Montana Chronic Disease Prevention & Health Promotion Bureau

April 2016

Asthma Control in Montana

The Goal of Asthma Therapy

Achieving and maintaining good asthma control is the primary goal of asthma therapy. Asthma control is a central tenet of the Expert Panel Report-3 (EPR-3) clinical asthma guidelines.[1] The guidelines define criteria for well-controlled asthma (below). The ongoing assessment of a patient's level of asthma control is emphasized as the key tool in the guidelines that drives clinical decision making for asthma treatment. The guidelines emphasize that regardless of a patient's underlying disease severity, with proper treatment all asthma patients should expect to achieve well-controlled asthma. People with asthma should lead lives free of frequent symptoms and activity limitations.

Guidelines for Well-Controlled Asthma

Current guidelines define well-controlled asthma for people aged 12 years and older as:

- Symptoms no more than two days per week
- Nighttime awakenings no more than two days per month
- Albuterol use for symptoms no more than two days per week
- No activity limitations due to asthma
- FEV_1 or peak flow values greater than 80% predicted
- An Asthma Control Test score of 20 or greater
- No more than one exacerbation requiring oral steroids per year

Measuring Asthma Control in Montana

The Montana Asthma Call-back Survey (ACBS) is a telephone survey of non-institutionalized adults aged 18 years and older. Participants are recruited from the Behavioral Risk Factor Surveillance System survey if they indicate that they had or currently have asthma. These individuals are then called back and asked more in-depth questions about their experience with asthma. Montana has participated in this survey, sponsored by the Centers for Disease Control and Prevention, since 2006.

For the purpose of this report, the levels of control among Montanans were estimated from the Asthma Call-back Survey for adults with current asthma.[2] An algorithm combining responses from several questions about impairment was used to classify the level of control. The algorithm includes four measures. The not well and very poorly controlled categories were combined for analysis purposes as "uncontrolled." The following report includes weighted statewide estimates on well-controlled and uncontrolled asthma among adults in Montana based on survey respondents.

References

1. National Heart, Lung, and Blood Institute (US). Expert Panel Review-3 Guidelines to Asthma Management. National Institutes of Health (US); 2007 Aug. NIH Pub. Available at: http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf
2. Current asthma is assessed by responding yes to the questions:
   (a) Have you ever been told by a doctor, nurse, or health professional that you had asthma? -and- Do you still have asthma?
   -or– (b) Have you taken asthma medication in the last year?
   -or– (c) Have you had asthma symptoms in the last year?
3. O'Byrne PM, Pedersen S, Schatz M, *et al.* The Poorly Explored Impact of Uncontrolled Asthma. Chest, 2013; 143(2):511-523.

Upcoming Events

Association of Asthma Educator's Review Course for the Certified Asthma Educator Exam

- May 20-21, 2016
- Bozeman, Holiday Inn
- Register online

www.umt.edu/sell/cps/asthma/

Montana Asthma Advisory Group Meeting

- May 13th, 10am-3pm
- Billings, Crowne Plaza

Montana Asthma Control Program

1400 E Broadway
Helena, Montana 59620-2951

http://www.dphhs.mt.gov/asthma

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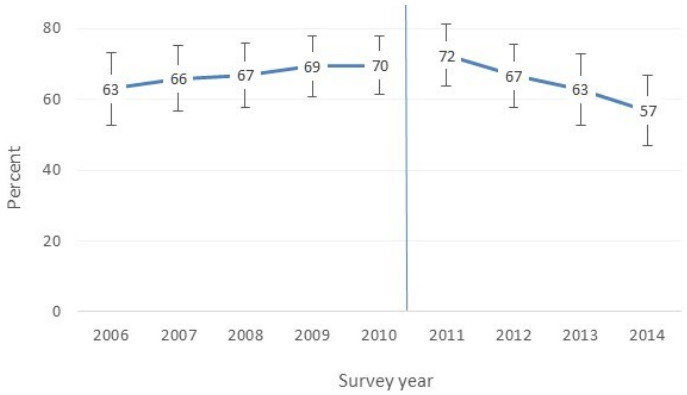
What defines asthma control?

All components of asthma control must meet well-controlled standards to have an overall classification of well-controlled; having just one component in the not well or very poorly controlled category changes the classification. The percent of adults reporting symptoms indicating their asthma may be uncontrolled (not well-controlled or very poorly controlled) has not changed significantly over time (Figure 1). Experiencing activity limitations or experiencing daytime symptoms more than two times per week were the most common reasons for not having their asthma in control (Figure 2).

