Asthma Among Minnesota Health Care Program Enrollees, 2013

INTRODUCTION

Asthma is a chronic respiratory disease that is characterized by episodes of breathlessness. It is one of the most common chronic diseases in the U.S. Asthma can range from a relatively mild condition to quite severe, and is associated with missed school days, missed work days, disrupted sleep, and activity limitations. While it cannot be cured, asthma can be controlled with appropriate medication, regular doctor visits, and avoidance of asthma triggers (e.g., pollen or secondhand smoke).

This report provides updated data on the burden of asthma in the public health care programs overseen by the Minnesota Department of Human Services, collectively known as Minnesota Health Care Programs (MHCP). Medical Assistance is Minnesota’s Medicaid program, providing medical care and prescription medications for residents with low incomes and those with disabilities. Medical Assistance coverage is provided through two payment mechanisms: managed care and fee-for-service. MinnesotaCare (MNCare) is a prepaid program that provides health insurance for Minnesotans with low and moderate incomes who do not qualify for other health insurance coverage.†

This report examines asthma prevalence, rates of asthma-related office visits, emergency department (ED) visits and hospitalizations, and quality of care for asthma. It is important to understand the burden of asthma in lower-income populations as they are generally at higher risk for having asthma and experiencing asthma exacerbations.[1, 2]

METHODS

Queries of MHCP claims data for the years 2008-2010 were conducted by the Minnesota Department of Human Services. Data on quality of care for asthma was obtained from the 2011 Health Care Disparities Report for Minnesota Health Care Programs.[3]

Asthma Prevalence and Health Care Utilization

Continuous Enrollment

The analysis of asthma prevalence and health care utilization was limited to individuals under the age of 65 enrolled in Medical Assistance or MNCare for 11 or more months in the year being analyzed. The continuous enrollment requirement excludes a large percentage of

†General Assistance Medical Care (GAMC), a third MHCP program which provided medical care for low-income adults without children and who were not eligible for federal coverage, was in transition in 2010 and discontinued in February 2011 with enrollees moving to Medical Assistance programs.
enrollees. Thus, it is important to keep in mind that the estimates of asthma prevalence listed in the following tables and graphs are only representative of the subset of individuals meeting the continuous enrollment criteria.

Dually eligible enrollees (in Medical Assistance and Medicare) were included in this analysis.

Data on race/ethnicity is based on self-report. If more than one category was reported, the first one listed was used in this analysis.

**Asthma Prevalence Definitions**

Because DHS does not collect information specifically on asthma diagnoses (i.e., information from medical records), individuals likely to have asthma are identified using criteria based on patterns of asthma-related office visits, ED visits, hospitalizations and prescription-filling. Two definitions were used to identify enrollees likely to have asthma: a broader definition ("asthma universe") and a narrower definition ("persistent asthma"). Note that the latter definition is not based on an actual measure of asthma severity. Asthma-related visits or hospitalizations were identified as those with International Classification of Disease-Revision 9 Clinical Modification (ICD-9-CM) code 493.

"Asthma universe" definition:

Meeting one or more of the following criteria:

- At least one ED visit with a principal diagnosis of asthma
- At least one hospitalization with a principal diagnosis of asthma
- At least one office visit with a principal or secondary diagnosis of asthma
- At least four asthma medications filled

"Persistent asthma" definition:

Meeting one or more of the following criteria:

- At least one ED visit with a principal diagnosis of asthma
- At least one hospitalization with a principal diagnosis of asthma
- At least four office visits for asthma with a principal or secondary diagnosis of asthma and two or more asthma medications filled
- At least four asthma medications filled

Asthma prevalence was calculated as the number of enrollees in a particular program meeting the asthma definition in a year divided by the total number of continuous enrollees in that program in that year.

\[
\text{Asthma prevalence} = \frac{\text{Number of continuous enrollees with asthma}}{\text{Total number of continuous enrollees}}
\]

These definitions are likely to miss some individuals with mild asthma (i.e., those needing only infrequent asthma medication). In all cases, these definitions can only pick up cases for whom health care claims data have been accurately recorded. Because some medications used by people with asthma are also indicated for those with chronic obstructive pulmonary disease.
(COPD) (e.g., ipratropium bromide), these definitions may incorrectly include some people who have COPD but who do not also have asthma. COPD is a chronic lung disease that becomes more common with age and is difficult to distinguish from asthma in older people. Note: Estimates of asthma prevalence based on claims data or encounter data (like that used in this analysis) are typically lower than estimates of asthma prevalence from surveys, such as the Behavioral Risk Factor Surveillance System (BRFSS) survey.

