

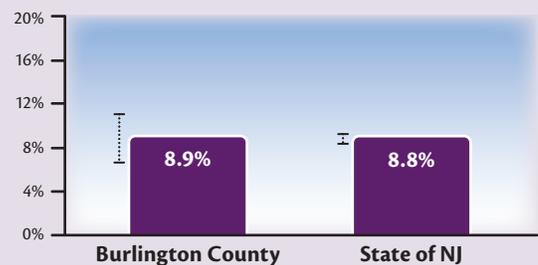
Asthma in New Jersey



● Burlington County Asthma Profile

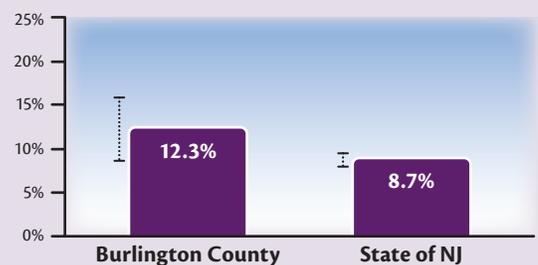
Asthma is a serious chronic disease that is marked by inflammation and bronchoconstriction in the airways. Asthma symptoms can be triggered by many factors and include shortness of breath, coughing, wheezing and chest tightness. Asthma cannot be cured, but it can be controlled. Uncontrolled asthma can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

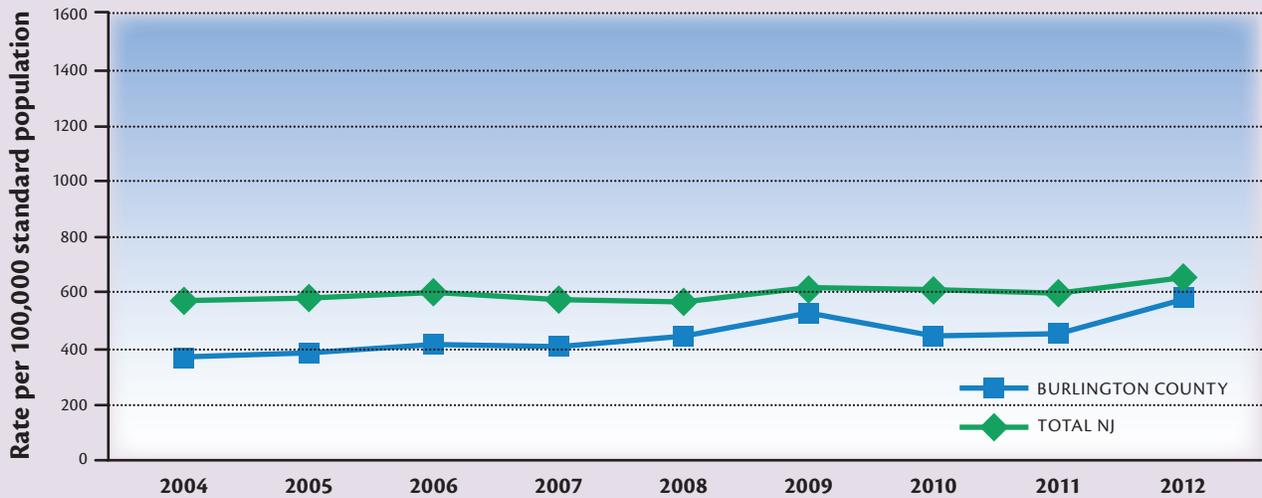


Population Source: NJ Behavioral Risk Factor Survey (Adults are people 18 and over; children are people under 18)

Prevalence

Health survey data show that for 2011-2012, an estimated 29,947 adults (8.9 percent) and 12,776 children (12.3 percent) currently had asthma in Burlington 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 Burlington 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



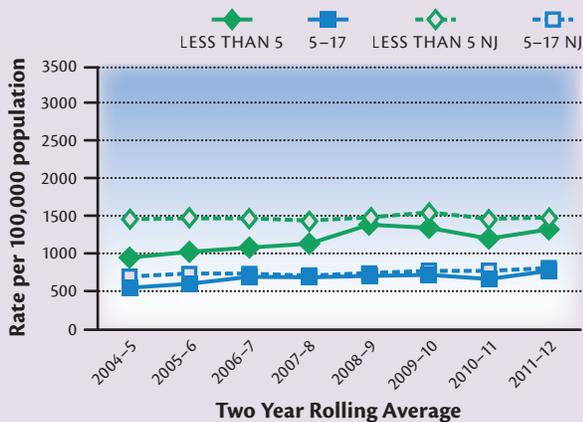
Direct method of age-adjustment using the 2000 U.S. standard population
 Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Emergency Department (ED) Visits¹

