

COMPdata Monthly Monitor - Montana
August 2004
Asthma

There are many reasons why hospitals play a crucial role in this major public health concern:

1. Asthma's impact on health and quality of life remain substantial despite evidence that deaths and hospitalization rates due to asthma may have decreased in recent years.
2. The care of asthma patients requires a total community effort including hospitals, physician practices, clinics, schools, families and patients. Many hospitals have demonstrated leadership in their community by efforts that improve the quality of life for many people. Suffering from asthma.
3. Asthma hospitalizations are very serious events but many can be prevented through primary care preventive services; following a prescribed treatment plan; and having accessible and available the medications and treatment should an asthma attack occur. The prevention of asthma hospitalizations for both children and adults are key indicators among the Agency for Health Care Quality and Research's Prevention Quality Indicators and were cited in the 2003 National Healthcare Quality Report.

Hospital Diagnosis and Treatment

As with any patient that presents to the hospital, the immediate care and treatment of the asthma patient is of utmost concern. While the preference would be to prevent any asthma hospitalization, many asthma patients present to the hospital in a crisis situation. The correct diagnosis of asthma is essential for proper treatment. Its symptoms may mimic other diseases or comorbidities such as chronic bronchitis, emphysema, and even tuberculosis. Hospitals must also be alert to ruling out infectious respiratory diseases that may be common to that area.¹

Asthma also creates additional complexities for the treatment of the surgical patient, especially with respect to anesthesia and recovery care. The entire patient care team needs to be vigilant both for detecting previously undiagnosed asthma as well as treating the complications that asthma brings to those patients.

Prevention Through Patient and Community Education

As important as the role that hospitals play in the direct treatment of each patient, hospitals can do even more to improve the lives of asthma patients through patient and community education, outreach, and leadership. These activities are vital because the control of this chronic disease is primarily in the hands of patients, families, and other caretakers. The self-management of asthma can be overwhelming for many. Patients and their caretakers must learn the proper protocols for the use of devices such as inhalers, spacers, nebulizers, and peak flow meters.

A key aspect of asthma is the “triggers” or allergens that can set off an asthma attack. The patient’s environment needs to be freed as much as possible of stimuli such as pollens, dust mites, cockroaches, animal dander, and cigarette smoke. But it’s not simply a matter of ridding the home, school or workplace of these potential allergens. The triggers that set off an asthma attack are specific and unique to each patient. A recent study published in the *Journal of Allergy and Clinical Immunology* (August 2004) found that although 80 percent of parents of children with asthma took steps to protect them from environmental factors, more than one half of these interventions were not helpful. The researcher’s advice was for parents to discuss these issues with the child’s physician before making unnecessary and possibly expensive modifications to the home.² Hospitals can assist in these efforts with appropriate discharge instructions, patient education, and referral for follow-up care with an allergist.

Hospitals can be the key resource for many of these community organizations that interface with asthma patients (examples of what some hospitals are doing today are listed in the Appendix):

- Local health departments
- Schools and school nurses
- Community health clinics
- Homeless and other shelters
- Recreation and athletic organizations

Asthma in Montana Inpatients

Montana hospitals in 2003 found that 4,629 or 5.7% of their inpatients were diagnosed with asthma (ICD-9 diagnostic codes 493 – 493.92) as either a primary or secondary diagnosis (all inpatient statistics cited here exclude newborns and obstetric cases). For the 4,629 patients who had an asthma diagnosis, it was the primary diagnosis for 17.3% of them. For children (0-17 years), asthma was the primary diagnosis in 36.7% of all cases with an asthma diagnosis compared to 14.5% for adults 18 and older. Of the 801 cases with asthma as the primary diagnosis, 15.1% were represented by children 4 years of age or younger. This finding corresponds to national data.³

The number of total cases with asthma increased from 3,393 in 2000 to 4,629 in 2003, a 36.4% change. More of that growth however was among adults -- a 37.5% increase compared to a 29.4% increase for children 17 years and under. Looking at asthma as the primary diagnosis shows an overall increase for all ages of 29.6%, from 618 cases in 2000 to 801 in 2003. That increase can be attributed almost entirely to growth among adult asthma patients, 41.5% compared to 5.4% for children. These findings illustrate that at least among children, efforts to minimize hospitalizations for asthma are finding some success.

