

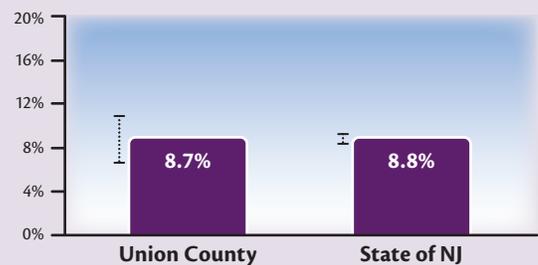
Asthma in New Jersey



Union County Asthma Profile

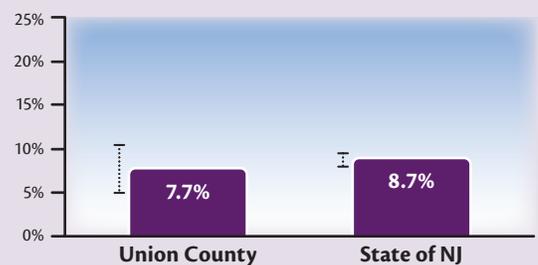
Asthma is a serious chronic disease that is marked by inflammation and bronchoconstriction in the airways. Asthma symptoms can be triggered by many factors and include shortness of breath, coughing, wheezing and chest tightness. Asthma cannot be cured, but it can be controlled. Uncontrolled asthma can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

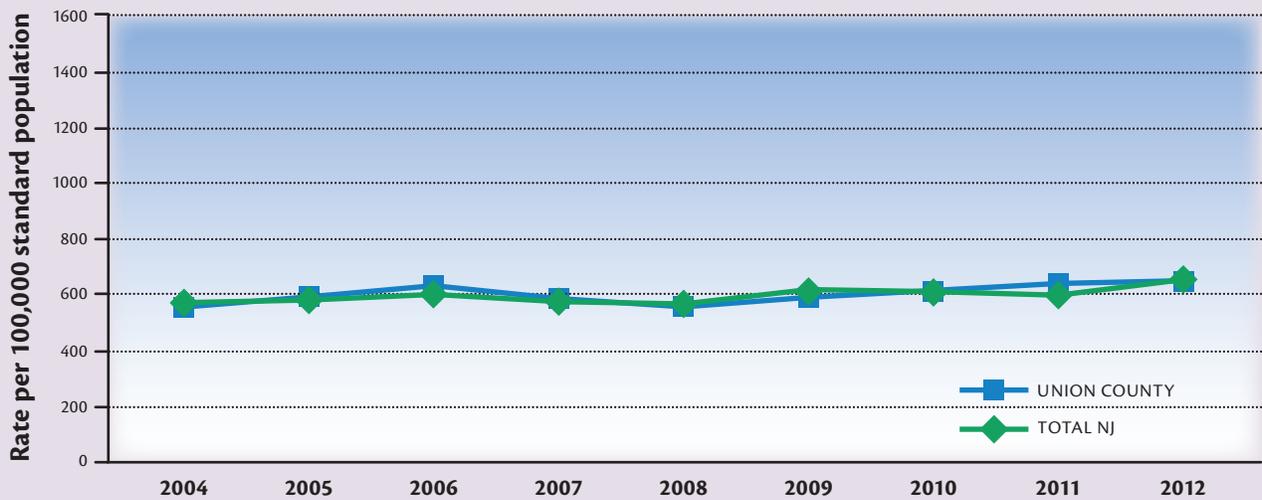


Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

Prevalence

Health survey data show that for 2011–2012, an estimated 33,813 adults (8.7 percent) and 8,635 children (7.7 percent) currently had asthma in Union 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 Union 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