With appropriate management, asthma can be controlled so that most visits to the ED are avoided. In 2012, residents of Burlington County had 2,427 total asthma ED visits, or 538 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Burlington County contains 5.1 percent of the state’s population and accounted for 4.3 percent of the state’s asthma ED visits in 2012. Figure 3 shows Burlington

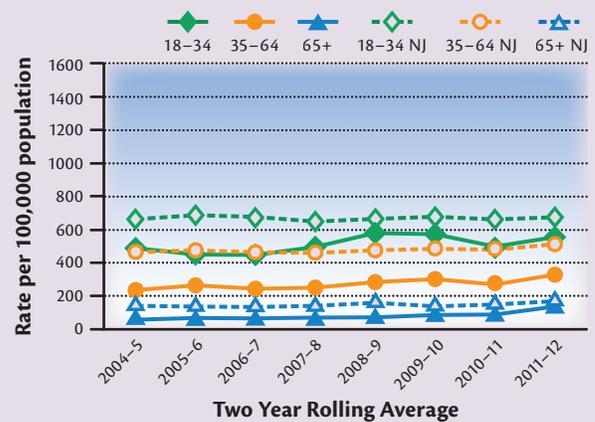
County’s asthma ED visit rates compared with the overall rate in the state of New Jersey for the years 2004–2012 (adjusted to standardize for age differences in the population). Burlington County’s rate of asthma ED visits grew by 57 percent over the period (compared with 14 percent growth in the state average). In 2004 it was 46 percent lower than the state average; by 2012, it was 12 percent lower.

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

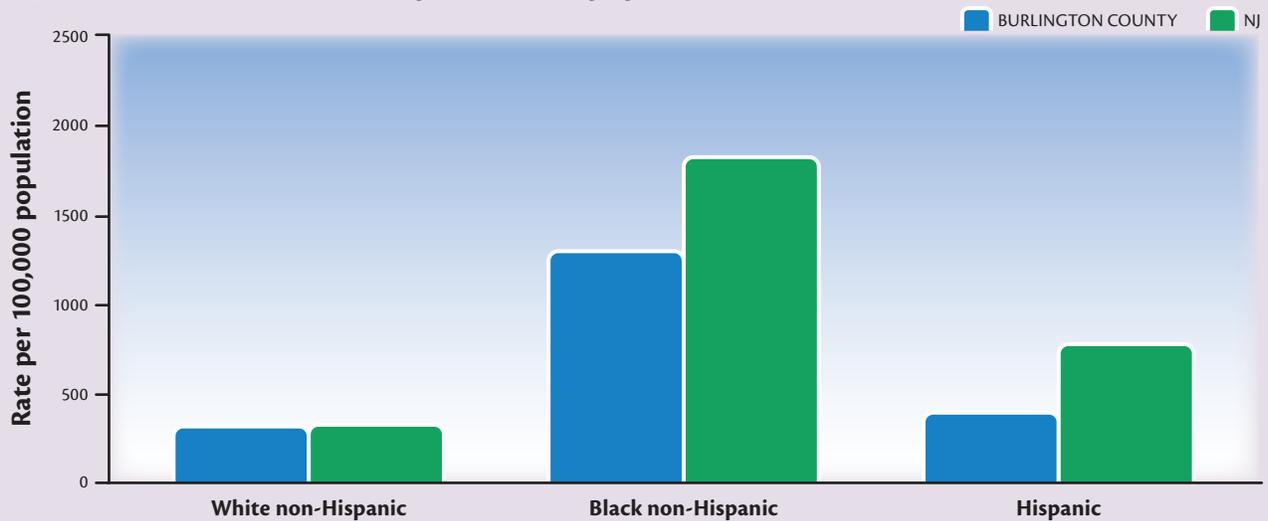


Data source: 2004–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

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 Burlington County children and adults, and children and adults in the state of New Jersey. In each age group, Burlington County's asthma ED visit rate was lower 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, the rates in all age groups grew faster than their state averages over the period, narrowing the distance. The fastest growth (73 percent, versus 16 percent

for the state average) occurred in the rate for adults 65 years of age and over. The rate for children ages 5 to 17 years grew 48 percent (compared with a 17 percent increase in the state average), the rate for children under five years of age grew by 44 percent (versus a flat state average), and the rate for adults aged 35 to 64 years grew 37 percent (versus a nine percent increase in the state average). Rates for adults ages 18–34 years had the most modest growth, at 15 percent (compared with a one percent increase in the state average).