General Statistics.

The following Montana hospital statistics illustrate the depth of the inpatient disease for patients discharged in calendar year 2003 (again, all statistics exclude newborns and obstetric patients).

- Asthma was diagnosed as a primary or secondary condition in 4,629 inpatients or 5.7% of

all inpatients.

Of these patients, 586 or 12.7% were 17 years of age or younger and 4,043 were 18 years or older (87.3%). Because of the significant difference in the characteristics of young asthma patients versus adults, the following analyses will focus on these groups separately.

Children 0-17 Years

Asthma was the primary diagnosis for 215 children or 4.0% of all childhood inpatient discharges. The following statistics focus on these patients where asthma was the primary diagnosis as opposed to patients where asthma was not the primary diagnosis.

- A similar percentage of children with asthma were admitted through the emergency room (47.9%) as were referred for admission by a physician (41.9%). The ER admission rate was similar (48.1%) for non-asthma patients as was the percentage referred by a physician (42.7%). Given the severity of many asthma cases, the fact that nearly one-half arrive through the ER points out the vital nature of a prepared ER staff that can respond quickly to children who may be in grave danger. More than one-third (36.3%) of childhood asthma cases were considered to be emergencies compared to 31.5% of other inpatient cases.
- Nearly all childhood asthma inpatients (99.1%) were routine discharges to home, while none died in the hospital in 2003. For non-asthma children, a similar number were discharged to home (92.1%) and very few died in the hospital.
- The great majority (94.9%) were medical cases only with no procedure performed.
- The majority (62.8%) of inpatient childhood asthma patients were discharged from hospitals in rural areas, while 36.3% were from other urban hospitals. A similar percentage of non-asthma patients (58.9%) were discharged from rural hospitals, with 41.0% discharged from other urban hospitals.
- The primary payer for most children with asthma were either Medicaid (44.2%) or a commercial insurer (35.8%). The same was true with non-asthma patients, with 36.8% covered by Medicaid and 34.7% by a commercial payer.
- Among childhood asthma inpatients there were more boys (56.7%) than girls (43.3%). The average age for the boys was 5.2 years compared to 6.3 years for the girls. The percentage of boys versus girls among non-asthma patients was somewhat closer, 53.5% were boys and 46.5% were girls.
- The average length of stay for childhood asthma patients was 2.1 days while the average total charge was \$3,340. Non-asthma children stay longer at an average of 3.6 days and have an average total charge of \$7,686. This is not surprising given the lack of procedures for asthma patients and the focus on getting an acute attack under control quickly.

Adults 18 Years or Older

Asthma was the primary diagnosis for 586 adults or 0.8% of all adult inpatient discharges. The following statistics focus on these patients where asthma was the primary

diagnosis as opposed to patients where asthma was not the primary diagnosis.

