



# Asthma among Montanans with Special Health Care Needs

## Report Highlights

An estimated **6%** of Montanans with special health care needs served through CSHS have asthma.

**9 years** was the median age at the time of asthma diagnosis among those with special health care needs.

## Upcoming Events:

### Montana Asthma Advisory Group Meeting

May 2nd, 2019 via Skype

### Big Sky Pulmonary Conference

February 7-9, 2019  
Fairmont Hot Springs, MT

<https://www.umt.edu/sell/cps/bigskypulmonary/default.php>

## Montana Asthma Control Program

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## Introduction

Approximately 8.6% of children and 9.1% of adults in Montana have current asthma.<sup>1</sup> Over half (57%) of adults and just under half (42%) of children with current asthma reported symptoms indicating their asthma was uncontrolled.<sup>2</sup>

Data from the 2011/12 National Survey of Children with Special Health Care Needs (NS-CSHCN) showed that almost 30% of children with special health care needs (SHCN) in the US reported having asthma.<sup>3</sup> CSHCN are defined by the federal Maternal and Child Health Bureau as “those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.”<sup>4</sup> CSHCN have more hospital stays, frequent emergency room visits, and need more medical services compared to children without SHCN.<sup>5</sup>

Montana Children’s Special Health Services (CSHS) works to help families and CSHCN in Montana receive the healthcare and supportive services they need (0-21 years of age). CSHS staff help educate families and providers, connect families to needed resources, and provide family to family support services throughout the state. This program is located in the Family and Community Health Bureau within the Montana Department of Public Health and Human Services (MDPHHS).

The Montana Asthma Home Visiting Program (MAP) is a multi-component, home based intervention that includes trigger reduction (environmental) and Asthma Self-Management Education over the course of one year. The MAP has 11 sites throughout the state and covers 24 counties. Its target audience are children and adults with uncontrolled asthma. Since 2011, almost 600 Montanans with uncontrolled asthma have been served. Upon completion, nearly all participants have well-controlled asthma. Nurses and respiratory therapists providing the visits have contributed to the reduction of asthma symptoms, emergency department visits, and missed school and work days. This program is located in the Chronic Disease Prevention and Health Promotion Bureau within MDPHHS.

This report describes the burden of asthma among children and adults with SHCN in Montana and highlights the services available in the state from the Asthma Control Program (ACP).



## Methods

CSHS uses the Child Health Referral Information System (CHRIS) to manage program information and demographic data for the SHCN population in Montana.<sup>6</sup> For this assessment, all CHRIS records were selected with asthma diagnosis codes 493 as listed in the *International Classification of Disease, 9th revision, Clinical Modification (ICD-9-CM)*. The CHRIS dataset is not a complete registry of all Montanans with SHCN and results are limited to clients of CSHS. Data pulled from CHRIS and used for this analysis includes SHCN clients aged birth to 41 years served from 2001 through October, 2018. Data from the NS-CSHCN represents the population aged 0-17 years. We used Statistical Analysis System (SAS) software to conduct analysis and we coded county of residence based on client’s known address. The ARC Geographic Information System (GIS) software was used to map geographic case distribution. The Montana Emergency Department Discharge data describe the burden in the state of potentially preventable asthma emergency department (ED) visits.<sup>7</sup>

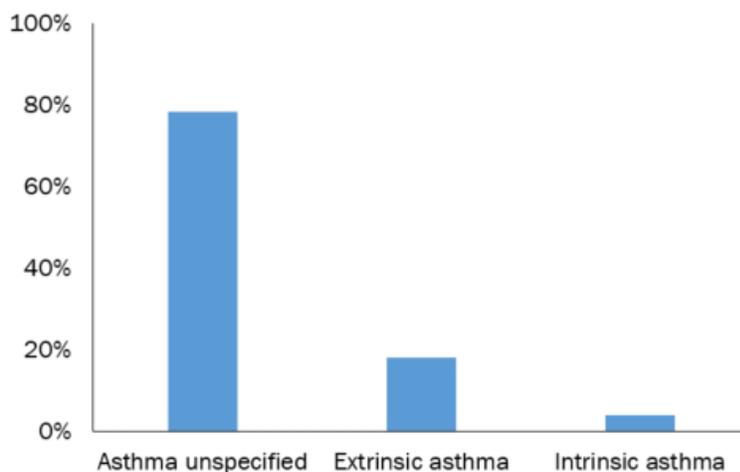
## Results

From 2001 through October 2018, there were 54,881 clients with SHCN reported in CHRIS. Of those, 3,417 (6.2%) had an asthma diagnosis. The median age at the time of asthma diagnosis was 9 years. Almost 61% of clients diagnosed with asthma were male.<sup>6</sup>

Among the population with SHCN that had asthma, we found that [Fig. 1]:

- Majority of the clients (78%) had unspecified asthma diagnosis (ICD-9: 493.9-493.92).
- 18% had extrinsic asthma diagnosis (ICD-9: 493.0-493.02) where asthma symptoms are triggered by an allergen such as pollen, mold, or dust mites.
- Almost 4% had intrinsic asthma (ICD-9: 493.1-493.12) which is called nonallergic asthma with symptoms triggered by anxiety, stress, exercise, cold or dry air, smoke, viruses, or other irritants.

