

Asthma
Surveillance Report



July-September
2010

**Chronic lower
respiratory diseases
are the fourth
leading cause of
death in Montana**

Source: CDC WISQARS

Chronic Lower Respiratory Diseases and Tobacco Use

Respiratory Diseases Among Montanans

Chronic lower respiratory diseases (CLRD) affect the lungs and airways. These diseases include asthma, bronchiectasis, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. As a group, CLRD are a major cause of disability and are the fourth leading cause of death in the United States and in Montana.¹

Smoking tobacco is a major risk factor for developing or exacerbating CLRD.^{2,3} Passive tobacco smoke (or secondhand smoke) is also a threat to respiratory health, especially for children. Exposure to cigarette smoke should be avoided at any stage of life.

The Montana Asthma Control Program (MACP) along with the Montana Tobacco Use Prevention Program (MTUPP) is committed to helping Montanans with asthma and other CLRD quit tobacco use and reduce morbidity and mortality due to CLRD.

Assessing Respiratory Disease Deaths and Tobacco Use in Montana

The Montana Office of Vital Statistics in the Department of Public Health and Human Services (DPHHS) collects death record information for the state's residents. All records are coded with an underlying cause of death and up to 20 contributing causes of death. For this report, records with ICD-10 codes J40-47 as the underlying cause of death were classified as CLRD deaths. Within this category, deaths coded as J45 and J46 were considered asthma deaths.

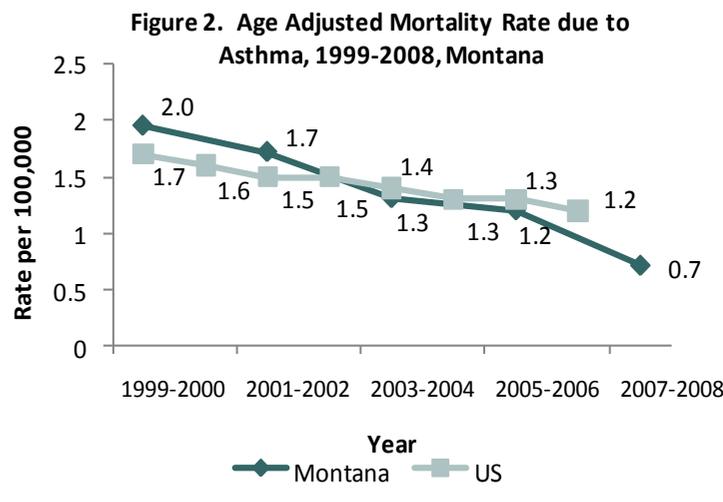
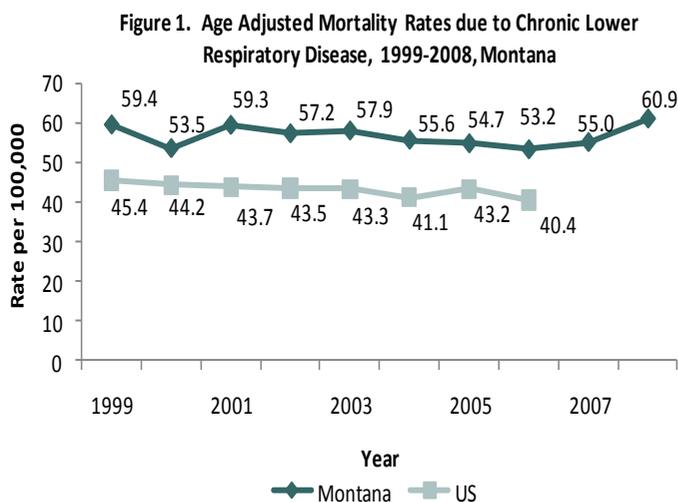
The Montana Hospital Association provides the DPHHS with hospital discharge data each year. For this report, hospitalizations occurring in 2008 with a primary diagnosis of CLRD (ICD-9 codes 490-496) were included.

The Adult Tobacco Survey (ATS) is a population-based telephone survey conducted in Montana that includes questions about tobacco use, and knowledge and attitudes about tobacco. The survey asks several questions about diseases that the respondent may have including COPD and asthma. Data from 2004, 2005, and 2009 are presented in this report.

