

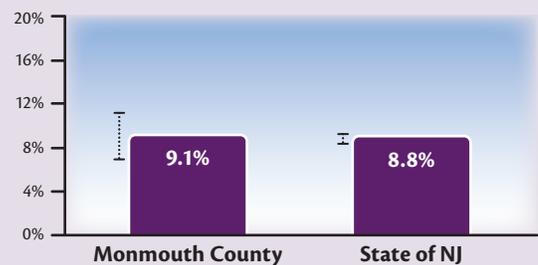
# Asthma in New Jersey



## Monmouth County Asthma Profile

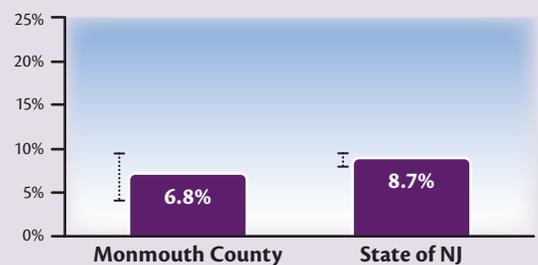
*Asthma is a serious chronic disease that is marked by inflammation and bronchoconstriction in the airways. Asthma symptoms can be triggered by many factors and include shortness of breath, coughing, wheezing and chest tightness. Asthma cannot be cured, but it can be controlled. Uncontrolled asthma can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

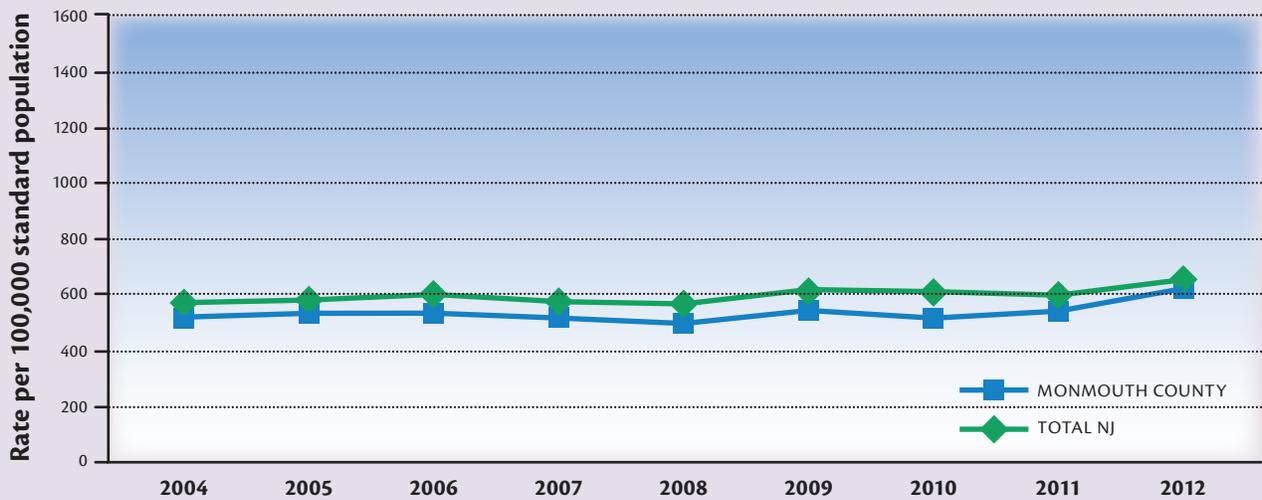


Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

### Prevalence

Health survey data show that for 2011–2012, an estimated 43,344 adults (9.1 percent) and 9,743 children (6.8 percent) currently had asthma in Monmouth 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 Monmouth 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) Visits<sup>1</sup>

With appropriate management, asthma can be controlled so that most visits to the ED are avoided. In 2012, residents of Monmouth County had 3,577 total asthma ED visits, or 568 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Monmouth County contains 7.1 percent of the state’s population and accounted for 6.3 percent of the state’s asthma ED visits in 2012. Figure 3 shows Monmouth

