in some counties). However, for children and young adults, the Essex County asthma hospitalization rate declined more than the state average over the period. For adults 35-64, the Essex asthma hospitalization rate held steady while the state average grew. The exception to Essex County’s declining rates compared with the state average was for adults 65 and over, for whom the asthma hospitalization rate increased faster than the state average.

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



Note: Not age-adjusted
 Data source: 2009-2012 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 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 Essex County and the state of New Jersey.² As with rates of asthma ED visits, Essex County’s rate of asthma hospitalizations was highest and exceeded the state average for both non-Hispanic black residents (10 percent higher than the state average for non-Hispanic black people) and Hispanic residents (42 percent above the state average

for Hispanic people). For non-Hispanic white residents, Essex County’s asthma hospitalization rate was three percent below the state average. Disparities between racial and ethnic groups in Essex County were less pronounced for asthma hospitalizations than for ED visits. The asthma hospitalization rate for non-Hispanic black residents was 3.9 times the rate for non-Hispanic white residents, and 1.7 times the rate for Hispanic residents. The rate for Hispanic residents was 2.3 times the rate for non-Hispanic white residents.

Summary

Essex County’s current asthma prevalence among children in 2011-2012 was higher than the state average, but the prevalence for adults does not differ significantly. Essex County was generally above the state average on all measures of asthma-related emergency department (ED) visits and asthma-related hospitalizations throughout the past decade, though its rates for non-Hispanic white people are close to or below the state average for both measures. In addition, the gap between Essex County’s asthma ED visit and hospitalization rates and the state averages narrowed over the past decade. For several age groups, the rate of asthma-related ED visits and hospitalizations declined over the past decade (though the Essex County rate remains higher than the state average for asthma ED visits and hospitalizations among all age groups). The exception was for adults 65 and over, for whom the asthma hospitalization rate increased faster than the state average.

In general, rates of asthma-related ED visits and hospitalizations are lowest for non-Hispanic white residents. Disparities are considerably higher for ED visits than for hospitalizations. In 2011-2012, the asthma ED visit rate for non-Hispanic black residents of Essex County was 8.1 times the rate for non-Hispanic white residents and 2.4 times the rate for Hispanic residents. The rate of asthma ED visits among Hispanic residents from Essex County was 3.4 times the rate for non-Hispanic white residents in 2011-2012. Asthma-related ED visits differ greatly by municipality, with 86 percent of Essex County visits for 2008-2012 concentrated in Newark and surrounding municipalities (which held only 55 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, 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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