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

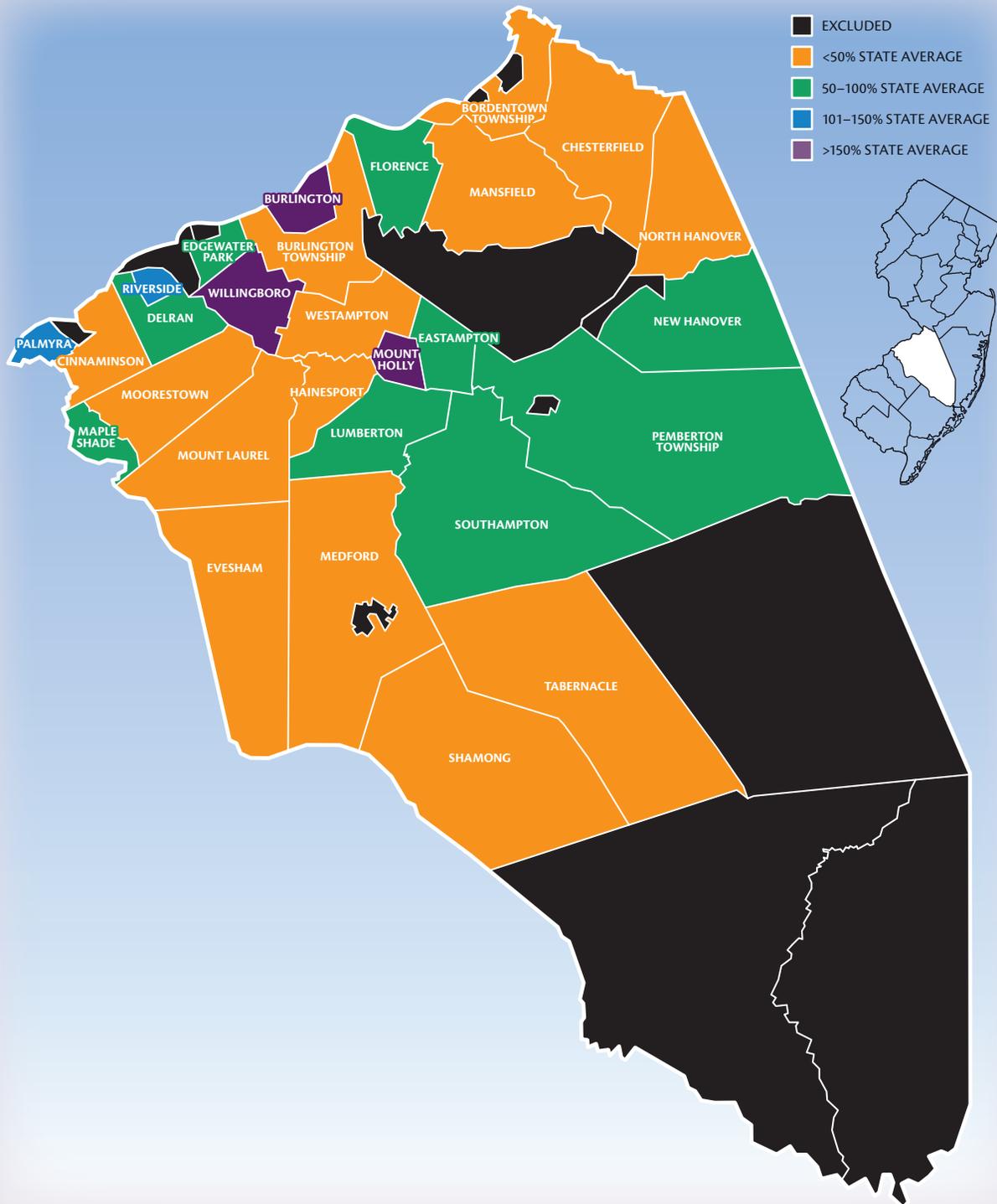


Note: Not age-adjusted
 Data source: 2011–2012 New Jersey ED Discharge Files
 Population source: CDC: Vintage 2012 Bridged-Race Population Estimates