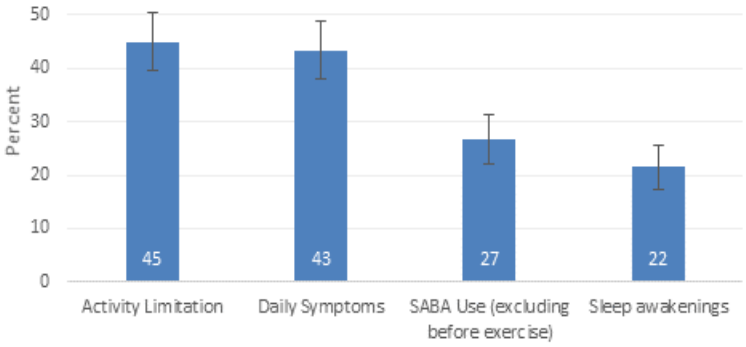
Figure 1. Adults with symptoms indicating uncontrolled asthma by year



Due to survey changes in 2010, data prior to 2010 is not comparable to data from 2011 onward

Data source: Montana ACBS, 2006-2014

Figure 2. Adults with uncontrolled asthma by component of control



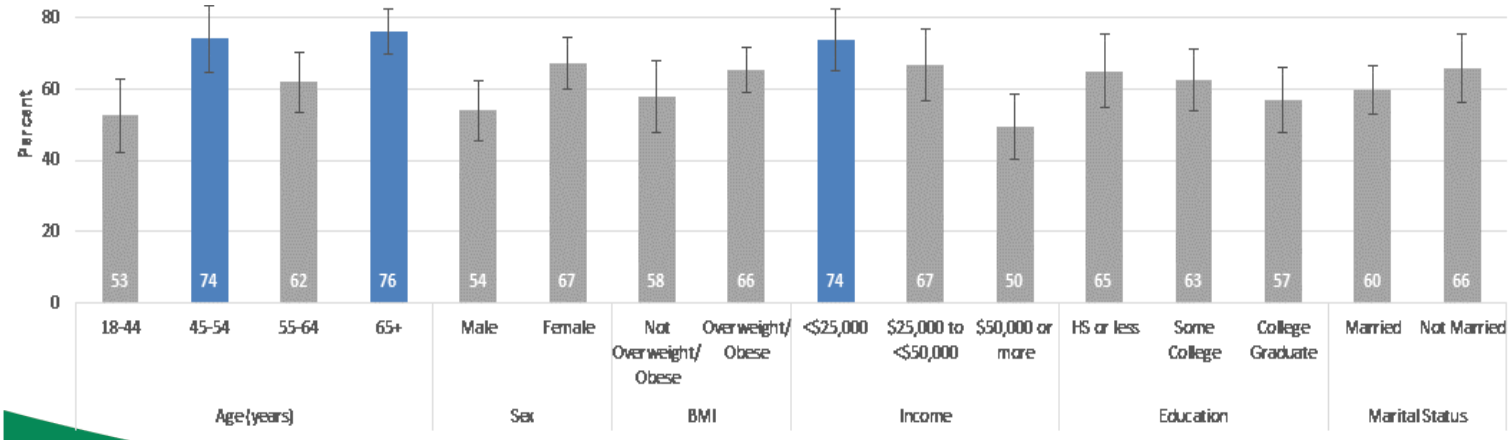
Daily symptoms: > 2 days per week
Sleep awakenings: >2 nights per month
Activity limitations: some or extreme limitations
SABA use: >2 days per week

Data source: Montana ACBS, 2012-2014

Addressing asthma control

There were no significant differences in uncontrolled asthma prevalence by sex, body mass index (BMI), education, or marital status (Figure 3). Adults aged 45-55 years, aged 65 years and older, or people with a household income less than $25,000 had a higher prevalence (in blue) of uncontrolled asthma than people aged 18-44 years and those earning greater than $50,000, respectively.