- Approximately two-thirds (67.4%) of adults with asthma were admitted through the emergency room, while most of the rest (27.0%) were referred by a physician. Less than one-half (47.1%) of non-asthma inpatients arrive through the ER. As with children the high ER admission rate for adults again illustrates the key role of a prepared ER staff – 50.3% were considered emergency cases compared to 34.1% of non-asthma inpatients.
- The great majority of asthma inpatients (88.9%) were discharged to home, while very few died in the hospital in 2003. For non-asthma patients, nearly three-quarters were discharged home (74.9%), while 11.4% were discharged or transferred to a skilled nursing or intermediate care facility. Fewer than 3% died in the hospital.
- For most adult asthma patients (84.3%), no procedure was performed during their inpatient stay.
- Seven out of ten adult asthma patients (70.1%) were discharged from hospitals in rural areas, with 29.7% from other urban hospitals. A smaller percentage of non-asthma patients (59.6%) were discharged from rural hospitals, while 40.2% were discharged from other urban hospitals.
- As expected the most frequent primary payer for adults was Medicare (45.9%) but other payers were significant as well – commercial insurers at 21.0% and Medicaid at 10.1%, while 4.6% of patients were self pay. For non-asthma patients, the payer mix is quite different. Just over one-half were covered by Medicare (51.5%), 21.9% were covered by a commercial insurer, and 5.1% by Medicaid. Just 4.4% were self-pay patients.
- Completely opposite from children, 7 out of 10 adult asthma patients (71.7%) were women. Only 28.3% were men. The average age of the women was slightly lower than that for men, 56.5 versus 60.2 years respectively. Among non-asthma patients, 53.5% were women and 46.5% were men.
- Similar to childhood asthma patients, the average length of stay and average total charge were less than for non-asthma patients -- 3.8 days and \$7,380 for asthma patients and 4.2 days and \$13,357 for non-asthma patients.

Montana Inpatient Statistics from COMPdata

All of the Montana inpatient statistics were derived from the Illinois Hospital Association's COMPdata. We encourage you to use COMPdata to examine your hospital community area(s) regarding asthma patients so that you might better understand the impact of asthma on your care and treatment of your changing patient population and the resources needed to diagnose, treat, and manage the asthma population.

Additional Information

If you would like to develop the COMPdata reports that will provide similar statistics for your hospital or community, a training tool is available to guide you through the process. Click here to obtain the tool: <http://www.ihatoday.org/compdata/mtasthmatool.pdf>. For additional assistance on using the COMPdata system, contact the COMPdata Hotline at compdata@ihastaff.org or by telephone in Illinois at (630) 276-5851. (If you are calling from outside of Illinois use our new 800 number of (866) 262-6222.)

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APPENDIX

National Statistics and Trends

Asthma is a serious chronic lung condition characterized by episodes or attacks of inflammation and narrowing of the small airways in response to asthma triggers. It is estimated that approximately 30.8 million Americans, or 110.6 per 1,000 persons had been diagnosed with asthma sometime during their life (lifetime prevalence). Its important to note that studies have shown that many more go undiagnosed. It is estimated that 20.0 million people had asthma during 2002 (current prevalence). The current prevalence rate is highest among children aged 5-17 (91.9 per 1,000) compared to 67.8 for adults aged 18 or older.⁴

Asthma is particularly devastating to children. Children aged 5-17 miss an average of 3.7 days of school per year due to asthma and 23.6% of these children limit their activities due to asthma. That compares to 2.5 days of work missed and activities limited by 14.6% of adults.⁵ Children must also cope with limitations by some health plans to only 1 prescription inhaler at a time. This is especially problematic when the inhaler must be kept by the school nurse and the child forgets to retrieve it at the end of the day.

Trends in national asthma rates are difficult to examine due to changes in survey methodologies over the years. One question that has remained constant asks whether people had an asthma attack or episode in the past year. The rate for the overall population remained relatively steady from 1997 to 2000 but increased to its highest level in 2001 (43.4 per 1,000) then decreased to its lowest rate in 2003 (38.7).^{4,6} For children under 18 years, the rate increased from 54.4 in 1997 to 57.5 in 2002 and from 37.0 to 37.5 for adults 18 and older (2003 data by age group are not yet available).⁴

Montana Statistics

The previous data were all derived from CDC's National Health Interview Survey. The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based survey that also provides estimates of asthma prevalence, but only for adults 18 years and older. The 2002 U.S. estimate of lifetime prevalence is 118 per 1,000 compared to 145 for Montana. The estimate of current prevalence is 75 per 1,000 for the U.S. and 89 for Montana.⁷

Current and Future Activities

The Centers for Disease Control and Prevention (CDC) created the National Asthma Control Program in 1999. Supporting the goals and objectives of Healthy People 2010 for asthma, the program is based on the public health principles of tracking, interventions, and partnerships. Among the CDC partners in these efforts are many states as well as professional, academic, and public organizations.

