Asthma in Minnesota’s School Aged Children

The purpose of this report is to provide school nurses, educators and others with recent data on asthma among Minnesota students, first reported in the Asthma in Minnesota: 2012 Epidemiology Report.

Overview
Asthma is a chronic disease causing airway swelling, mucus production, and tightening of the muscles around the airways. If not well-controlled, asthma can impact academic performance and can prevent students from participating in school activities. Nationwide, asthma accounted for 10.5 million missed school days in 2008.

While asthma is a chronic disease which cannot be cured, it can be controlled through adequate access to medical care, medications and self-management. Children with asthma can lead healthy, active lives, but only with proper management. The more you know about asthma, the more you can help ensure the immediate safety and long term health of students.

Prevalence: how common is asthma?
Children ages 0-17:
7% of MN children ages 0-17 were reported to have asthma.1

This means that an estimated 90,000 children, or one in 14, have asthma.1

Middle and high school youth:
According to the MN Youth Tobacco and Asthma Survey, 12.4% of MN youth currently have asthma.

One in 20 students indicate that they have been diagnosed with asthma in the past, but do not currently have symptoms (i.e., “former” asthma).

One in 10 students have never been diagnosed with asthma but report having asthma-like symptoms when they did not have a cold or flu (i.e., “potential” asthma). Although not everyone classified as having potential asthma actually has asthma, it is likely that some portion of this group truly has asthma.

Disparities in Prevalence: Is asthma distributed evenly among Minnesota youth?
Disparities in asthma prevalence based on location are significant. The percentage of youth in grades 6, 9, and 12 with current asthma in the Twin Cities metro area is 14.3%, while in Greater Minnesota it is 10.4%.3
The MN Student Survey asked 6th, 9th, and 12th graders, “Has a doctor or nurse ever told you that you have asthma?” There are striking disparities by race/ethnicity in asthma prevalence.

### Asthma Episodes: How frequently do symptoms worsen?

28% of MN youth with current asthma report having one or more urgent care visits, emergency department (ED) visits, or hospitalizations due to worsening symptoms of asthma in the past year.³

In Hennepin County, 64.8% of children (ages 0-17) with asthma were reported to have had an asthma episode in the past year, while 15.4% of that group went to the ED/urgent care in the past year due to an asthma episode.⁴

In the MN Youth Tobacco and Asthma Survey, students with asthma were asked about the frequency of asthma symptoms, whether symptoms impacted their sleep, and whether asthma limited their activity. 59.2% of students with asthma have asthma that is not well- or very poorly controlled; nearly 1 in 5 youth with asthma have very poorly controlled asthma.³

### Disparities in Episodes: Do episodes happen more often for certain groups?

Asthma hospitalization rates among children (ages 0-17 years) in the seven-county Twin Cities metro area have decreased dramatically since 2000; however, they remain the highest in the state.⁵

In 2010, the rate of asthma hospitalizations for children in the Twin Cities metro area was 50% higher than the rate for children in greater Minnesota.⁵

Rates of ED visits and hospitalizations for asthma are highest in the fall. A major contributor to the fall peak is thought to be increasing rates of respiratory infections associated with children going back to school. Other possible factors include pollen and mold.
In Hennepin County, children from low-income households were more likely than children from non-low-income households to seek care in an emergency room or urgent care due to an asthma episode. This difference is statistically significant.4

**Activity Limitations: How does asthma limit the lives of youth?**

More than half of middle school students with asthma (59.3%) and nearly half of high school students with asthma (49.3%) report some or a lot of activity limitations due to asthma.3

**Sports and Asthma: Does having asthma inhibit sports participation?**

According to the MN Student Survey, MN youth who have asthma are just as likely as their peers who do not have asthma to participate in sports.2

71% of MN youth diagnosed with asthma participate in club/community sports teams or school sports teams compared with 70% of youth who do not have asthma.2

Among students involved in sports, 17% or 1 in 6 have received a diagnosis of asthma at some point in their lives.2

**Tobacco Smoke Exposure: How are youth with asthma being exposed to tobacco?**

Smoking rates are higher among students with potential asthma than among students who never had asthma.3 Potential asthma means that the student indicated that they experience asthma-like symptoms but do not have an asthma diagnosis.

