Child and Adolescent Asthma in Alaska

Asthma is among the 10 leading activity limiting chronic conditions in the United States. It is the third leading cause of hospitalization among children under 15 years and the leading cause of chronic illness among children. Asthma is a significant public health burden and the effort to reduce this burden by promoting respiratory health through better prevention, detection, treatment, and education is a national initiative set forth by Healthy People 2010.

**Seriousness**

*Healthy People 2010 Targets and National Data*

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Alaska</th>
<th>Nation</th>
<th>Healthy People 2010 Goal*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality among children less than 5 years of age rate per 1,000,000</td>
<td>0 2000-02†</td>
<td>2.1 2001⁻</td>
<td>1</td>
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<tr>
<td>Asthma hospitalizations among children less than 5 years of age rate per 10,000</td>
<td>69.3 FY2001⁻</td>
<td>56.2 2001⁻⁻</td>
<td>25</td>
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- There were no asthma deaths known to have occurred in Alaska during 2000-2002.
- The rate of asthma hospitalizations among children less than 5 years of age is higher in Alaska compared to the Nation and nearly 3 times higher than the HP2010 goal.

**Severity**

Asthma is a major cause of childhood disability and, in some cases, can cause premature death. An estimated 4 million children under 18 years old have had an asthma attack in the past 12 months, and many others have undiagnosed asthma. Furthermore, asthma is a major cause of missed school days among school age children, accounting for 14.6 million school days lost in 2002.

Nationally, during 2000 the cumulative incidence over one year of asthma emergency room visits exceeded 60 per 10,000 population. Asthma hospitalizations exceeded 10 per 10,000 population and deaths exceeded 1.5 per 100,000 population.

- The Alaska Hospital Discharge Reporting System reported that during 2001 and 2002 approximately 2.5% to 3.5% of hospitalizations among children less than 15 years of age were due to asthma.
- The overall 4-year cumulative incidence of asthma hospitalizations among Medicaid enrollees less than 20 years of age during 1999-2002 was 4.6 per 10,000 population while 9.9% of children with asthma experienced at least one asthma-related hospitalization, 6.1% experienced at least two, and 2% at least four. During 2000 to 2002 no asthma deaths were known to have occurred. Emergency room visits for Alaskan children have not been evaluated.

**Urgency**

Recent national data suggest that the burden of asthma among children may have recently plateaued after several years of increasing. However, asthma mortality rates for children younger than age 5 is the exception to this declining trend – with the asthma death rate increasing among this age group from 1.7 per million in 1999 to 2.1 per million in 2001.

- Among US children less than 18 years of age, the current asthma prevalence was 8.7% during 2001 (2001 National Health Interview Survey), the lifetime asthma prevalence was 12.6%, and asthma attack prevalence (i.e., the number with at least one asthma attack during the previous year) was 5.7%.
- An evaluation of children less than 20 years of age enrolled in Medicaid during 1999-2002, using a conservative definition of asthma, found a 4-year prevalence of 3.1%. The prevalence was 40-90% greater for urban residents regardless of Alaska Native status.
- Yearly prevalence increased from 1.0% to 2.2% with increases among all racial and geographic subgroups. Among persons with asthma, yearly hospitalization risk decreased (9.3% to 6.8%) concurrent with an increase in the yearly use of inhaled corticosteroids (50% to 64%).

**Disparities**

Evaluation of children enrolled in Medicaid showed that within four predominantly Alaska Native census areas that each had a population of at least 5,000 and a regional hospital, the area with resident pediatricians and the most asthma education efforts had a reported 4-year asthma prevalence 5- to 11-fold higher than other areas. Compared to non-Natives and rural Alaska Natives, urban...
Alaska Natives had a greater decrease in hospitalization and greater increase in inhaled corticosteroid use. These findings likely reflect differences in diagnostic and therapeutic practices.

Economic Loss
The national economic cost for asthma in direct health care costs was $9.4 billion annually (2002 dollars) and indirect costs from lost productivity was $4.6 billion – a total of $14 billion in health care costs annually.

Interventions & Recommendations
The etiology of asthma is unknown and thus interventions are directed at patient and provider education and optimizing clinical case management. During the past several years multiple interventions have been developed. The American Lung Association – Alaska Chapter has received a grant to develop an Alaska Asthma Coalition, has implemented public awareness campaigns, and has worked vigorously to achieve passage of a bill allowing children to carry and self-administer asthma medications at school. The Asthma and Allergy Foundation of America – Alaska chapter has been developed and has implemented numerous validated training and educational programs for children with asthma and providers. The Alaska Division of Public Health has begun asthma surveillance.

One of the greatest needs related to asthma is to improve awareness of asthma among health care providers, particularly those working with rural Alaska Natives. It is also likely that patient education will need to be increased in rural areas, particularly if more children are diagnosed.

Educational interventions include patient education programs such as Wee Wheezers, Power Breathing, Asthma Busters, and Asthma Care Training; Train the Trainers for providers; A for Asthma for childcare professionals; and a media campaign. Other than the media campaign, most of the educational efforts have focused on the major population centers.

Other interventions for children have included Champ Camp (a summer camp for children with asthma), and asthma specific booths at local Health Fairs.

Various Alaska Native Corporation Health Centers have implemented best practices standards for asthma care of children. The extent to which this has been done among private practitioners is unknown.

During 2004, the State of Alaska applied for a grant to develop a State Asthma program and was turned down. The State plans to reapply for the next funding cycle if available. However, to compete successfully, the state will need a law in place allowing children to self-administer inhaled bronchodilators and steroids at school.

Intervention Effectiveness
Recent data suggesting that the burden of asthma has plateaued – mortality and hospitalizations due to asthma have decreased over the last few years – is a possible indication that a higher level of disease management is occurring. Interventions that focus on management by educating providers and patients about asthma (e.g., increasing asthma awareness and avoiding “attack triggers”) may be among the most effective.
\textsuperscript{\textcopyright} National Center for Health Statistics (NCHS), National Hospital Discharge Date, 2001 Data in: Centers for Disease Control and Prevention, Department of Health and Human Services, National Center for Health Statistics. Data in Healthy People 2010 Progress Review Focus Area 24 – Respiratory Diseases. Available at: http://www.cdc.gov/nchs/ppt/hpdata2010/focusareas/fa21.htm