



REPORT HIGHLIGHTS

- Asthma affects roughly 11% of Montana adults with prevalence notably higher among females (14%) than males (8%) and elevated among AI/AN respondents (15%) and all other non-White racial groups combined (18%).
- COPD co-occurs at higher rates among adults with current asthma, who were approximately four times as likely to report a COPD diagnosis (20% vs. 5%).
- Arthritis is the most prevalent comorbidity by absolute difference, with 42% of adults with asthma reporting a doctor-diagnosed arthritis condition compared to 28% of those without.
- The overall pattern suggests asthma in Montana rarely occurs alone. Many adults with asthma also have other chronic conditions, reinforcing the importance of integrated, whole person approaches to chronic disease prevention, management, and clinical care.

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BACKGROUND

Asthma is a chronic inflammatory airway condition characterized by reversible airflow obstruction, bronchial hyperresponsiveness, and recurrent symptoms including wheezing, chest tightness, and cough¹. The burden of asthma is unevenly distributed across demographic and geographic lines, and state-level surveillance is essential to characterizing local patterns².

A growing body of evidence suggests that asthma rarely occurs in isolation. Adults with asthma frequently report one or more co-occurring chronic conditions; these comorbidities are associated with poorer asthma control, greater health care use, and reduced quality of life^{3,4}.

Obesity has been associated with both increased asthma incidence and greater symptom severity, with meta-analyses suggesting a dose-response relationship between body mass index (BMI) and asthma risk⁵. Chronic obstructive pulmonary disease (COPD) frequently occurs with asthma in adults, particularly among older adults and those with a smoking history, a pattern often termed as asthma-COPD overlap⁶. Cardiovascular conditions, including coronary heart disease, stroke, and hypertension, have been observed at elevated rates among adults with asthma, possibly reflecting shared inflammatory pathways or common risk factors⁷. Diabetes has likewise been reported more frequently among adults with asthma than those without, although the directionality of this association remains under investigation⁸. This report examines the prevalence of selected chronic conditions among adults with current asthma, given that these conditions often share behavioral, environmental, and biologic risk factors. Understanding these co-occurring patterns may help identify opportunities for coordinated prevention and management.

CHRONIC DISEASE PREVENTION AND CONTROL RESOURCES

- The Montana Asthma Control Program (MACP) provides the Montana Asthma Home Visiting Program (MAP) for Montanans with uncontrolled asthma. Visit [MAP homepage](#) for more details.
- The National Diabetes Prevention Program (DPP) aims to prevent or delay type 2 diabetes and cardiovascular disease among at-risk Montanans. Visit the [DPP site](#) for more information.
- The Montana Cardiovascular Health Program conducts statewide activities to prevent heart disease, stroke, and associated risk factors. For more information, visit the [Cardiovascular Health homepage](#).
- The Montana Tobacco Use Prevention Program (MTUPP) addresses commercial tobacco use statewide, with a focus on eliminating youth tobacco use through policy and programming. Visit the [MTUPP homepage](#) for more information.



METHODS

Data was obtained from the Montana Behavioral Risk Factor Surveillance System (BRFSS) for 2020-2024. BRFSS is a state-based telephone survey collecting information on health conditions and risk behaviors from non-institutionalized U.S. adults aged 18 years and older. Indicators examined include adult asthma prevalence, body mass index (BMI), Chronic Obstructive Pulmonary Disease (COPD), coronary heart disease and myocardial infarction (heart attack), diabetes, and arthritis. Race was analyzed using single-race categories and those reporting >1 race were categorized within the "Remaining Race" category. Weighted prevalence estimates were calculated with 95% confidence intervals; differences in prevalence across subgroups were assessed using a chi-square test at a 0.05 significance level.

ASTHMA AND COMORBIDITY PREVALENCE IN MONTANA

An estimated 11% of Montana adults reported current asthma, corresponding to nearly 100,000 adults. Current asthma prevalence was higher among female respondents (14%) than male respondents (8%), this difference was statistically significant. Estimated prevalence was 12% among adults aged 18 to 64 years of age and 9% among adults aged 65 years of age or older. Among respondents identifying only as non-Hispanic white, current asthma prevalence was 11% while single-race American Indian or Alaska Native (AI/AN) respondents reported a prevalence of 15%; the prevalence among respondents of all remaining races was 18%. Demographic data can be reviewed with the state average in Figure 1.

Among adults with current asthma, 71% were classified as overweight or obese (BMI ≥ 25), compared with 65% of adults without current asthma. One in five adults with current asthma (20%) reported a COPD diagnosis, compared with 5% of adults without current asthma. Eight percent of those with current asthma reported a history of myocardial infarction or coronary heart disease (CHD), compared with 6% of adults without current asthma. Over one in ten (13%) adults with asthma reported having been diagnosed with diabetes at some point in their life (gestational or pregnancy-induced diabetes not included), compared with 8% of adults who reported a diabetes diagnosis without current asthma. Nearly 42% of Montana adults with current asthma reported doctor-diagnosed arthritis, compared with 28% of adults without current asthma (Figure 2). All comorbidities examined were statistically significant.

Figure 1. Asthma prevalence was higher among females compared to the **state average**.