**Health Care Utilization Rates**

In this report, health care utilization for asthma refers to asthma-related office visits (doctor visits), ED visits and hospitalizations. Office visits, ED visits and hospitalizations were identified as asthma-related when the principal diagnosis for the event was listed as asthma (ICD-9-CM code 493).

Health care utilization rates were calculated as:

\[
\text{Rate} = \frac{\text{Number of events}}{\text{Total number of continuous enrollees}} \times 10,000
\]

Relative standard errors (RSEs) for the health care utilization rates were calculated as follows:

\[
\text{RSE} = \left( \frac{\text{Standard error of the rate}}{\text{Rate}} \right) \times 100 = \frac{1}{\sqrt{\text{number of events}}} \times 100
\]

Rates for which the relative standard error, an indication of statistical reliability, was greater than 23% are flagged as unreliable and should be interpreted with caution.

**Quality of Care for Asthma**

The Optimal Asthma Care measure is used by MN Community Measurement and the Minnesota Statewide Quality Reporting and Measurement System to track quality of care for asthma at the clinic level. It is composed of three elements: asthma control, risk of exacerbation and patient education. The measures included in this report come from the 2011 Health Care Disparities Report for Minnesota Health Care Programs[3] published by the Minnesota Department of Human Services and MN Community Measurement.

**Optimal Asthma Care measure definition:**

The percentage of asthma patients ages 5-50 having:

- Well-controlled asthma as indicated by scores on asthma control questionnaires, and
- No elevated risk of exacerbation as indicated by having a total of less than 2 ED visits/hospitalizations for asthma in past 12 months, and
- Education on asthma and self-management of the condition as indicated by the presence of a written asthma action plan in the medical record

For the purposes of comparing quality of asthma care between public and private health care programs, the measures in this report are limited to enrollees in managed care programs (i.e., excludes MHCP enrollees covered by fee-for-service).
RESULTS

Continuous Enrollees
Table 1 shows the number of individuals enrolled in Medical Assistance or MNCare for 11 or more months in the reporting year. A greater percentage of MNCare than Medical Assistance enrollees were continuously enrolled each year.

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th></th>
<th>2009</th>
<th></th>
<th>2010</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>% of all enrollees</td>
<td>#</td>
<td>% of all enrollees</td>
<td>#</td>
<td>% of all enrollees</td>
</tr>
<tr>
<td>Medical Assistance</td>
<td>264,231</td>
<td>27%</td>
<td>292,778</td>
<td>28%</td>
<td>322,203</td>
<td>29%</td>
</tr>
<tr>
<td>MNCare</td>
<td>75,838</td>
<td>45%</td>
<td>79,410</td>
<td>43%</td>
<td>94,800</td>
<td>44%</td>
</tr>
<tr>
<td>Total</td>
<td>340,069</td>
<td>45%</td>
<td>372,188</td>
<td>43%</td>
<td>417,003</td>
<td>44%</td>
</tr>
</tbody>
</table>

Table 2 shows the demographics of the continuous enrollees in the Medical Assistance and MNCare programs in 2010. The differences in demographics arise from the differences in eligibility for each program. The majority of MA enrollees are children, while the majority of MNCare enrollees are adults.
Table 2. Continuous Enrollees by Age, Sex, Race/Ethnicity and Residence, 2010