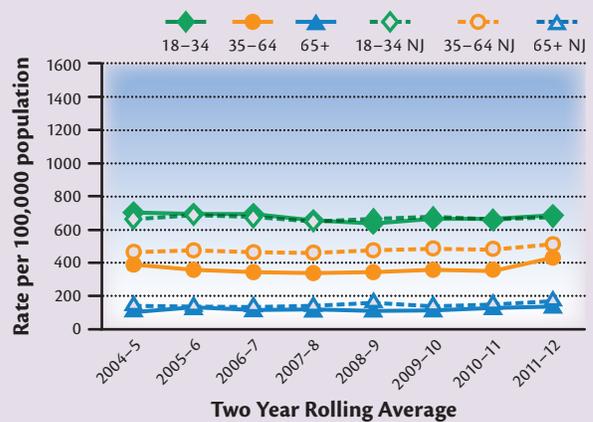
County’s asthma ED visit rates compared with the overall rate in the state of New Jersey for the years 2004–2012 (adjusted to standardize for age differences in the population). Monmouth County’s rate of asthma ED visits was below the state average by seven to 16 percent during the period, and increased by 19 percent while the state average increased 14 percent.

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

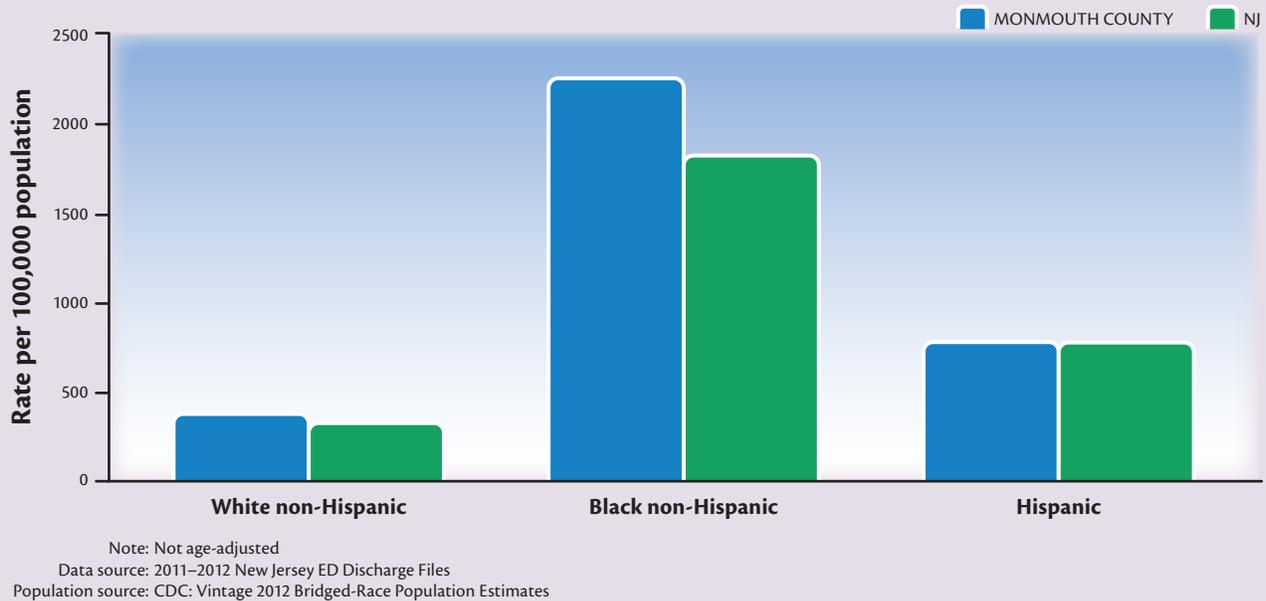


Data source: 2004–2012 New Jersey ED Discharge Files  
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

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 Monmouth 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 at or below their

respective state averages over the period, and trends over the period were similar between Monmouth County age groups and their state averages. Monmouth County adults ages 18–34 years of age were the closest to their state average (no more than three percent above or below in 2004–2012) and adults 35–64 years of age were the furthest below their state average (by 17 to 28 percent over the period).