National and Montana CLRD Deaths

- An average of about 125,000 people in the US including 600 Montanans die each year from CLRD. (2000-2008, Data not shown)
- The Montana CLRD related death rate was 33% higher than the national rate in 2006 and has consistently been higher than the national rate since 1999. (Table and Figure 1)
- Deaths due to CLRD among Montana females occur at a rate 45% higher than the national mortality rate for females. (Table)
- For persons older than 54, Montana CLRD mortality rates are 20-39% higher than national mortality rates. (Table)
- The mortality rate among American Indians in Montana is twice as high as that for American Indians in the US. (Table)
- The CLRD related death rate has been mostly level over the last 10 years in the US and Montana. (Figure 1)
- The asthma related death rate has been falling in the US and Montana since 1999. (Figure 2)
- About 70% of death records for CLRD in Montana reported tobacco use as contributing or probably contributing to the death. (Data not shown)

Table. Age Adjusted CLRD Mortality Rates by Selected Characteristics, United States and Montana, 2006		
	Montana	US
	Rate per 100,000	Rate per 100,000
Overall	53.2	40.4
Sex		
Male	55.7	47.6
Female	52.2	35.9
Age Group*		
45-54	9.8	9.1
55-64	46.9	39.2
65-74	199.6	149.3
75-84	506.5	363.4
85+	770.1	589.1
Race		
White	53.3	42.6
American Indian	52.6	27.4
* Not age adjusted		
Data source: CDC WONDER		



Diagnosis of COPD and Asthma

- The most frequent cause of a CLRD related death in Montana is COPD. (Figure 3)
- About 2% of CLRD related deaths are due to asthma. (Figure 3)

COPD can be misdiagnosed and people with COPD may end up being treated for asthma.⁴ Furthermore, asthma and COPD are hard to distinguish in people who smoke.⁵ The two conditions are thought to overlap frequently, especially in older adults, as asthma is a risk factor for COPD.

Coding or misdiagnosis at time of certifying a death may also lead to misclassification of underlying cause of death. A recent investigation in Minnesota found that most deaths classified as being due to asthma were actually due to other causes.⁶

Figure 3. Cause of Death by ICD 10 Code for CLRD, 2000-2008, Montana

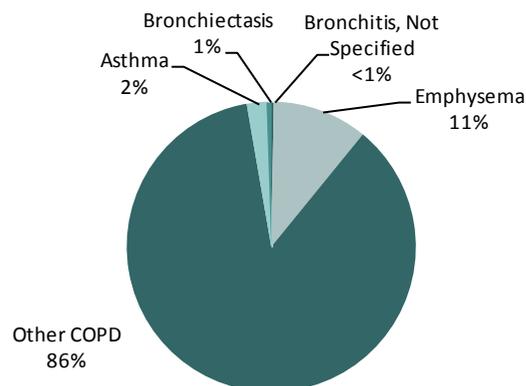
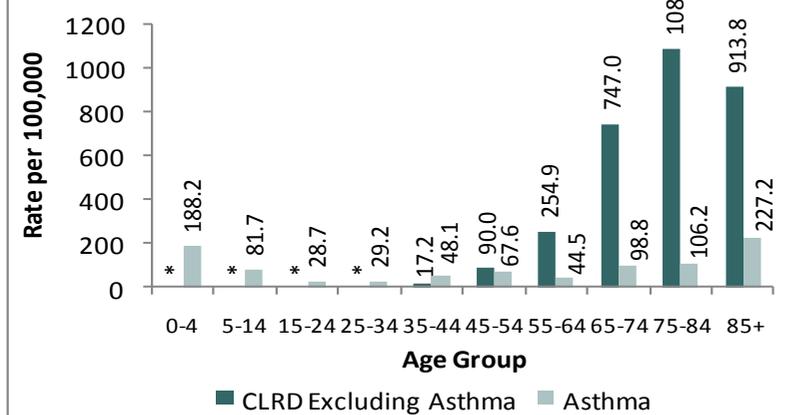


Figure 4. Age Specific Hospitalization Rates Due to CLRD and Asthma, 2008, Montana



* Data not sufficient for calculation

Hospitalizations due to CLRD

- Since 2000, there has been an average of 2,240 hospitalizations for CLRD every year in Montana and the average length of stay was 3.8 days. (Data not shown)
- For individuals less than 35, asthma is the main cause of CLRD hospitalization while for persons aged 35 and over other CLRD (excluding asthma) are the primary cause of CLRD related hospitalizations. (Figure 4)
- Asthma accounted for about 28% of all CLRD related hospitalizations in 2008. (Data not shown)

Hospitalization charges due to CLRD totaled about \$23 million in 2008 in Montana.