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 Burlington County and the state of New Jersey for 2011–2012.² The asthma ED visit rate was highest for non-Hispanic black residents of Burlington County, at 4.3 times the rate for non-Hispanic white residents, and 3.4 times the rate for Hispanic residents. The asthma ED visit rate for Hispanic residents was 1.3 times the rate for non-Hispanic white residents. The asthma ED visit rate in Burlington County in 2011–2012 was below the state average for all groups shown (by three percent for non-Hispanic white residents, 29 percent for non-Hispanic black residents and 50 percent for Hispanic residents).

The following map and table show the asthma ED visit rate by municipality of residence in Burlington County (only municipalities with a population of 5,500 or greater are shown). The City of Burlington, Willingboro township, Mount Holly township, and the municipalities with populations under 5,500 (as a group) had asthma ED visit rates more than 1.5 times the state average for 2008–2012. Together, they accounted for 48 percent of asthma ED visits for the county, while only constituting 18 percent of the population. Riverside township and Palmyra Borough were also higher than the state average. Nine of the larger municipalities were within 50 percent of the state average and the remaining 14 larger municipalities had asthma ED visit rates that were less than half the state average.

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



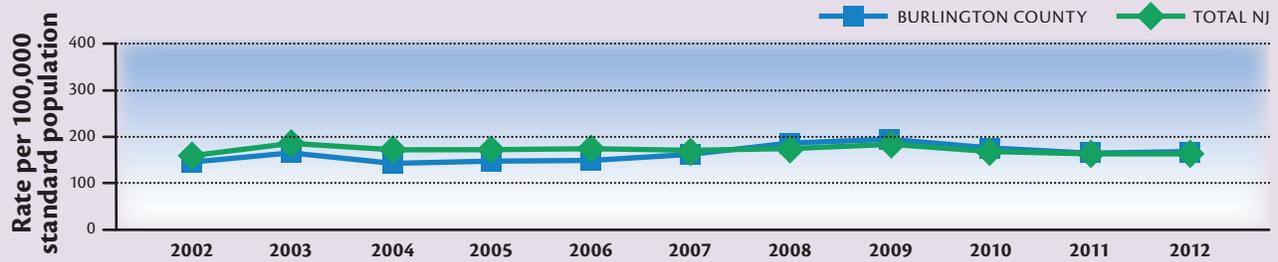
| Municipality | Average population, 2008–2012 | Asthma ED visits, 2008–2012 | Percent of County ED visits | Percent of County Population | Asthma ED visit rate per 100,000 residents, 2008–2012 | Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012 |
|---------------------------------------|-------------------------------|-----------------------------|-----------------------------|------------------------------|---|---|
| Bordentown township | 10,857 | 112 | 1.1% | 2.4% | 206 | 199 |
| Burlington city | 9,701 | 1,140 | 11.1% | 2.2% | 2,350 | 2,416 |
| Burlington township | 22,133 | 36 | 0.3% | 4.9% | 33 | 33 |
| Chesterfield township | 7,620 | 31 | 0.3% | 1.7% | 81 | 118 |
| Cinnaminson township | 15,765 | 173 | 1.7% | 3.5% | 219 | 258 |
| Delran township | 16,839 | 271 | 2.6% | 3.8% | 322 | 334 |
| Eastampton township | 6,258 | 112 | 1.1% | 1.4% | 358 | 372 |
| Edgewater Park township | 8,409 | 144 | 1.4% | 1.9% | 342 | 362 |
| Evesham township | 45,550 | 480 | 4.7% | 10.2% | 211 | 226 |
| Florence township | 11,938 | 204 | 2.0% | 2.7% | 342 | 368 |
| Hainesport township | 6,058 | 82 | 0.8% | 1.4% | 271 | 301 |
| Lumberton township | 12,317 | 303 | 2.9% | 2.7% | 492 | 498 |
| Mansfield township | 8,348 | 68 | 0.7% | 1.9% | 163 | 207 |
| Maple Shade township | 19,186 | 479 | 4.7% | 4.3% | 499 | 536 |
| Medford township | 22,985 | 206 | 2.0% | 5.1% | 179 | 197 |
| Moorestown township | 20,238 | 205 | 2.0% | 4.5% | 203 | 229 |
| Mount Holly township | 9,774 | 519 | 5.0% | 2.2% | 1,062 | 1,112 |
| Mount Laurel township | 40,888 | 567 | 5.5% | 9.1% | 277 | 308 |
| New Hanover township | 8,396 | 76 | 0.7% | 1.9% | 181 | 427 |
| North Hanover township | 7,572 | 99 | 1.0% | 1.7% | 261 | 224 |
| Palmyra borough | 7,384 | 232 | 2.3% | 1.6% | 628 | 691 |
| Pemberton township | 27,968 | 813 | 7.9% | 6.2% | 581 | 598 |
| Riverside township | 7,923 | 288 | 2.8% | 1.8% | 727 | 725 |
| Shamong township | 6,582 | 44 | 0.4% | 1.5% | 134 | 149 |
| Southampton township | 10,625 | 140 | 1.4% | 2.4% | 264 | 399 |
| Tabernacle township | 7,057 | 72 | 0.7% | 1.6% | 204 | 242 |
| Westampton township | 8,739 | 122 | 1.2% | 1.9% | 279 | 293 |
| Willingboro township | 33,559 | 1,955 | 19.0% | 7.5% | 1,165 | 1,353 |
| Municipalities below 5,500 population | 27,922 | 1,319 | 12.8% | 6.2% | 945 | n/a |
| Burlington County | 448,593 | 10,292 | | | 459 | 495 |
| 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