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Medical Assistance</th>
<th>MNCare</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>0-4</td>
<td>51,896</td>
<td>16.1%</td>
<td>4,953</td>
</tr>
<tr>
<td>5-9</td>
<td>49,313</td>
<td>15.3%</td>
<td>7,909</td>
</tr>
<tr>
<td>10-17</td>
<td>66,754</td>
<td>20.7%</td>
<td>13,039</td>
</tr>
<tr>
<td>18-34</td>
<td>72,093</td>
<td>22.4%</td>
<td>26,506</td>
</tr>
<tr>
<td>35-54</td>
<td>59,502</td>
<td>18.5%</td>
<td>30,120</td>
</tr>
<tr>
<td>55-64</td>
<td>22,645</td>
<td>7.0%</td>
<td>12,273</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>179,707</td>
<td>55.8%</td>
<td>50,803</td>
</tr>
<tr>
<td>Male</td>
<td>142,496</td>
<td>44.2%</td>
<td>43,997</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian</td>
<td>16,303</td>
<td>5.1%</td>
<td>952</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>24,009</td>
<td>7.5%</td>
<td>5,125</td>
</tr>
<tr>
<td>Black</td>
<td>69,566</td>
<td>21.6%</td>
<td>6,995</td>
</tr>
<tr>
<td>Hispanic</td>
<td>27,066</td>
<td>8.4%</td>
<td>2,791</td>
</tr>
<tr>
<td>White</td>
<td>178,657</td>
<td>55.4%</td>
<td>73,702</td>
</tr>
<tr>
<td>Unknown</td>
<td>6,602</td>
<td>2.0%</td>
<td>5,235</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metro</td>
<td>165,998</td>
<td>51.5%</td>
<td>41,291</td>
</tr>
<tr>
<td>Greater MN</td>
<td>156,205</td>
<td>48.5%</td>
<td>53,509</td>
</tr>
<tr>
<td>Total</td>
<td>322,203</td>
<td></td>
<td>94,800</td>
</tr>
</tbody>
</table>

Asthma Prevalence - “Universal Asthma”

In 2010, out of 417,003 individuals continuously enrolled for at least 11 months in Medical Assistance or MNCare, 38,835 (9%) met the “universal asthma” definition. Universal asthma prevalence increased slightly in both programs between 2008 and 2010.

Table 3. Number and percentage of enrollees with “universal asthma” by public health care program, Minnesota

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Medical Assistance</td>
<td>24,473</td>
<td>9.3%</td>
<td>28,097</td>
</tr>
<tr>
<td>MNCare</td>
<td>5,653</td>
<td>7.5%</td>
<td>6,384</td>
</tr>
<tr>
<td>Total</td>
<td>30,126</td>
<td>8.9%</td>
<td>34,471</td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010
As shown in the graph below, the prevalence of universal asthma is consistently higher among enrollees in Medical Assistance than in Minnesota Care.

Figure 1. Percentage of enrollees with universal asthma by program and age group, Minnesota

Source: Minnesota Department of Human Services Data Warehouse, 2010

The prevalence of asthma also differs by race/ethnicity and program. Among enrollees in Medical Assistance, Blacks have the highest prevalence of universal asthma. Among enrollees in MNCare, American Indians have the highest prevalence of universal asthma.

Figure 2. Percentage of enrollees with universal asthma by program and race/ethnicity, Minnesota

Source: Minnesota Department of Human Services Data Warehouse, 2010
Universal asthma prevalence is higher among residents of the seven-county Twin Cities metropolitan area than among residents of Greater Minnesota in both the Medical Assistance and Minnesota Care programs.

Figure 3. Percentage of enrollees with universal asthma by program and region, Minnesota

![Bar chart](chart.png)

Source: Minnesota Department of Human Services Data Warehouse, 2010

**Asthma Prevalence – “Persistent Asthma”**

In 2010, 22,992 enrollees in Medical Assistance or MNCare met the “persistent asthma” definition.

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Medical Assistance</td>
<td>14,393</td>
<td>5.4%</td>
<td>16,455</td>
</tr>
<tr>
<td>MNCare</td>
<td>3,785</td>
<td>5.0%</td>
<td>4,335</td>
</tr>
<tr>
<td>Total</td>
<td>18,178</td>
<td>5.3%</td>
<td>20,790</td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010

Among enrollees under age 18, the prevalence of persistent asthma is higher in Medical Assistance than Minnesota Care. There is little difference in persistent asthma prevalence between programs among enrollees age 18 and older.
Among enrollees in Medical Assistance, Blacks have the highest prevalence of persistent asthma. In Minnesota Care, the prevalence of persistent asthma is highest among American Indians.