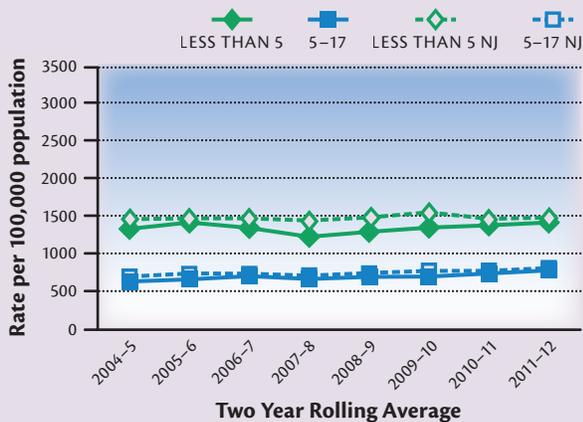
Direct method of age-adjustment using the 2000 U.S. standard population
 Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Emergency Department (ED) Visits¹

With appropriate management, asthma can be controlled so that most visits to the ED are avoided. In 2012, residents of Union County had 3,469 total asthma ED visits, or 638 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Union County contains 6.1 percent of the state’s population and accounted for 6.1 percent of the state’s asthma ED visits in 2012. Figure 3 shows Union County’s asthma

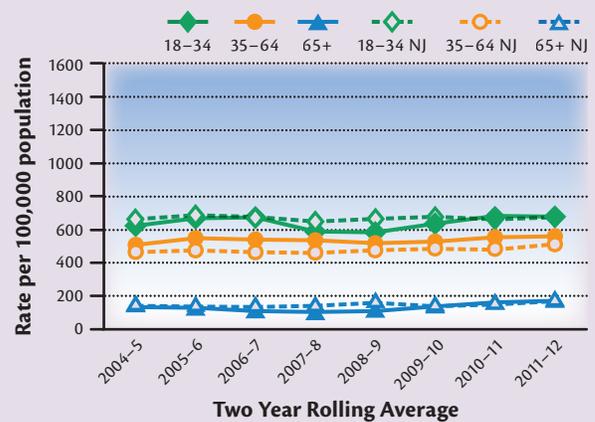
ED visit rates compared with the overall rate in the state of New Jersey for the years 2004–2012 (adjusted to standardize for age differences in the population). Union County’s rate of asthma ED visits was very close to the state average during the period, and increased by 17 percent while the state average increased 14 percent.

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

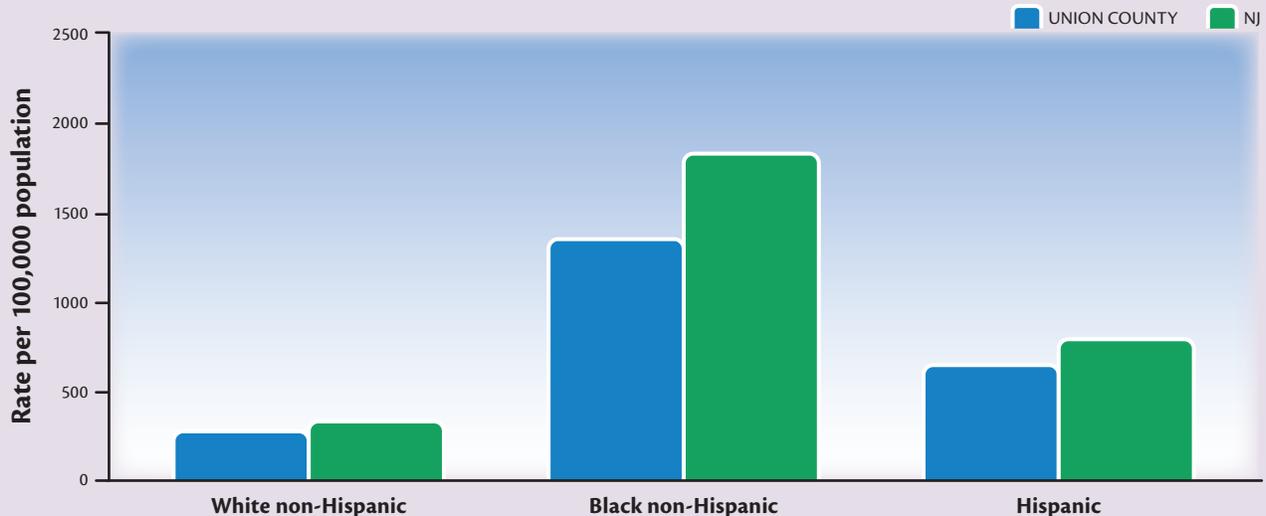


Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

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 Union 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 very close to their respective state averages

over the period. Only rates for adults ages 35–64 years were consistently higher than their state average. Rates for all age groups increased more than their state averages over the period. The largest relative increase was in rates for adults ages 18–34, which increased by eight percent from 2004–2012, versus a one percent increase in the state average during that time.