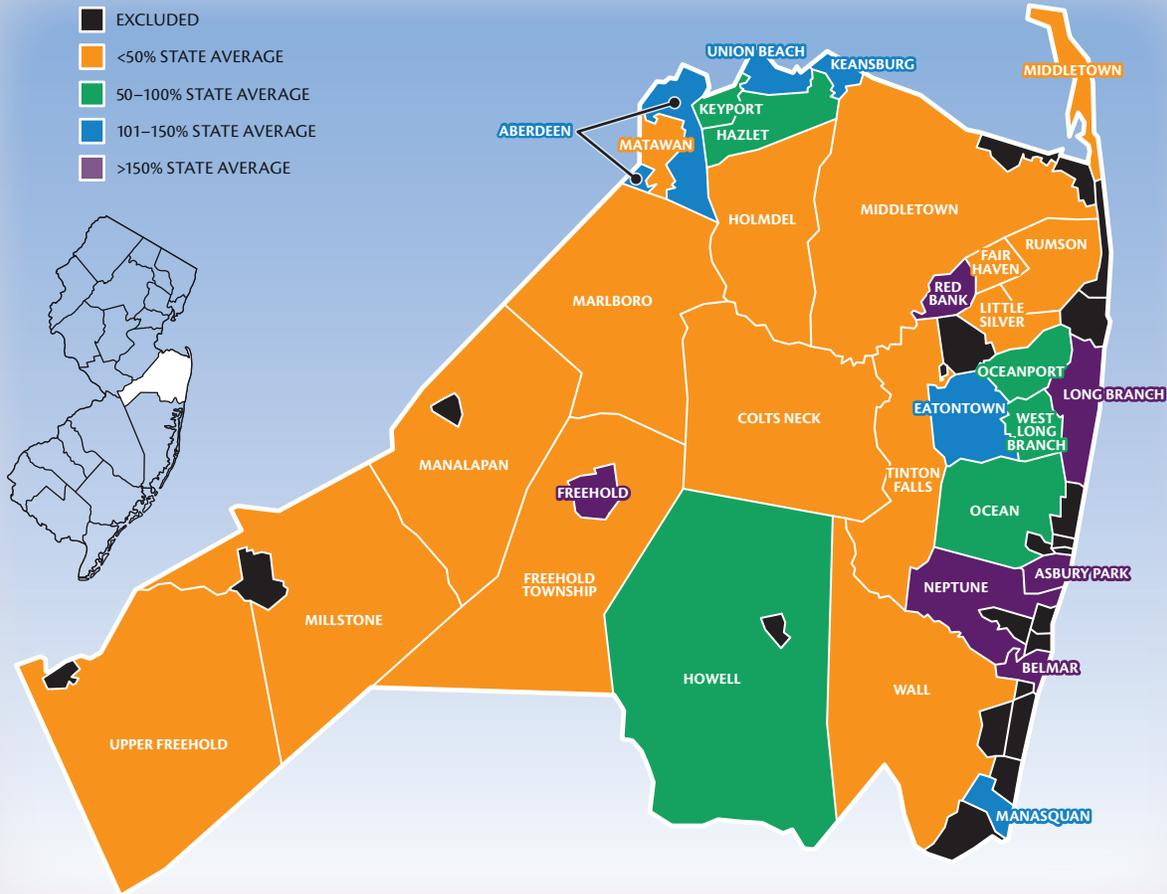
Figure 6 | Asthma ED visit rate per 100,000 population, 2011–2012



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 Monmouth County and the state of New Jersey for 2011–2012.<sup>2</sup> The highest rate was for non-Hispanic black residents of Monmouth County, at 6.3 times the rate for non-Hispanic white residents and 2.9 times the rate for Hispanic residents. The asthma ED visit rate for Hispanic residents was 2.2 times the rate for non-Hispanic white residents. When comparing Monmouth County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents was above their state average by 23 percent and the rate for non-Hispanic white residents was above their state average by 14 percent. The rate for Hispanic residents was less than one percent above their state average.