Eighteen national organizations including the American Academy of Allergy, Asthma & Immunology have joined together in an effort to educate the public on treating asthma. “Asthma Action America” plans to educate the country’s asthma sufferers on recognizing, controlling and better managing their asthma conditions.

What Some Hospitals Are Doing Today

- One large health system has implemented an asthma management program throughout all of its ambulatory health centers. In addition to a host of internet-based information and materials, the program provides each asthma patient with a specific action and treatment plan.
- A children’s hospital features a team approach at its asthma center using specialists, nurses, and therapists to provide comprehensive and integrated asthma care. The program focuses on education and expert care for patients and their families.
- Another hospital has an innovative community-based asthma program for children. It includes educating community groups about the disease and its triggers and offers a very successful respiratory health survey tool for schools that provides screening for children with undiagnosed asthma.
- Several hospitals offer a speakers bureau at no charge to community groups for many topics including asthma.
- A suburban hospital maintains an asthma resource phone line where patients and others can obtain asthma-related information and services.

References

- 1 National Guideline Clearinghouse, Adapting your practice: treatment and recommendations for homeless patients with asthma. (<http://www.guideline.gov>)
- 2 Cabana, M et al. Journal of Allergy and Clinical Immunology, August 2004.
- 3 Owens PL, Thompson J, Elixhauser A, Ryan K. Care of Children and Adolescents in U.S. Hospitals. Rockville (MD): Agency for Healthcare Research and Quality; 2003.
- 4 American Lung Association, Trends in Asthma Morbidity and Mortality, April 2004. (www.lungusa.org)
- 5 Centers for Disease Control and Prevention, Surveillance for Asthma-United States, 1980-1999. MMWR Surveillance Summaries, March 29, 2002. (<http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5101a1.htm>)
- 6 Centers for Disease Control and Prevention, Early Release of Selected Estimates Based on Data From the 2003 National Health Interview Survey.

(<http://www.cdc.gov/nchs/about/major/nhis/released200406.htm>)

7 Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System – 2002 Asthma Data. (<http://www.cdc.gov/asthma/brfss/default.htm>)

Resources for Additional Information

FOR HOSPITALS

For information on managing the care of asthma patients, evidence-based clinical practice guidelines are available from the National Guideline Clearinghouse of the Agency for Healthcare Research and Quality at <http://www.guideline.gov>. A compendium of quality measures on asthma and other diseases is also available for AHRQ at <http://www.qualitymeasures.ahrq.gov>.

The American Lung Association web site features an extensive section of material for professionals including its “Asthma Educator Institute,” “The Asthma Friendly Schools Initiative,” and more. Go to <http://www.lungusa.org> and find “For Professionals” under the Asthma and Allergy section.

The National Heart, Lung, and Blood Institute (NHLBI) offers a substantial section for health professionals with slide shows to download, treatment guideline for personal data assistants, clinical practice guidelines, and many other publications and fact sheets. Go to <http://www.nhlbi.nih.gov/health/prof/lung/index.htm>.

CDC National Asthma Control Program Grantees by state and other asthma contacts by state can be found at <http://www.cdc.gov/asthma/contacts/default.htm>.

FOR PATIENTS AND THE COMMUNITY

The Asthma Action America (<http://www.asthmaactionamerica.com>) campaign site offers a host of materials for the public including 5-question test to help patients determine if they are in control of their asthma.

Like it does for health professionals, the NHLBI provides information for patients and the public, including health assessment tools, educational tutorials, recipes for healthy eating, education campaign information and more. All of this can be found at <http://www.nhlbi.nih.gov/>, under “Patients and the Public.”

The Asthma and Allergy Foundation of America (<http://www.aafa.org/>) offers free information about asthma and allergies, education programs for consumers, advocacy to improve the quality of life for patients, and research to find a cure.