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

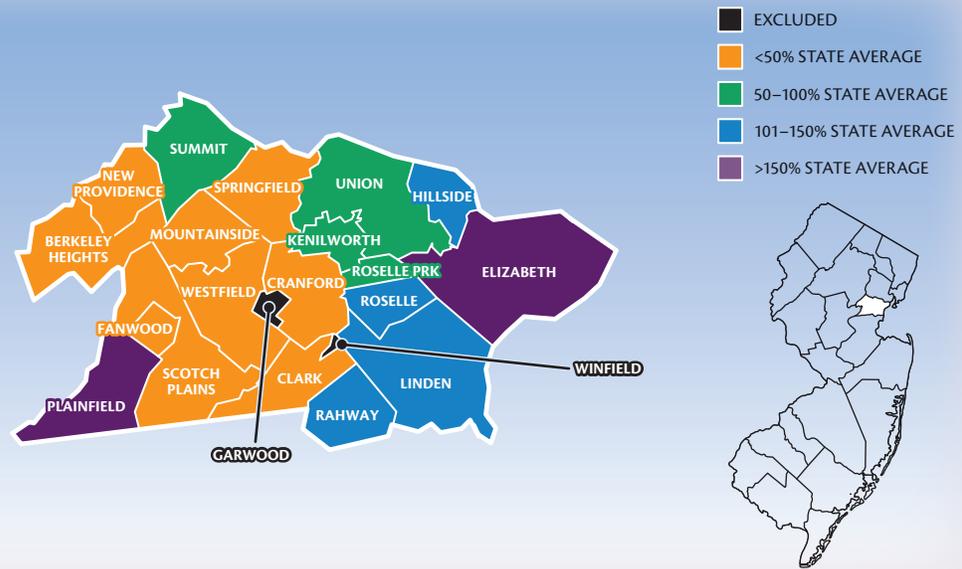


Note: Not age-adjusted
 Data source: 2011–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates

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 Union County and the state of New Jersey for 2011–2012.² The highest rate was for non-Hispanic black residents of Union County, at 5.2 times the rate for non-Hispanic white residents and 2.1 times the rate for Hispanic residents. The asthma ED visit rate for Hispanic residents was 2.4 times the rate for non-Hispanic white residents. When comparing Union County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents was below their state average by 26 percent, the rate for Hispanic residents by 18 percent, and the rate for non-Hispanic white residents by 17 percent.

The following map and table show the asthma ED visit rate by municipality of residence in Union County from 2008–2012 (only municipalities with a population of 5,500 or greater are shown). Elizabeth and Plainfield each had rates more than 1.5 times the state average, accounting for 54 percent of Union County’s asthma ED visits while only holding 33 percent of the population. Hillside, Rahway, Roselle and Linden also had rates above the state average.