Source: Minnesota Department of Human Services Data Warehouse, 2010
The prevalence of persistent asthma is higher among residents of the seven-county Twin Cities metropolitan area than among those living in Greater Minnesota, although the difference for Minnesota Care is small.

**Figure 6. Percentage of enrollees with persistent asthma by program and region, Minnesota**

Source: Minnesota Department of Human Services Data Warehouse, 2010
Asthma Among Minnesota Health Care Program Enrollees, 2013

Asthma-Related Health Care Utilization

Medical Assistance
Among enrollees in Medical Assistance, children ages 5-9, males and Blacks were the most likely to have had an office visit for asthma. Rates of asthma-related ED visits were highest among children under 5, while hospitalizations were highest among adults ages 35-64. Residents of the Twin Cities metropolitan area were 1.5 times as likely to have had an office visit for asthma and 2 times as likely to have had an ED visit or hospitalization for asthma compared with residents of Greater Minnesota.

Table 5. Asthma-Related Health Care Utilization Rates, Medical Assistance, 2010

<table>
<thead>
<tr>
<th>Rate per 10,000 enrollees</th>
<th>Office visits</th>
<th>ED Visits</th>
<th>Hospitalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>666.3</td>
<td>248.6</td>
<td>61.7</td>
</tr>
<tr>
<td>5-9</td>
<td>888.4</td>
<td>170.9</td>
<td>45.4</td>
</tr>
<tr>
<td>10-17</td>
<td>638.2</td>
<td>104.4</td>
<td>34.3</td>
</tr>
<tr>
<td>18-34</td>
<td>389.5</td>
<td>124.8</td>
<td>36.8</td>
</tr>
<tr>
<td>35-54</td>
<td>598.6</td>
<td>183.7</td>
<td>133.3</td>
</tr>
<tr>
<td>55-64</td>
<td>587.8</td>
<td>148.4</td>
<td>181.1</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>601.0</td>
<td>157.1</td>
<td>154.4</td>
</tr>
<tr>
<td>Male</td>
<td>631.5</td>
<td>163.9</td>
<td>64.6</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian</td>
<td>557.0</td>
<td>200.0</td>
<td>75.4</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>402.3*</td>
<td>48.7*</td>
<td>28.7*</td>
</tr>
<tr>
<td>Black</td>
<td>921.7</td>
<td>339.4</td>
<td>126.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>742.3</td>
<td>162.9</td>
<td>40.6</td>
</tr>
<tr>
<td>White</td>
<td>509.3</td>
<td>102.8</td>
<td>57.4</td>
</tr>
<tr>
<td>Unknown</td>
<td>615.0</td>
<td>118.1</td>
<td>56.0</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twin Cities Metro</td>
<td>731.9</td>
<td>208.8</td>
<td>94.2</td>
</tr>
<tr>
<td>Greater Minnesota</td>
<td>489.7</td>
<td>108.4</td>
<td>43.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>614.5</strong></td>
<td><strong>160.1</strong></td>
<td><strong>69.6</strong></td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Human Services Data Warehouse, 2010
*Because the relative standard error is high, the rate may be unreliable and should be interpreted with caution.
MinnesotaCare Enrollees
Among MNCare enrollees, children ages 5-9, females and Hispanics had the highest rates of office visits for asthma. Children under age 5, females and Blacks had the highest rates of asthma-related ED visits. Adults age 35 and older, females and Blacks had the highest rates of hospitalizations. Twin Cities residents had higher rates than residents of Greater Minnesota for all 3 measures.