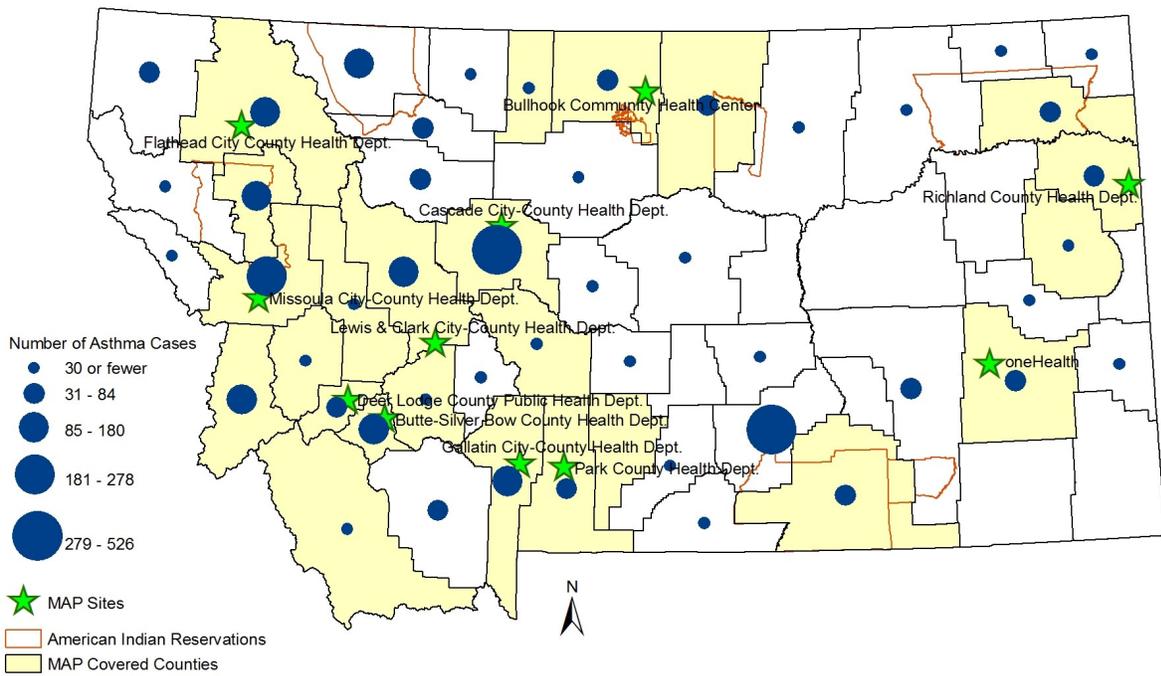
**Fig. 1. Percent of Asthma Cases among Population with Special Health Care Needs aged 0-41 years, by Type of Asthma Classification, Montana, 2001-2018**





Based on the available data from CHRIS, Cascade, Missoula, and Yellowstone counties had the highest number of asthma cases among clients with SHCN [Fig. 2].<sup>6</sup> Additionally, the ED visits rate for the general population with asthma was higher in Cascade (25.4 per 10,000) and Yellowstone (31.9 per 10,000) counties than the state rate (22.1 per 10,000)<sup>7</sup>. High asthma ED visits indicate uncontrolled asthma. Two out of those three counties in the state have MAP to help address uncontrolled asthma and reduce ED visits.

**Fig. 2. Number of Asthma Cases among Population with Special Health Care Needs aged 0-41 years by County, Montana, 2001-2018**



### Conclusion

A significant proportion of SHCN population have asthma, but the rate is substantially lower than the rate of asthma among general population in Montana. Timely diagnosis of chronic health conditions, such as asthma, is important to provide appropriate medical treatment and asthma self-management education. Managing asthma not only can support the management of other healthcare needs, but also keeps asthma in control, reduce morbidity, and maximize health and developmental outcomes.

Increased access to asthma home visiting services would likely benefit the SHCN population, especially in Yellowstone county where MAP is not currently available and the prevalence of asthma and its complications are relatively high. The ACP and CSHS staff can promote bi-directional referrals for clients and help educate health care providers about existing services for SHCN with asthma. Clinicians are also encouraged to implement the clinical recommendations on the next page of this report.





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### References:

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### Clinical Recommendations

Refer clients with special health care needs who have uncontrolled asthma to the Montana Asthma Home Visiting Program (MAP). The MAP home visitors can:

- Help the parents and the child understand what asthma is and how it can be managed.
- Work with patients to complete an Asthma Action Plan.
- Assist with resources for creating a healthy home environment by reducing asthma triggers.

Find MAP sites at <https://dphhs.mt.gov/Asthma/astmahomevisiting>