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



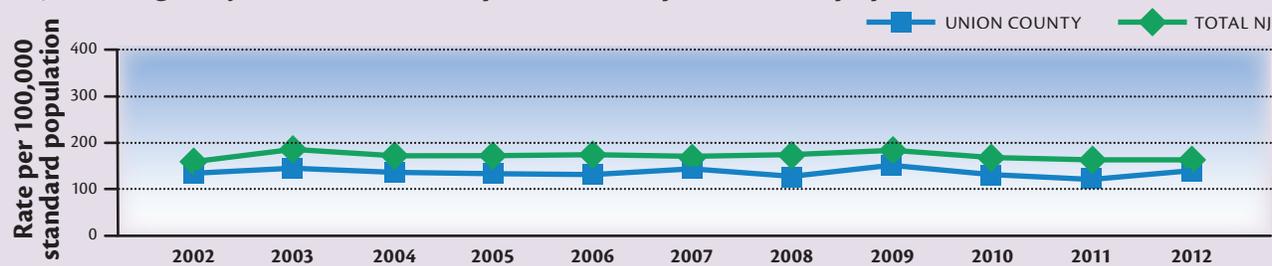
Municipality	Average population, 2008–2012	Asthma ED visits, 2008–2012	Percent of County ED visits	Percent of County Population	Asthma ED visit rate per 100,000 residents, 2008–2012	Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012
Berkeley Heights township	13,323	109	0.7%	2.5%	164	184
Clark township	14,666	164	1.0%	2.7%	224	249
Cranford township	22,476	212	1.3%	4.2%	189	212
Elizabeth city	125,429	6,241	38.8%	23.5%	995	982
Fanwood borough	7,262	76	0.5%	1.4%	209	200
Hillside township	21,385	828	5.1%	4.0%	774	806
Kenilworth borough	7,834	141	0.9%	1.5%	360	406
Linden city	40,119	1,211	7.5%	7.5%	604	634
Mountainside borough	6,671	66	0.4%	1.2%	198	242
New Providence borough	12,156	115	0.7%	2.3%	189	199
Plainfield city	48,502	2,512	15.6%	9.1%	1,036	980
Rahway city	28,078	1,039	6.5%	5.3%	740	801
Roselle borough	20,961	816	5.1%	3.9%	779	783
Roselle Park borough	13,175	247	1.5%	2.5%	375	389
Scotch Plains township	23,372	220	1.4%	4.4%	188	197
Springfield township	15,860	45	0.3%	3.0%	57	63
Summit city	21,231	401	2.5%	4.0%	378	368
Union township	55,547	1,294	8.0%	10.4%	466	497
Westfield town	30,117	276	1.7%	5.6%	183	185
Municipalities below 5,500 population	5,877	75	0.5%	1.1%	255	n/a
Union County	534,039	16,088			603	611
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 Union County had 769 total asthma hospitalizations, or 141 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Union County contains 6.1 percent of the state’s population and accounted for 5.2 percent of

the state’s asthma hospitalizations in 2012. Figure 8 shows Union 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). Union County’s rate was below the state average by 22 percent on average over the period.

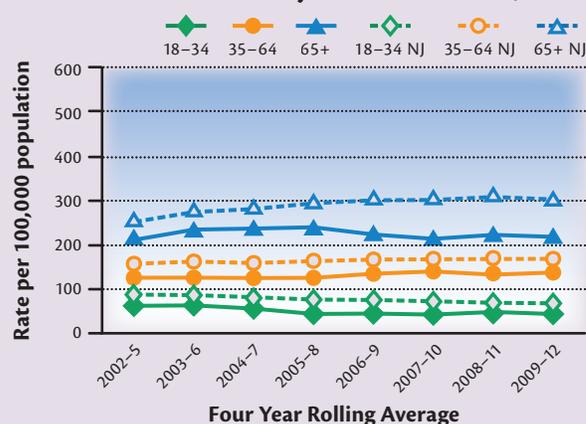
Figure 9 | Asthma hospitalizations per 100,000 population for children, Union County and State of NJ



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 Union 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 were below their respective state averages over the period. Rates for children and adults ages 35–64 got closer to