Table 6. Asthma-Related Health Care Utilization Rates, MNCare, 2010

<table>
<thead>
<tr>
<th>Rates per 10,000 enrollees</th>
<th>Office Visits</th>
<th>ED Visits</th>
<th>Hospitalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>444.2</td>
<td>100.9</td>
<td>28.3*</td>
</tr>
<tr>
<td>5-9</td>
<td>751.0</td>
<td>84.7</td>
<td>13.9*</td>
</tr>
<tr>
<td>10-17</td>
<td>546.8</td>
<td>42.9</td>
<td>6.9*</td>
</tr>
<tr>
<td>18-34</td>
<td>407.1</td>
<td>72.1</td>
<td>14.0</td>
</tr>
<tr>
<td>35-54</td>
<td>440.2</td>
<td>75.7</td>
<td>41.8</td>
</tr>
<tr>
<td>55-64</td>
<td>367.5</td>
<td>31.0</td>
<td>35.9</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>489.3</td>
<td>69.3</td>
<td>33.7</td>
</tr>
<tr>
<td>Male</td>
<td>431.2</td>
<td>63.2</td>
<td>15.9</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian</td>
<td>588.2</td>
<td>115.5*</td>
<td>10.5*</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>314.1</td>
<td>15.6*</td>
<td>13.7*</td>
</tr>
<tr>
<td>Black</td>
<td>681.9</td>
<td>168.7</td>
<td>64.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>741.7</td>
<td>96.7</td>
<td>3.6*</td>
</tr>
<tr>
<td>White</td>
<td>436.1</td>
<td>58.1</td>
<td>24.3</td>
</tr>
<tr>
<td>Unknown</td>
<td>511.9</td>
<td>72.6</td>
<td>15.3*</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twin Cities Metro</td>
<td>540.3</td>
<td>79.7</td>
<td>35.1</td>
</tr>
<tr>
<td>Greater Minnesota</td>
<td>402.2</td>
<td>56.3</td>
<td>17.9</td>
</tr>
<tr>
<td>Total</td>
<td><strong>462.3</strong></td>
<td><strong>66.5</strong></td>
<td><strong>25.4</strong></td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Human Services Data Warehouse, 2010

*Because the relative standard error is high, the rate may be unreliable and should be interpreted with caution.
Asthma Among Minnesota Health Care Program Enrollees, 2013

Asthma-Related Health Care Utilization Rates by Year
Figures 7-9 show asthma-related health care utilization rates by program for 2008-2010. These rates have been age-adjusted to account for the differences in age breakdown between the programs. For all 3 measures, rates were significantly higher in Medical Assistance than MNCare. Specifically, in 2010, rates of office visits, ED visits and hospitalizations for enrollees in Medical Assistance were 1.3, 1.5 and 3.4 times higher, respectively, than those for enrollees in MNCare.

Between 2008 and 2010, there was a small increase in the rates of asthma-related office visits among enrollees of both programs (Figure 7). Rates of asthma-related ED visits decreased slightly among Medical Assistance enrollees and remained relatively stable in MNCare (Figure 8).

Notably, rates of asthma hospitalizations among Medical Assistance enrollees decreased dramatically over 2008-2010 (Figure 9). At the same time the percentage of enrollees with asthma increased slightly (Tables 3 and 4). There was no corresponding change in asthma hospitalization rates during this period among MNCare enrollees.

Figure 7. Age-Adjusted Asthma Office Visit Rates by Program, 2008-2010

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010
Figure 8. Age-Adjusted Asthma ED Visit Rates by Program, 2008-2010

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010

Figure 9. Age-Adjusted Asthma Hospitalization Rates by Program, 2008-2010

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010
The following graphs show in more detail the trends in decreasing asthma hospitalization rates among Medical Assistance enrollees between 2008 and 2010. (Note that the rates in Figures 11 and 12 are not age-adjusted.) Asthma hospitalization rates declined in all age groups except age 55-64, which increased slightly.

**Figure 10. Asthma Hospitalization Rates by Age Group, Medical Assistance, 2008-2010**

![Asthma Hospitalization Rates by Age Group](image)

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010

Asthma hospitalization rates declined among Medical Assistance enrollees in all racial/ethnic groups, except the “Unknown” category, which includes those whose record are missing information on race/ethnicity.

