

Asthma Prevalence, Severity, and Management for Michigan Adults

A report of data from the Michigan Behavioral Risk Factor Surveillance System

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Michigan Department of Community Health



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Introduction

Asthma is a chronic condition in the lungs that has two main components - constriction, the tightening of the muscles surrounding the airways, and inflammation, the swelling and irritation of the airways. Constriction and inflammation cause narrowing of the airways, which may result in symptoms such as wheezing, coughing, chest tightness, or shortness of breath. Furthermore, if left untreated, asthma can cause long-term loss of lung function.

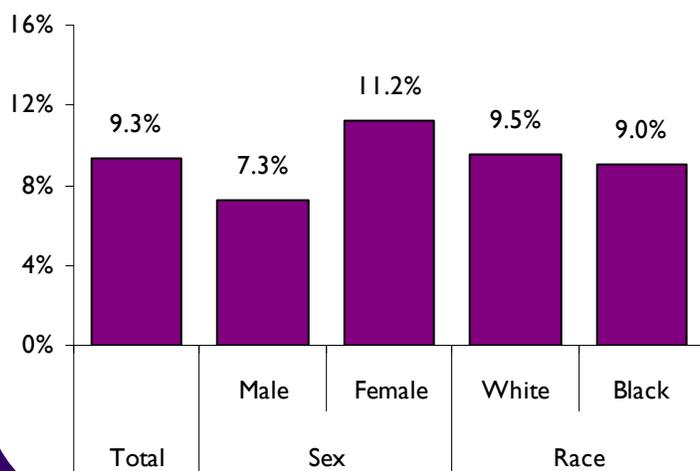
Asthma cannot be cured, but it can be controlled through careful disease management. With appropriate disease management, people with asthma can: prevent chronic asthma symptoms and exacerbations during the day and night, maintain normal activity levels, have normal or near-normal lung function, and have no or minimal side effects. People whose asthma is adequately managed should not experience sleep disruption or miss days of school or work because of their asthma. In addition, they should have no (or minimal) need for emergency department visits or hospitalizations.

According to the national guidelines*, the expected standards of care for persistent asthma include (but are not limited to):

- visits to physician for asthma management every 1-6 months,
- primary care follow up after an emergency department visit or hospitalization for asthma,
- spirometry at diagnosis, after treatment is initiated, and at least every 1-2 years thereafter,
- referral to an asthma specialist when appropriate,
- prescription of an inhaled corticosteroid, with adjunct therapy added if needed, and
- management adequate to enable the patient to use fewer than six canisters of rescue medications each year.

* National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program. *Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma*. Bethesda MD: US Department of Health and Human Services, National Institutes of Health, 1997; Publication Number 97-4051. and National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program. *NAEPP Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma - Update on Selected Topics 2002*. Bethesda MD: US Department of Health and Human Services, National Institutes of Health, 2002; Publication Number 02-5075.

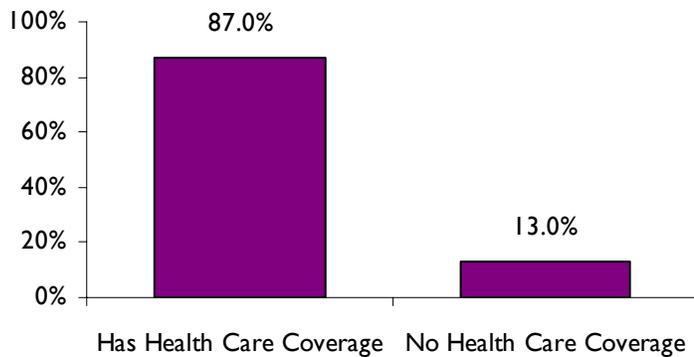
Prevalence of Asthma Among Michigan Adults, 2003



In Michigan,

- 9.3% (701,300) adults currently have asthma.
- 7.3% of adult males and 11.2% of adult females have asthma; the prevalence among females is significantly higher than the prevalence among males.
- 9.5% of white adults and 9.0% black adults have asthma; the prevalence among whites is not significantly different than the prevalence among blacks.
- as education level increases, the prevalence of asthma among adults decreases. (Data not shown.)
- as income level increases, the prevalence of asthma among adults decreases. (Data not shown.)