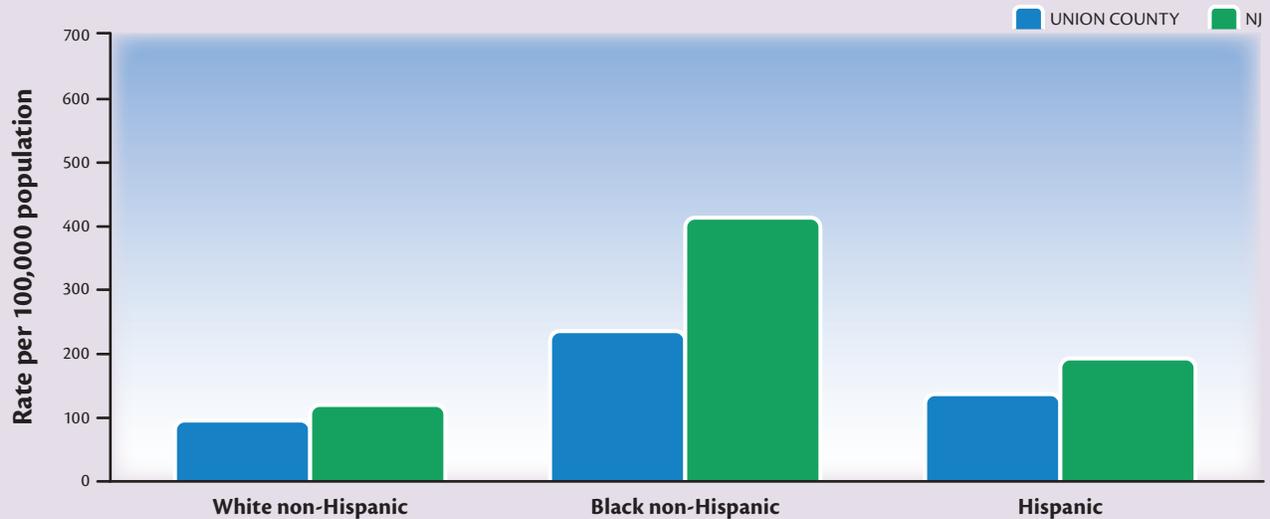
Figure 10 | Asthma hospitalizations per 100,000 population for adults, Union County and State of NJ



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

their state averages over the period, while other age groups moved further away. The largest relative increase was in rates for children ages 5–17, which increased by five percent over the period while the state average for that age group decreased by three percent. The largest relative decrease was in rates for adults ages 65 and over, which increased by three percent, compared with an increase in the state average of 18 percent for that age group.

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 Union County and the state of New Jersey from 2009–2012.² Non-Hispanic black residents of Union County had the highest asthma hospitalization rate—2.5 times the rate for non-Hispanic white residents and 1.7 times the rate for Hispanic residents. The asthma

hospitalization rate for Hispanic residents was 1.4 times the rate for non-Hispanic white residents. When comparing Union County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents was 44 percent below the state average for non-Hispanic black people, the rate for Hispanic residents was 29 percent below their state average and the rate for non-Hispanic white residents was 22 percent below their state average.

Summary

Union 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 in the past decade were close to the state average and increased a bit faster than the state average. Rates of asthma-related hospitalizations were below the state average and grew at about the same rate.

Asthma-related ED visit rates for all Union County age groups were very close to their respective state averages in the past decade. Only rates for adults ages 35–64 years were consistently higher than their state average. Rates for all age groups increased more than their state averages over the period. The largest relative increase was in rates for adults ages 18–34, which increased by eight percent from 2004–2012, versus a one percent increase in the state average during that time.

Asthma hospitalization rates for all Union County age groups were below their respective state averages from 2002–2012. Rates for children and adults ages 35–64 got closer to their state averages over the period, while other age groups moved further away. The largest relative increase was in rates for children ages 5–17, which increased by five percent over the

period while the state average for that age group decreased by three percent. The largest relative decrease was in rates for adults ages 65 and over, which increased by three percent, compared with an increase in the state average of 18 percent for that age group.

Non-Hispanic black residents of Union County had the highest rates of both asthma ED visits (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 5.2 times the rate for non-Hispanic white residents and the asthma hospitalization rate was 2.5 times as high. The asthma ED visit rate for Hispanic residents was 2.4 times the rate for non-Hispanic white residents, and the asthma hospitalization rate for Hispanic residents was 1.4 times the rate for non-Hispanic white residents.

An analysis of asthma-related ED visits by municipality from 2008–2012 showed that Elizabeth and Plainfield had rates more than 1.5 times the state average, accounting for 54 percent of Union County’s asthma ED visits while only holding 33 percent of the population. Hillside, Rahway, Roselle and Linden were also above the state average.

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.

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.