The following map and table show the asthma ED visit rate by municipality of residence in Monmouth County from 2008–2012 (only municipalities with a population of 5,500 or greater are shown). Asbury Park, Freehold Borough, Neptune Township, Long Branch, Red Bank and Belmar each had rates more than 1.5 times the state average. These six municipalities accounted for 47 percent of asthma ED visits for Monmouth County while only holding 17 percent of the population. Eatontown, Manasquan, Union Beach, Keansburg, Aberdeen and the collective total of the municipalities with a population less than 5,500 had asthma ED visit rates above the state average.

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



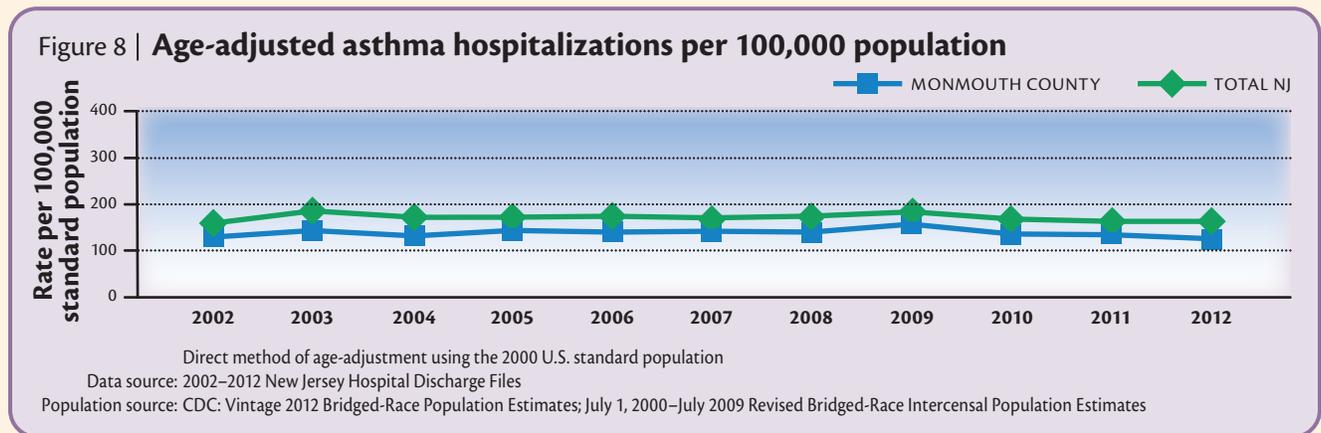
Municipality	Average population, 2008–2012	Asthma ED visits, 2008–2012	Percent of County ED visits	Percent of County Population	Asthma ED visit rate per 100,000 residents, 2008–2012	Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012
Aberdeen township	18,263	570	3.6%	2.9%	624	637
Asbury Park city	16,212	1,707	10.8%	2.6%	2,106	2,120
Belmar borough	5,824	252	1.6%	0.9%	865	962
Colts Neck township	10,098	108	0.7%	1.6%	214	251
Eatontown borough	13,173	519	3.3%	2.1%	788	871
Fair Haven borough	6,036	66	0.4%	1.0%	219	206
Freehold borough	11,818	946	6.0%	1.9%	1,601	1,598
Freehold township	35,545	19	0.1%	5.6%	11	11
Hazlet township	20,551	538	3.4%	3.2%	524	575
Holmdel township	16,781	125	0.8%	2.6%	149	173
Howell township	51,243	846	5.3%	8.1%	330	345
Keansburg borough	10,251	335	2.1%	1.6%	654	661
Keyport borough	7,334	200	1.3%	1.2%	545	613
Little Silver borough	6,035	36	0.2%	1.0%	119	128
Long Branch city	31,558	1,924	12.1%	5.0%	1,219	1,293