Youth with asthma are just as likely as youth without asthma to be smokers, indicating that having asthma does not make them more likely to quit or avoid cigarettes.3

Environmental tobacco smoke (ETS, also known as secondhand smoke) exposure is also associated with asthma status. 45% of students with potential asthma report repeated exposure to ETS in the past week compared with 24% of students without asthma.3

**Asthma Action Plan: How many youth with asthma have asthma action plans?**

National guidelines recommend that healthcare providers provide a written asthma action plan (AAP) with instructions for everyday asthma care and what to do when symptoms worsen.

47% of MN youth with asthma report that they did not have an AAP, and 8% did not know if they have an AAP.3

The percent of youth reporting that they have an AAP is up from 29% in 2008.3

**Mortality: How often do young people die from asthma?**

Asthma deaths among young people in Minnesota are relatively rare. Between 1999 and 2010, there were 35 deaths among MN residents under the age of 18.6
Conclusion: What do we know about children and asthma?

The good news is:
Asthma hospitalization rates continue to decline in the Twin Cities metro area, especially among children.

MN youth who have asthma are just as likely as their peers who do not have asthma to play sports.

The percentage of MN youth with asthma who report having asthma action plans has increased.

The percentage of MN children with asthma is lower than the national average.

However,
There are striking disparities in asthma prevalence among youth by race/ethnicity. American Indian and African/African American students are much more likely than other students to be diagnosed with asthma.

Geographic disparities in rates of asthma-related ED visits and hospitalizations remain in comparing the Twin Cities Metro area with Greater Minnesota.

There may be substantial numbers of youth experiencing asthma symptoms who have not yet been diagnosed, with one in 10 youth reporting asthma-like symptoms but no asthma diagnosis.

There is room for improvement in asthma control among MN youth with asthma; 59% of youth with asthma have asthma that is not well- or very poorly controlled.

MN youth with current asthma are just as likely as those without asthma to be smokers. And they are more likely to report exposure to environmental tobacco smoke than students without asthma.

Data: How is this information gathered?
The data in this fact sheet come from a number of sources. Included below are the names of the sources, the age range they cover, and whether the data are reported by a parent/caregiving adult or self-reported by the child.

<table>
<thead>
<tr>
<th>Name of data source</th>
<th>Term used and age definition</th>
<th>Respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Behavioral Risk Factor Surveillance System 2010</td>
<td>child: ages 0-17</td>
<td>adult in the household</td>
</tr>
<tr>
<td>(2) Minnesota Student Survey 2010</td>
<td>youth: students in grades 6, 9, 12</td>
<td>child</td>
</tr>
<tr>
<td>(3) MN Youth Tobacco and Asthma Survey 2011</td>
<td>youth: grades 6-12</td>
<td>child</td>
</tr>
<tr>
<td>(4) Hennepin County Survey of the Health of All of the Population and Environment (SHAPE) 2010</td>
<td>child: ages 0-17</td>
<td>adult in the household</td>
</tr>
<tr>
<td>(5) Minnesota Hospital Association 2010</td>
<td>child: ages 0-17</td>
<td>discharge data</td>
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</tbody>
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4. Hennepin County SHAPE 2010. [www.co.hennepin.mn.us/SHAPE](http://www.co.hennepin.mn.us/SHAPE)
5. Minnesota Hospital Association 2010. [www.mnhospitals.org](http://www.mnhospitals.org)
6. Minnesota Center for Health Statistics. [health.state.mn.us/divs/chs/](http://health.state.mn.us/divs/chs/)

Data: Where is county-specific data found?
You can find data on the percentage of students with a history of asthma by county from the MN Student Survey at: [http://www.health.state.mn.us/divs/chs/mss/countytables/index.cfm](http://www.health.state.mn.us/divs/chs/mss/countytables/index.cfm)

You can find data on asthma hospitalizations and ED visits by county on the MN Public Health Data Access website: [https://apps.health.state.mn.us/mndata/](https://apps.health.state.mn.us/mndata/). This site allows users to query data and create maps.

For more information, contact:
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