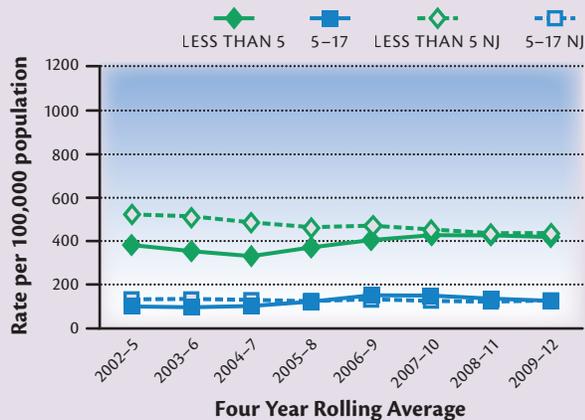
Population source: CDC: Vintage 2012 Bridged-Race Population Estimates; July 1, 2000–July 2009 Revised Bridged-Race Intercensal Population Estimates

Hospitalizations¹

As with ED visits, most asthma-related hospitalizations can be avoided through appropriate management. In 2012, residents of Burlington County had 723 total asthma hospitalizations, or 160 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Burlington County contains 5.1 percent of the state’s population and accounted for 4.8 percent of the state’s asthma hospitalizations in 2012. Figure 8 shows Burlington 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). Burlington County’s rate of asthma hospitalizations grew by 18 percent over the period (compared with 4 percent growth in the state average). In 2002 it was 15 percent below than the state average; by 2012, it was four percent below (in 2008–2010 it was slightly above the state rate).

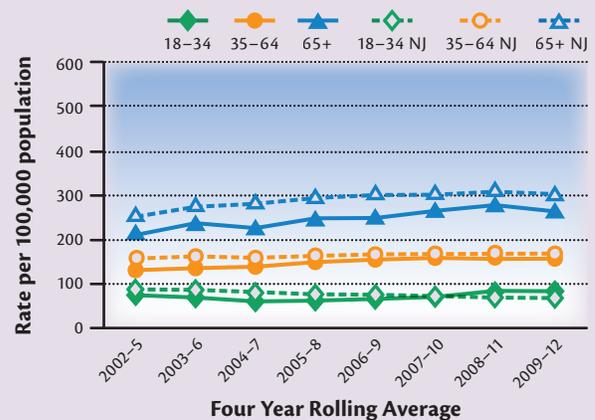
Figure 9 | **Asthma hospitalizations per 100,000 population for children, Burlington County and State of NJ**



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 Burlington County children and adults, and children and adults in the state of New Jersey for 2002–2012 (rolling averages are used for comparability because of low numbers in some age groups in some counties). Children