Tobacco Use and CLRD

Tobacco smoke is an important risk factor for CLRD. Loss of lung function is exacerbated by smoking and this decrease of function may be even greater in people with asthma.⁵ Secondhand smoke exposure is associated with the diagnosis of asthma in small children and can cause asthma exacerbations for all age groups.⁷ Asthma and COPD exacerbations can lead to accelerated lung function loss as well.⁵ Finally, people who smoke and have asthma do not respond as well to oral corticosteroid treatment as people with asthma who do not smoke.⁸ Among smokers, smoking cessation is the most effective way to treat CLRD and to slow the decrease in lung function.⁹

- In Montana, about 20% of adults who have asthma are smokers and of those, 58% have tried to quit in the last year (ATS 2004, 2005, 2009).
- In Montana, about 25% of adults who have children in their households with asthma also smoke and about 50% of them have tried to quit in the last year (ATS 2004, 2005, 2009).

Discussion and Key Clinical Recommendations

The CLRD mortality rate in Montana is 33% higher than the national rate. CLRD mortality is mostly due to deaths from COPD in Montana; the asthma mortality rate in Montana has been the same or lower than in the US over the past 10 years. CLRD exacts a significant morbidity and mortality burden in Montana, accounting for about 600 deaths and over 2000 hospitalizations per year. Asthma hospitalizations make up more than a quarter of all CLRD hospitalizations but only 2% of all CLRD related deaths. Smoking can exacerbate the decrease in lung function among people with CLRD, but smoking cessation can slow this loss. To help reduce the burden of CLRD in Montana consider these clinical recommendations:

- Talk with your patients about smoking and CLRD. Recommend using the Montana Quit Line (1-800-QUIT-NOW) for cessation coaching, cessation medication, and educational materials.
- Assess symptom control at every office visit using validated tools like spirometry and the Asthma Control Test. Modify their treatment plan as needed.
- Consider referring patients to a pulmonologist or a certified asthma educator.
- In older patients, consider both COPD and asthma in your differential diagnosis in order to ensure proper therapy.
- See the Guidelines for the Diagnosis and Management of Asthma (EPR-3) at www.nhlbi.nih.gov/guidelines for more information on therapy, referrals, and disease education.
- Contact the Montana Asthma Control Program for more information at 406-444-7304.

Footnotes

1. Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2006) Accessed May 21, 2010. Available from URL: www.cdc.gov/ncipc/wisqars
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4. Gross NG, Cazzola M, Donohue J. Asthma and COPD: Similarities and Differences. Accessed at: <http://www.chestnet.org/accp/chestsoundings/asthma-and-copd-similarities-and-differences>. June 16, 2010.
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6. Brunner W, Ross S, Johnson J. Review of the asthma mortality rate for Minnesota residents aged 55 years or older, 2004-2005: when death certificated deserve a second look. *Prev Chronic Dis* 2009;6(3):A92.
7. Institute of Medicine. "Clearing the air: Asthma and Indoor Air Exposures". Washington DC: National Academy Press. 2000.
8. Chaudhuri R, Livingston E, McMahon AD, et al. Cigarette smoking impairs the therapeutic response to oral corticosteroids in chronic asthma. *Am J Respir Crit Care Med* 2003;168:1308-1311.
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For more information, visit the Asthma Control Program website: <http://dphhs.mt.gov/asthma>



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Chronic Lower Respiratory Diseases



LOOK INSIDE FOR INFORMATION ON:

- Mortality rates due to CLRD
- Hospitalizations due to CLRD
- Demographic characteristics
- of people who die from CLRD
- by age group
- Tobacco use and CLRD
- Suggestions for reducing CLRD related exacerbations and deaths

The Montana Asthma Control Program is funded through the Montana State Legislature and the Centers for Disease Control and Prevention. The goal of the program is to improve the quality of life for all Montanans with asthma. For more information, visit our website at <http://dphhs.mt.gov/asthma>

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