Prevalence of Health Care Coverage for Michigan Adults with Asthma, 2003



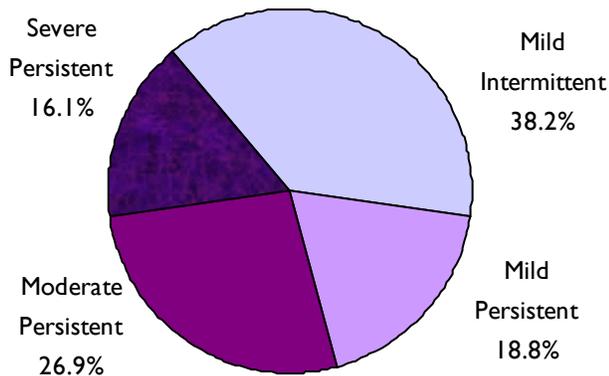
For Michigan adults with asthma,

- 87.0% have health care coverage.
- 13.0% do not have health care coverage.

For comparison:

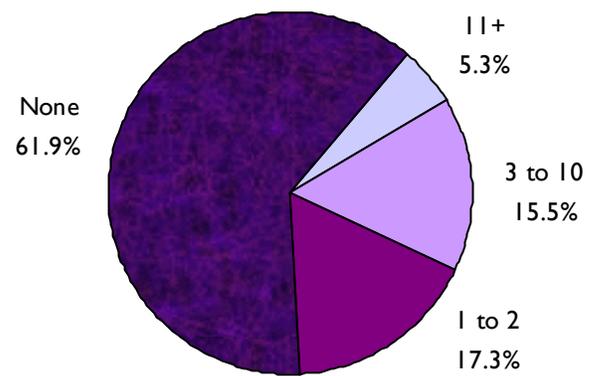
12.7% of the general population of Michigan adults do not have health care coverage.

Symptom Severity for Michigan Adults with Asthma who have Taken Asthma Medication in the Past 30 Days, 2001-2003



- Among Michigan adults with asthma who have taken asthma medication in the past 30 days, 38.2% are considered to have mild intermittent symptoms and 43.0% are considered to have moderate to severe persistent symptoms.
- 13.4% of those who have not taken asthma medication are considered to have moderate to severe persistent symptoms. (Data not shown.)

Frequency of Sleep-Disturbing Symptoms in the Past 30 Days for Michigan Adults with Asthma, 2003



For Michigan adults with asthma,

- most do not experience symptoms that disrupt their sleep during a given month.
- 20.8% experience 3 or more nights of disrupted sleep due to asthma symptoms.

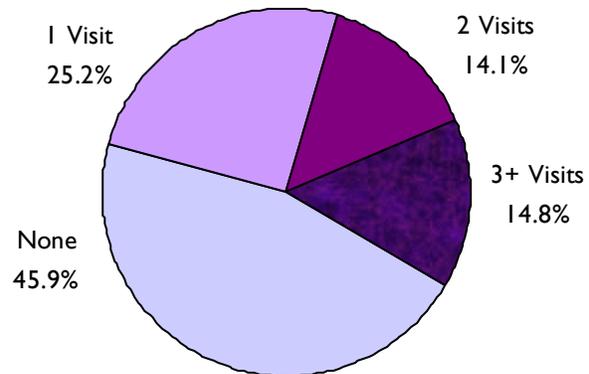
Michigan adults with asthma (2003),

- frequently experience symptoms. 53.0% have had an asthma attack in the past year and 19.9% experience daily symptoms.
- experience an average of 10.3 days per year of limited activity due to their asthma.