Source: BRFSS 2020 to 2024

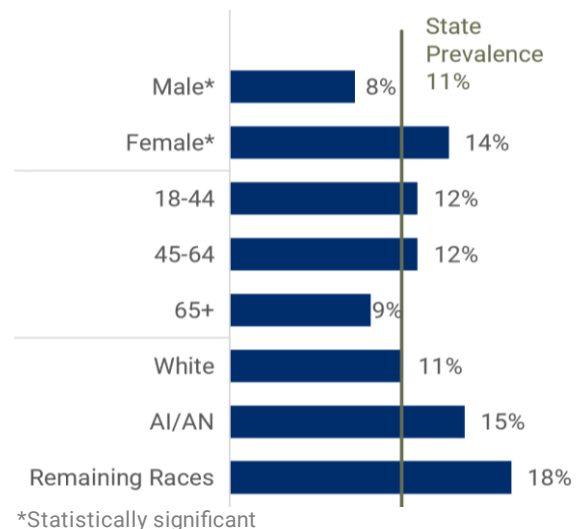
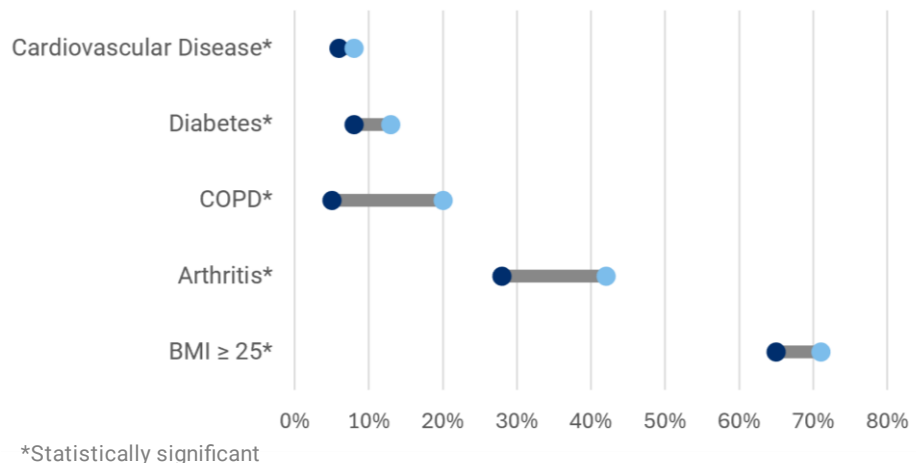


Figure 2. COPD and arthritis showed the largest statistically significant difference among those adults **without** compared to those **with** asthma.

Source: BRFSS 2020 to 2024





DISCUSSION

Findings from 2020 to 2024 Montana BRFSS data suggest that current asthma affects the sizable number of adult population, with approximately 100,000 adults (11%) reporting having asthma. This estimate is broadly consistent with national figures reported by the Centers for Disease Control and Prevention and aligns with patterns observed in prior Montana reports². The higher prevalence of current asthma among female adults is consistent with patterns reported elsewhere among U.S. adults and may reflect a combination of hormonal, immunologic, and health care utilization factors discussed in prior work^{2,3}. The association observed between elevated BMI and current asthma is consistent with prior research suggesting that BMI and weight may be associated with increased asthma risk and severity⁶.

Comorbidity patterns observed in this analysis suggest that adults with current asthma in Montana experience a substantially greater burden of co-occurring chronic conditions than adults without asthma. The association with COPD was particularly pronounced, where adults with current asthma being approximately four times as likely to also report a COPD diagnosis (5% vs 20%). This pattern is consistent with descriptions of asthma-COPD overlap in clinical and epidemiologic literature and may reflect shared risk factors, diagnostic overlap, or progression of disease over time⁷. This association underscores the potential value of integrated respiratory care approaches.

Cardiovascular comorbidities were also more prevalent among adults with current asthma than those without. While the absolute differences were smaller than those observed for COPD, the associations were statistically significant and align with prior reports describing elevated cardiovascular risk among adults with asthma⁸. Shared inflammatory pathways, common behavioral risk factors, and medication-related considerations have been proposed as possible contributors in prior literature.

Diabetes was reported by approximately 13% of adults with current asthma compared with 8% of adults without current asthma, corresponding to associations described in earlier population-based studies⁸. Arthritis showed the largest absolute difference of any condition examined, with roughly 42% of adults with current asthma reporting doctor-diagnosed arthritis compared with 28% among those without asthma. Arthritis is not always emphasized in asthma comorbidity discussions, but its high co-occurrence in this analysis suggests it may warrant inclusion in considerations of comprehensive chronic disease management for Montana adults with asthma.

Several limitations should be considered when interpreting these findings. BRFSS data are self-reported and subject to recall and social desirability biases. The cross-sectional design does not permit determination of temporal sequence or causal relationships between asthma and the comorbidities examined. Sample sizes for AI/AN and all other non-white racial groups were comparatively small, and corresponding estimates should be interpreted with appropriate caution. Finally, BRFSS captures only non-institutionalized adults with telephone access, which may limit generalizability to certain subpopulations.

Together, these findings suggest that asthma in Montana frequently co-occurs with other chronic conditions, particularly COPD, arthritis, and diabetes, and that program planning, educational outreach, and clinical care coordination efforts may benefit from comorbidity-aware framing. Continued surveillance using BRFSS and complementary data sources will be important for monitoring trends and informing the work of the Montana Asthma Control Program.



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