Figure 3. Adults with uncontrolled asthma by demographic and socioeconomic categories



Note: some demographic and socioeconomic categories were not included due to statistical instability

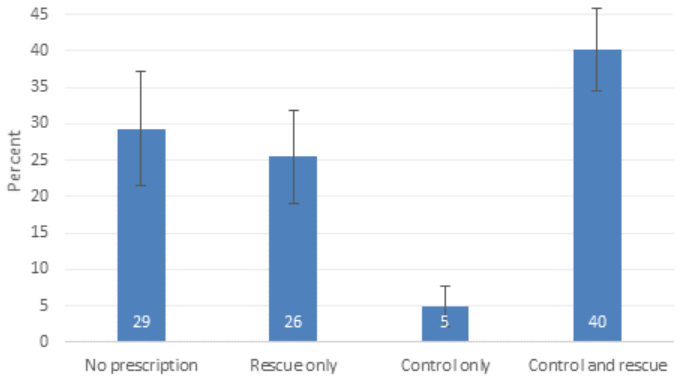
Data source: Montana ACBS, 2012-2014

Uncontrolled asthma not only affects a person's health but also their quality of life. Uncontrolled asthma has been associated with obesity and poor cardiovascular fitness, learning disabilities and school performance, depressive symptoms and anxiety disorders, and an increase in the risk of pneumococcal pulmonary infections and exacerbations after upper respiratory infections.[3] Poor asthma control is also associated with increased risk of adverse perinatal outcomes during pregnancy.[3] Adults with uncontrolled asthma reported poor mental health, fair or poor general health, and missed work days more frequently than adults with well-controlled asthma (Figure 4). As mentioned in the introduction of this report, asthma medication plays a key role in asthma management. Twenty-nine percent of adults with uncontrolled asthma had no asthma medication (Figure 5).

Figure 4. Health impacts of well-controlled versus uncontrolled asthma among adults

Data source: Montana ACBS, 2012-2014

Figure 5. Medication use among adults with uncontrolled asthma

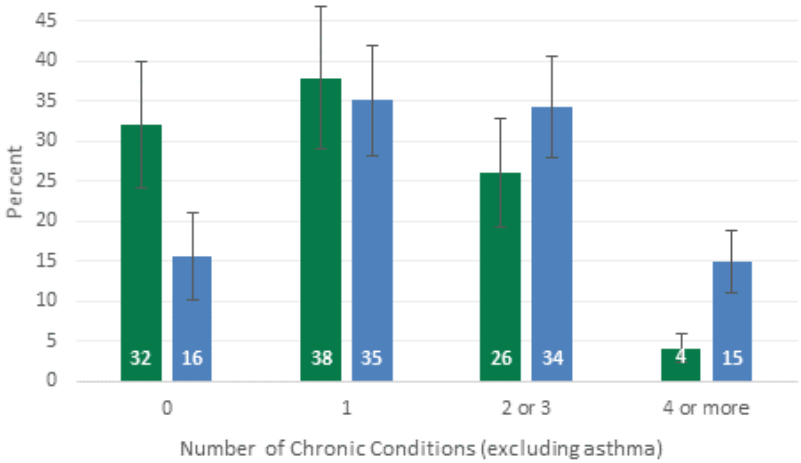


Data source: Montana ACBS, 2012-2014

Comorbidities like cardiovascular disease, other chronic lung disease, and chronic psychiatric disease are risk factors for death from asthma
-EPR-3 Guidelines, pg 377

Many people with asthma are also managing other chronic conditions. The EPR-3 Guidelines suggest that asthma control could improve by identifying and treating comorbid conditions that may impede asthma management. Overall, about 10% of adults with asthma reported having four or more other chronic conditions. The burden of four or more chronic conditions was higher for adults with uncontrolled asthma than those with well-controlled asthma (Figure 6).

Figure 6. Adults with **well-controlled** and **uncontrolled** asthma with other chronic conditions*



*Kidney disease, Arthritis, COPD, Stroke, Heart attack, Heart disease Diabetes, Depression, Cancer

Data source: Montana ACBS, 2012-2014

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Clinical Recommendations

- Evaluate asthma control at each visit according to EPR-3 guidelines.
- Recall asthma patients for semi-annual visits to discuss asthma symptoms, trigger avoidance, medication adherence, and control.
- Prescribe all patients with persistent asthma an inhaled steroid controller medication.
- For severe and difficult to control asthma, consider referral for specialty consultation (pulmonology or allergy).

Report Highlights:

In Depth Look at Asthma Control

- **Over half of adults with current asthma reported symptoms consistent with uncontrolled asthma.**
- **Income and age were associated with having uncontrolled asthma.**
- **Uncontrolled asthma had a significant impact on quality of life.**
- **Adults with uncontrolled asthma frequently have other chronic conditions.**

4,500 copies of this public document were published at an estimated cost of $0.19 per copy, for a total cost of $855.00, which includes $855.00 for printing and $0.00 for distribution. This publication was supported by the Cooperative Agreement Number CDC-RFA-EH14-1404 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.