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
Manalapan township	39,108	73	0.5%	6.2%	37	39
Manasquan borough	6,036	220	1.4%	1.0%	729	797
Marlboro township	40,329	397	2.5%	6.3%	197	219
Matawan borough	8,842	58	0.4%	1.4%	131	143
Middletown township	66,498	820	5.2%	10.5%	247	275
Millstone township	10,406	89	0.6%	1.6%	171	183
Neptune township	28,116	1,975	12.5%	4.4%	1,405	1,593
Ocean township	27,638	519	3.3%	4.4%	376	427
Oceanport borough	5,794	102	0.6%	0.9%	352	405
Red Bank borough	12,081	618	3.9%	1.9%	1,023	1,056
Rumson borough	7,162	44	0.3%	1.1%	123	133
Tinton Falls borough	18,636	192	1.2%	2.9%	206	272
Union Beach borough	6,384	202	1.3%	1.0%	633	675
Upper Freehold township	6,889	30	0.2%	1.1%	87	99
Wall township	26,133	259	1.6%	4.1%	198	229
West Long Branch borough	8,356	107	0.7%	1.3%	256	324
Municipalities below 5,500 population	56,124	1,950	12.3%	8.8%	695	n/a
<b>Monmouth County</b>	<b>635,253</b>	<b>15,846</b>			<b>499</b>	<b>544</b>
<b>State of NJ</b>	<b>8,774,778</b>	<b>261,822</b>			<b>597</b>	<b>622</b>

\*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)



## Hospitalizations<sup>1</sup>

As with ED visits, most asthma-related hospitalizations can be avoided through appropriate management. In 2012, residents of Monmouth County had 791 total asthma hospitalizations, or 126 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Monmouth County contains 7.1 percent of the state’s population and accounted for 5.3 percent of the state’s asthma hospitalizations in 2012. Figure

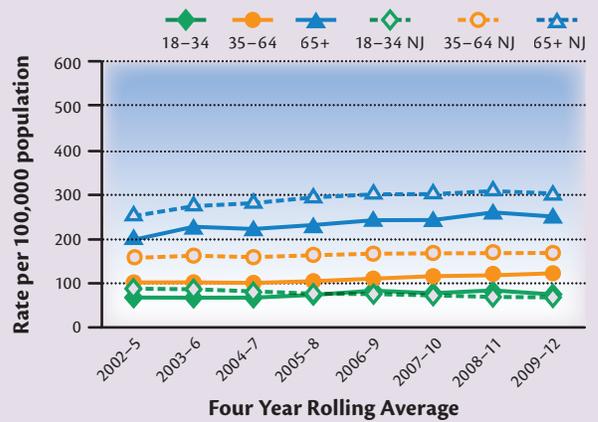
8 shows Monmouth County’s asthma hospitalization rates compared with the overall rate in the state of New Jersey for the years 2002–2012 (adjusted to standardize for age differences in the population). Monmouth County’s rate of asthma hospitalizations was consistently below the state average by 21 percent on average, and declined by three percent over the period (compared with four percent growth in the state average).