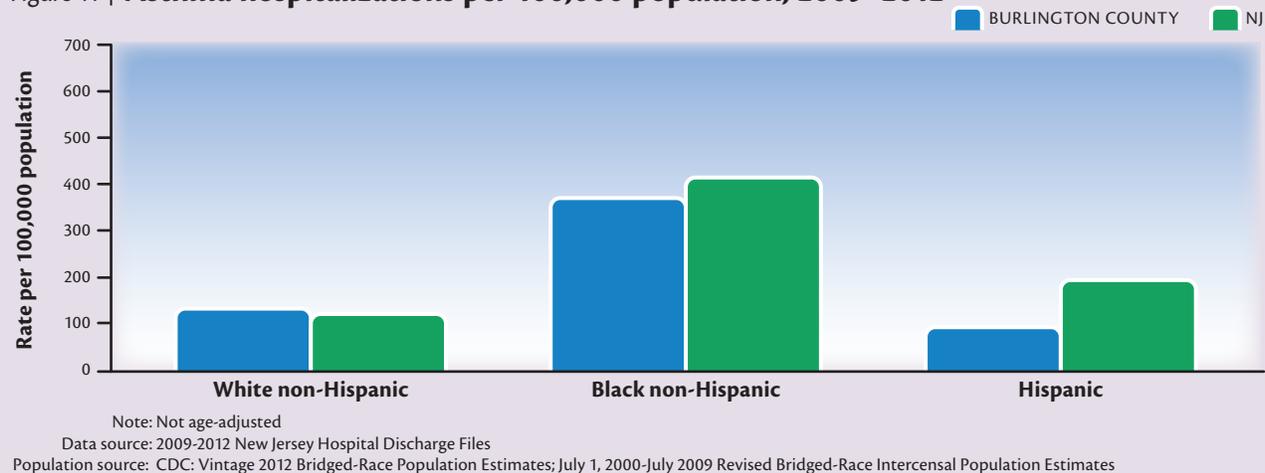
Figure 10 | **Asthma hospitalizations per 100,000 population for adults, Burlington County and State of NJ**



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

ages 5 to 17 years and young adults ages 18–34 were sometimes above their state averages; other age groups were consistently below. However, all Burlington County age groups experienced growth in their asthma hospitalization rates that exceeded the growth in the state rates for the same age groups.

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 Burlington County and the state of New Jersey for 2009–2012.² Non-Hispanic black residents of Burlington County had the highest asthma hospitalization rates, 2.8 times the rate for non-Hispanic white residents and four times the rate for Hispanic residents. Hispanic residents had the lowest rates of asthma hospitalizations. When

comparing Burlington County racial and ethnic groups to their state averages, the asthma hospitalization rate for non-Hispanic black residents was 10 percent below the average for non-Hispanic black people in the state. The rate for Hispanic residents was 51 percent below the state average. The rate for Non-Hispanic white residents, by contrast, was 10 percent higher than their state average.

Summary

Burlington County's current asthma prevalence in 2011–2012 did not differ significantly from the state average when looking at current asthma among adults and children. Burlington County was generally below the state average on measures of asthma-related emergency department (ED) visits and asthma-related hospitalizations throughout the past decade (exceptions were asthma-related hospitalization rates among the following: children aged five to 17 years, young adults aged 18–34 years and non-Hispanic white residents of all ages). However, asthma related ED visit and asthma hospitalization rates in Burlington County increased faster over the past decade than in the state as a whole. With respect to asthma ED visit rates, the most modest increase was 15 percent, for young adults aged 18–34. The rate for all other age groups increased by more than 35 percent, with the rate for adults 65 years and over increasing by 73 percent from 2004–2012.

Hospital utilization rates differed by race within the county from 2009–2012. Non-Hispanic black residents had

higher rates of both asthma-related ED visits and asthma-related hospitalizations than either non-Hispanic white or Hispanic residents by factors of three to four times. Non-Hispanic white residents had the lowest asthma-related ED visit rate, but Hispanic residents had the lowest asthma hospitalization rate. Except for the asthma hospitalization rate for non-Hispanic white residents (10 percent higher than the state rate), hospital utilization was lower among the racial and ethnic groups in Burlington County compared with the same groups in the state as a whole.

An analysis of asthma-related ED visits by municipality of residence for the years 2008–2012 shows that nearly half of all visits were from the City of Burlington, Willingboro township, Mount Holly township, and the municipalities with populations under 5,500 (as a group), though these places only accounted for 18 percent of the population in Burlington County. These places had asthma ED visit rates more than 1.5 times the state average for 2008–2012. Riverside township and Palmyra Borough were also higher than 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 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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