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.

Prevalence

Health survey data show that for 2011–2012, an estimated 7,468 adults (7.8 percent) and 3,050 children (8.5 percent) currently had asthma in Hunterdon 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 Hunterdon County’s current asthma prevalence differs from the state average.
With appropriate management, asthma can be controlled so that most visits to the ED are avoided. In 2012, residents of Hunterdon County had 221 total asthma ED visits, or 174 per 100,000 residents, compared with the state average of 637 asthma ED visits per 100,000 residents. Hunterdon County contains 1.4 percent of the state’s population and accounted for 0.4 percent of the state’s asthma ED visits in 2012. Figure 3 shows Hunterdon 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). Hunterdon County’s rate of asthma ED visits has been 60 to 71 percent lower than the state average in these years.
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 Hunterdon County children and adults, and children and adults in the state of New Jersey. In each age group, Hunterdon County’s asthma ED visit rate is 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). Most age groups held fairly steady over the period, but the asthma ED visit rate for adults ages 65 and over declined by 29 percent (the state average for this group increased 16 percent).

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 Hunterdon County and the state of New Jersey in 2011–2012. The asthma ED visit rate in Hunterdon County is below the state average for each group shown (50 percent less for non-Hispanic white residents, 62 percent less for non-Hispanic black residents and 71 percent less for Hispanic residents). The asthma ED visit rate for non-Hispanic black residents of Hunterdon County was 4.4 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 of Hunterdon County was 1.4 times higher on average than the rate for non-Hispanic white residents.

The following map and table show the asthma ED visit rate by municipality of residence in Hunterdon County (only municipalities with a population of 5,500 or greater are shown). All of the larger municipalities had rates well below the state average and all were below the county average as well—the larger rates of asthma ED visits were concentrated in the smaller municipalities.
### Asthma Emergency Department Visits for Hunterdon County Residents, 2008–2012

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

Data source: 2008–2012 New Jersey ED Discharge Files


<table>
<thead>
<tr>
<th>Municipality</th>
<th>Average population, 2008–2012</th>
<th>Asthma ED visits, 2008–2012</th>
<th>Percent of County ED visits</th>
<th>Percent of County Population</th>
<th>Asthma ED visit rate per 100,000 residents, 2008–2012</th>
<th>Age-adjusted* asthma ED visit rate per 100,000 residents, 2008–2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton township</td>
<td>13,539</td>
<td>81</td>
<td>7.1%</td>
<td>10.5%</td>
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<td>14.5%</td>
<td>17.3%</td>
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<td>168</td>
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<td>Readington township</td>
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<td>12.4%</td>
<td>12.5%</td>
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<td>213</td>
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<tr>
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<tr>
<td>Union township</td>
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<td>126</td>
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<tr>
<td>Municipalities below 5,500 population</td>
<td>58,373</td>
<td>655</td>
<td>57.6%</td>
<td>45.4%</td>
<td>224</td>
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<tr>
<td>Total - Hunterdon County</td>
<td>128,601</td>
<td>1,137</td>
<td>177</td>
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<tr>
<td>State of NJ</td>
<td>8,774,778</td>
<td>261,822</td>
<td>597</td>
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</table>

*EXCLUDED<br> <50% STATE AVERAGE
### Hospitalizations

As with ED visits, most asthma-related hospitalizations can be avoided through appropriate management. In 2012, residents of Hunterdon County had 102 total asthma hospitalizations, or 80 per 100,000 residents, compared with the state average of 168 asthma hospitalizations per 100,000 residents. Hunterdon County contains 1.4 percent of the state’s population and accounted for 0.7 percent of the state’s asthma hospitalizations in 2012. Figure 8 shows Hunterdon 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). Hunterdon County’s rate of asthma hospitalizations has been 48 to 69 percent lower than the state average in these years.

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 Hunterdon County children and adults, and children and adults in the state of New Jersey. In each age group, Hunterdon County’s asthma hospitalization rate is lower than the state average for 2002–2012 (rolling averages are used for comparability because of low numbers in some age groups in some counties). Hospitalization rates for most age groups in Hunterdon County were fairly steady over the period. However, the asthma hospitalization rate for children under age five appeared to increase at the end of the period, while the state average declined. The rate for adults 35–64 also showed an increase over the period that was larger than the increase in the state average. By contrast, asthma hospitalizations for Hunterdon County adults aged 65 and over declined over the period while the state average increased.
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 Hunterdon County and the state of New Jersey. For all racial and ethnic groups examined, Hunterdon County is below the state average (by 43 percent for non-Hispanic white residents, 60 percent for non-Hispanic black residents, and 75 percent for Hispanic residents). The rate of asthma hospitalization for non-Hispanic black residents of Hunterdon County was 2.4 times the rates for non-Hispanic white residents and 3.5 times the rate for Hispanic residents. The rate for Hispanic residents was 0.68 times (32 percent below) the rate for non-Hispanic white residents.

Summary

Hunterdon County’s asthma prevalence in 2011–2012 does not differ significantly from the state average when looking at current asthma among adults and children. Hunterdon County is below the state average on all measures of asthma-related emergency department (ED) visits and asthma-related hospitalizations throughout the past decade. Adults over 65 in Hunterdon County showed a decline in both asthma ED visits and asthma hospitalizations while the state averages for both increased. Asthma hospitalization rates appeared to increase for Hunterdon County children under age five and adults aged 35 to 64.

Non-Hispanic black residents of Hunterdon 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 4.4 times the rate for non-Hispanic white residents and the asthma hospitalization rate was 2.4 times as high. The asthma ED visit rate for Hispanic residents was 1.4 times the rate for non-Hispanic white residents, but the asthma hospitalization rate for Hispanic residents was 0.68 times (32 percent below) the rate for non-Hispanic white residents.

An analysis of asthma-related ED visits by municipality of residence for the years 2008–2012 shows such visits are more concentrated in municipalities with smaller populations. Municipalities with populations less than 5,500 accounted for 58 percent of asthma-related ED visits in the county, while only holding 45 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 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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