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

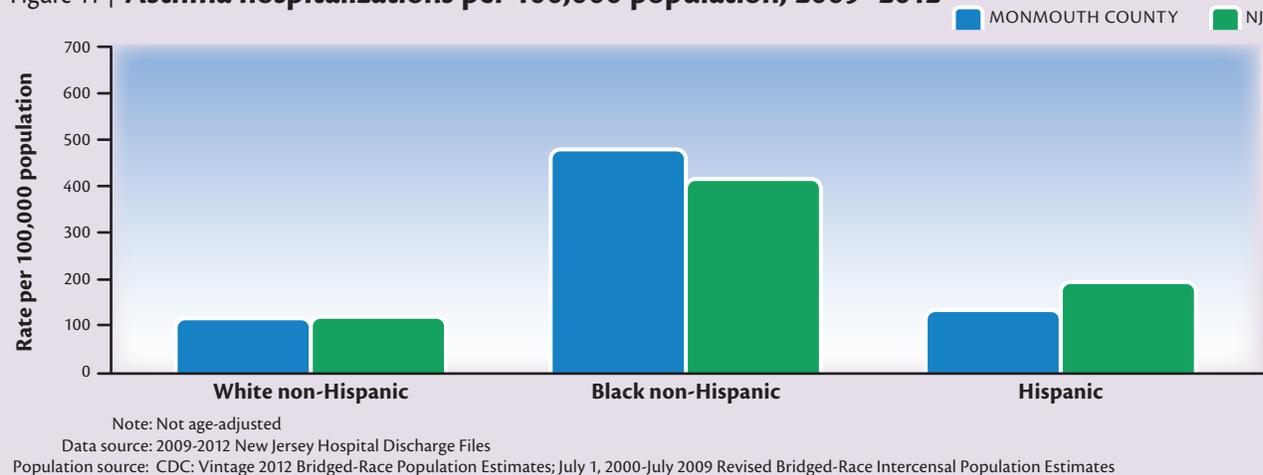


Data source: 2002–2012 New Jersey Hospital Discharge Files  
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates;  
 July 1, 2000–July 2009 Revised Bridged-Race Intercensal  
 Population Estimates

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 Monmouth 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 below their respective

state averages over the period. Rates for children declined more than their state averages declined over the period, but rates for adults grew faster than their state averages. The fastest growth in the asthma hospitalization rate was for Monmouth County adults ages 18–34, who saw a 12 percent increase, compared with a 22 percent decrease in the state average for that age group.

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 Monmouth County and the state of New Jersey from 2009–2012.<sup>2</sup> Non-Hispanic black residents of Monmouth County had the highest asthma hospitalization rate—4.2 times the rate for non-Hispanic white residents and 3.6 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 Monmouth County racial and ethnic groups to their state averages, the rate for non-Hispanic black residents was above the state average for non-Hispanic black people by 15 percent, while the rate for non-Hispanic white residents was below their state average by eight percent and the rate for Hispanic residents was below their state average by 31 percent.

## Summary

Monmouth 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. The asthma ED visit rate grew faster than the state average while the asthma hospitalization rate declined a little less than the state average over the period.

Asthma ED visit and asthma hospitalization rates for nearly all Monmouth County age groups were at or below their respective state averages over the period (the exception was asthma hospitalization rates for adults ages 18–34). For asthma ED visit rates, trends over the period were similar between Monmouth County age groups and their state averages. With asthma hospitalization, rates for Monmouth County children declined more than their state averages declined over the period, but rates for adults grew faster than their state averages. The fastest growth in the asthma hospitalization rate was for Monmouth County adults ages 18–34, who saw a 12 percent increase, compared with a 22 percent decrease in the state average for that age group.

Non-Hispanic black residents of Monmouth 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 6.3 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 2.2 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. All groups were at or above their respective state averages for asthma ED visits—non-Hispanic black residents by the highest amount (23 percent). For asthma hospitalizations, only non-Hispanic black Monmouth County residents were above their state average.

An analysis of asthma-related ED visits by municipality showed that Asbury Park, Freehold Borough, Neptune Township, Long Branch, Red Bank and Belmar each had rates more than 1.5 times the state average. These six municipalities accounted for 47 percent of asthma ED visits for Monmouth County while only holding 17 percent of the population. Eatontown, Manasquan, Union Beach, Keansburg, Aberdeen and the collective total of the municipalities with a population less than 5,500 had asthma ED visit rates above the state average.

## For more information:

New Jersey Asthma Awareness and Education Program: [www.nj.gov/health/asthma](http://www.nj.gov/health/asthma)

## For asthma resources and tools:

Pediatric Adult Asthma Coalition of New Jersey (PACNJ): [www.pacnj.org](http://www.pacnj.org)

## Notes:

- <sup>1</sup> 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).
- <sup>2</sup> 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.