**Figure 11. Asthma Hospitalization Rates by Race/Ethnicity, Medical Assistance, 2008-2010**

![Asthma Hospitalization Rates by Race/Ethnicity](image)

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010
Asthma hospitalization rates were higher among enrollees living in the Twin Cities metropolitan area than among those living in Greater Minnesota. Rates have declined in both locations, but to a greater degree in the Twin Cities metro area.

**Figure 12. Asthma Hospitalization Rates by Residence, Medical Assistance, 2008-2010**

Source: Minnesota Department of Human Services Data Warehouse, 2008-2010
Quality of Care for Asthma

The table below compares individuals enrolled in the managed care component of MHCP (in Medical Assistance, Minnesota Care or GAMC programs) with individuals enrolled in managed care programs of other purchases (i.e., private, employee-based health insurance).

Children and adults enrolled in managed care programs in MHCP had significantly lower rates of Optimal Asthma Care than children and adults enrolled in managed care programs with other purchasers (p<0.05). Because asthma ED visits and hospitalizations make up one element of this measure, and because rates for these outcomes are significantly higher in the MHCP population, some of the difference in Optimal Asthma Care rates by payer may be explained by the disparities in these outcomes.

Table 9. Percentage of Asthma Patients Enrolled in Managed Care Programs Receiving Optimal Asthma Care by Payer, 7/1/2010-6/30/2011 Dates of Service

<table>
<thead>
<tr>
<th></th>
<th>MHCP*</th>
<th>Other Purchasers**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children (ages 5-17)</td>
<td>17.9% (17.0%-18.7%)</td>
<td>27.9% (27.2%-28.5%)</td>
</tr>
<tr>
<td>Adults (ages 18-50)</td>
<td>10.6% (9.9%-11.3%)</td>
<td>18.1% (17.7%-18.6%)</td>
</tr>
</tbody>
</table>

Source: Minnesota Community Measurement, 2011 Health Care Disparities Report

*Enrollees in managed care programs in Minnesota Health Care Programs (MHCP)

**Enrollees in managed care programs with other purchasers (private, employer-based health insurance)
DISCUSSION

The burden of asthma in Minnesota continues to be highest among those with the lowest incomes. When compared with enrollees in MNCare, rates of asthma-related ED visits were 2 times higher and rates of asthma hospitalizations were 3 times higher among Medical Assistance enrollees, even after age differences were taken into account. When compared with data for the general population, rates of asthma ED visits were 3 times higher and rates of asthma hospitalizations were 15 times higher in the Medical Assistance program, after accounting for age. This finding is consistent with previous studies showing a correlation between asthma morbidity and poverty.

Similarly, rates of asthma-related office visits were higher among enrollees in Medical Assistance compared with MNCare. Office visits for asthma can be an indicator of preventive care, but also an indicator of urgent visits for worsening symptoms. This finding suggests that in addition to the ED, the clinic setting is an opportunity for intervention efforts to increase asthma control among enrollees in Medical Assistance.

There was a striking decline in asthma hospitalization rates between 2008 and 2010 among Medical Assistance enrollees, with no substantial change in asthma-related office visits or ED visits over the same period. The decline in asthma hospitalizations among Medical Assistance enrollees parallels that observed for the general population.[4] The decrease in asthma hospitalizations is a good sign, as asthma hospitalizations are expensive and potentially preventable with access to primary care and decreased exposure to asthma triggers. There were no major changes in health care utilization rates over time among MNCare enrollees.

Health care utilization rates for asthma were consistently higher in the Twin Cities metropolitan area compared with Greater Minnesota. This is consistent with patterns observed for the general population[4], implying that regardless of income, asthma morbidity is higher in the Twin Cities metro area than in Greater Minnesota.

Quality of care for asthma, as indicated by the Optimal Asthma Care measure, is significantly lower for enrollees in Minnesota’s public health care programs; although this may be due in part to disparities in asthma ED visits and hospitalizations, which make up one element of the measure.

SUMMARY

There is continuing evidence that MHCP enrollees, particularly those in Medical Assistance, are disproportionately impacted by asthma. However, some measures of burden, namely asthma hospitalization rates among Medical Assistance enrollees, have improved dramatically in recent years.
REFERENCES