Frequency of Routine Asthma Checkups Over 12 Months for Michigan Adults with Asthma, 2003

For Michigan adults with asthma,

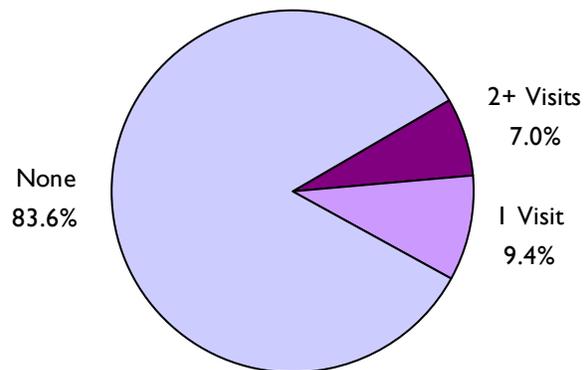
- only 28.9% meet the recommended 2 or more visits per year to a health care professional for routine asthma care.
- 71.1% have seen a health care professional for a routine asthma checkup less than 2 times over 12 months.



Frequency of Urgent Asthma Treatment from Emergency Department Over 12 Months for Michigan Adults with Asthma, 2003

For Michigan adults with asthma,

- most do not visit the emergency department for urgent asthma treatment.
- 16.4% have visited the emergency department for urgent asthma treatment at least once in a given year. The goal of asthma therapy is to have minimal to no emergency department visits for asthma.



Conclusions

- Asthma is a prevalent chronic disease in Michigan, affecting over 700,000 adults.
- There are disparities in asthma prevalence by sex, education, and income.
- For adults with asthma who are taking prescribed asthma medication, over 40% experience symptoms that are consistent with moderate to severe disease. This is indicative of poorly managed asthma and that perhaps the medication is not appropriate to control their disease.
- As reported by adults with asthma, care in Michigan fails to meet the recommended standards set forth by national asthma guidelines. It is recommended that efforts be taken to ensure that people with asthma in Michigan receive quality care, in accordance with prescribed standards.

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MDCH is an equal opportunity employer,
services and programs provider.

Visit the Asthma Initiative of
Michigan Website:

www.getastmahelp.org

For more information about

Asthma Prevalence, Severity, and Management for Michigan Adults, contact the Epidemiology Services Division at the Michigan Department of Community Health, 517.335.8806.

Suggested Citation:

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To learn more about Michigan's asthma burden, review [Epidemiology of Asthma in Michigan, 2004 Surveillance Report](#), available on the web (www.getastmahelp.org) or by request to the Epidemiology Services Division, Michigan Department of Community Health, 517.335.8806.

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Methods

The national Behavioral Risk Factor Surveillance System (BRFSS) consists of annual surveys conducted independently by the states, Washington, DC, and U.S. territories and is coordinated through a cooperative agreement with the Centers for Disease Control and Prevention (CDC). The annual Michigan surveys follow the CDC telephone survey protocol for the BRFSS and use the standardized core questionnaire, along with a set of optional modules and state-added questions. The 2001-2003 Michigan Behavioral Risk Factor Survey (BRFS) data were collected quarterly by the Institute for Public Policy and Social Research at Michigan State University.

The sample of telephone numbers was selected using a list-assisted, random-digit-dialed methodology with disproportionate stratification based on phone bank density and listedness. The 2001-2003 Michigan BRFS data were weighted to adjust for the probabilities of selection (based on the probability of telephone number selection, the number of adults in the household, and the number of residential phone lines) and a post-stratification weighting factor that adjusted estimates by sex, age, and race. Calculations of the prevalence estimates were performed using SUDAAN, a statistical computing program that was designed for analyzing data from multistage sample surveys.* Respondents who answered that they did not know or refused to answer were not included in the calculation of estimates.

Adults with asthma were defined as those respondents who reported that in their lifetime a health care professional told them that they have asthma and reported "yes" to the question: Do you still have asthma? The algorithm classifying asthma symptom severity was based on criteria set forth by the national guidelines and involves responses to five survey questions, including: urgent asthma care in the emergency department frequency, visits to the doctor for urgent asthma care frequency, number of days of limited activity due to asthma, symptom frequency, and nighttime symptom frequency.

*Research Triangle Institute. 2001. SUDAAN user's manual. Release 8.0. Vols. I & II. Research Triangle Institute, Research Triangle Park, NC.