

Asthma Hospitalizations Peak in September

In Minnesota, asthma hospitalization rates follow seasonal patterns. The greatest number of hospitalizations is seen in the fall months, usually September, with a smaller peak in the spring. The lowest rates are generally seen in July.

In 2006, there were 4,280 asthma hospitalizations across all ages in Minnesota, ranging from a low of 216 in June to a high of 530 in September. This pattern has been consistent over the years for which the data are available (1998-2006). Other states, including Michigan, Vermont, New Hampshire, and Nebraska have reported similar patterns.

The most distinct peaks are seen in children, with children under 5 having the highest rates of asthma hospitalizations throughout the year. Older age groups exhibit less seasonal variation. Rates for persons aged 65 and older are not included in the accompanying graph because of the difficulty of distinguishing asthma from chronic obstructive pulmonary disease (COPD) in this age group.

Repeated asthma attacks (also called episodes) can cause lung remodeling, a type of scarring of the lungs, which may be irreversible. Therefore, it is very important that people with asthma have and follow a current asthma management plan including an Asthma Action Plan to prevent asthma-related hospitalizations.

Why is there a peak in September?

The causes of the fall increase in asthma hospitalizations may include respiratory infections and increased pollen and outdoor mold counts.

Children heading back to school have closer personal contact with many more children therefore increasing their exposure to viral and bacterial infections that can trigger an asthma attack. Certain molds and pollens, such as ragweed, increase in the fall, increasing the sensitivity of lung airways, which may trigger asthma attacks.



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The number of leaf decay molds, such as *Alternaria*, are increased this time of year and remain elevated until our first continuous snow cover.¹

How do you manage asthma in schools?

Teachers and others who work with children should understand that the best way to control asthma is to use medication before symptoms appear. Children who have asthma need to understand that they can do everything children without asthma can do, as long as their asthma is well controlled. Children need to make sure they have easy access to their rescue medication if they have an asthma attack at school, or when out on the playing field. The Asthma Program recommends that children with asthma see their health care providers for a “well-asthma” visit in the summer to ensure that their asthma is well managed, particularly for this high-risk season.

What is well controlled asthma?

- ◆ Minimal or no symptoms day or night (no sleep disruption by asthma or asthma attacks)
- ◆ Minimal use of rescue medications (such as albuterol)
- ◆ No missed school days or work days due to asthma
- ◆ No limitation of activities, including playing sports
- ◆ No or minimal need for ER or UC visits or hospitalizations
- ◆ Maintain normal or near normal lung function
- ◆ Minimal or no side effects from asthma medications²

Those with symptoms or poorly controlled asthma should have more frequent asthma check-ups in order to get their asthma under control. Health staff at school can be a great resource for a child who has asthma. They can help coordinate the care in the school with the parent, health care provider, teachers, and coaches using a current Asthma Action Plan so the child can fully participate in all school activities.

What's an Asthma Action Plan (AAP), and why is it important?

An AAP is written instructions for asthma management for a person with asthma, as well as

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parents, school nurses, and other caretakers. An AAP helps people manage their asthma more effectively by treating symptoms before they become severe. It's a valuable tool to help avoid hospitalizations or emergency room visits.

Can the school environment itself cause increases in asthma attacks?

Since there is a peak in September for preschool age children (0 to 4 years), it is unlikely that the school environment is causing this pattern in asthma hospitalizations. However, the school environment can affect some individuals with asthma, and there are steps school staff can take to reduce children's exposure to environmental triggers. Examples may be found in our "Managing Asthma in Minnesota Schools" manual

<http://www.health.state.mn.us/divs/hpcd/cdee/asthma/documents/custodial.pdf>. Since poor outdoor air quality can trigger asthma attacks, make sure that school staff have signed up to receive the Air Quality Index alert from the MN Pollution Control Agency <http://www.pca.state.mn.us/air/aqi-subscribe.html>.

Is it true that asthma rates overall are increasing? If so, why?

Asthma rates in the U.S. have increased dramatically in the past two decades, with the greatest increases occurring among children. The reasons behind the increased rates are not fully understood.

How many people in Minnesota are affected by asthma?

One in 10 adults (18 and older) in Minnesota report that they have been diagnosed with asthma at some point in their lives.³ An estimated 8% of Minnesota adults (approximately 301,000 Minnesotans) report that they currently have asthma.³ One in 15 Minnesota children age 0-17 (approximately 80,000 children) were affected by asthma in the past year.⁴

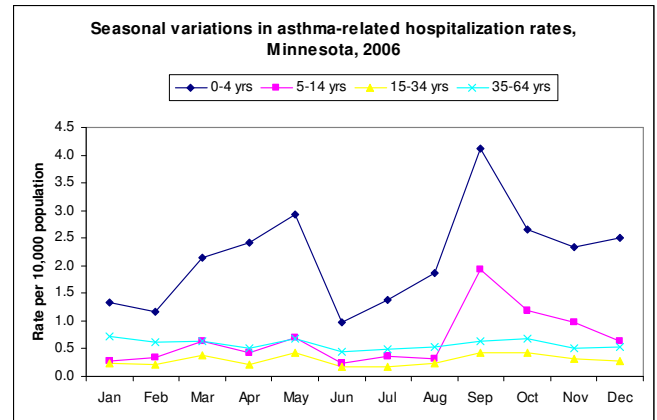
Does asthma mostly affect children, or adults?

Asthma usually appears first in children, and can be more severe at younger ages. Asthma is a chronic disease whose symptoms may recede somewhat as a child gets older. However, symptoms frequently

reappear later in life. Asthma may also develop for the first time in adulthood.

Can a person die of asthma?

Approximately 3,900 people in the United States die from asthma each year. Approximately 5% of these deaths occur in those under the age of 20.⁵



Data source: Minnesota Hospital Association

References

1. Targonski, et al., Allergy Clin Immunol. 1995 May (Volume 5 Pt 1) pages 955-61
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7751516&dopt=Citation
2. Guidelines for the Diagnosis and Management of Asthma, EPR3, NAEPP, NIH, NHLBI, 2007
<http://www.nhlbi.nih.gov/guidelines/asthma/index.htm#groups>
3. Minnesota Behavioral Risk Factor Surveillance System, 2006
4. Minnesota Behavioral Risk Factor Surveillance System, 2004
5. Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2005. CDC WONDER On-line Database, compiled from Compressed Mortality File 1999-2005 Series 20 No. 2K, 2008. Accessed at <http://wonder.cdc.gov/cmfi-icd10.html>