2025 Asthma Data Pages

Division of Health Statistics and Informatics

November 2025

VERMONT
DEPARTMENT OF HEALTH

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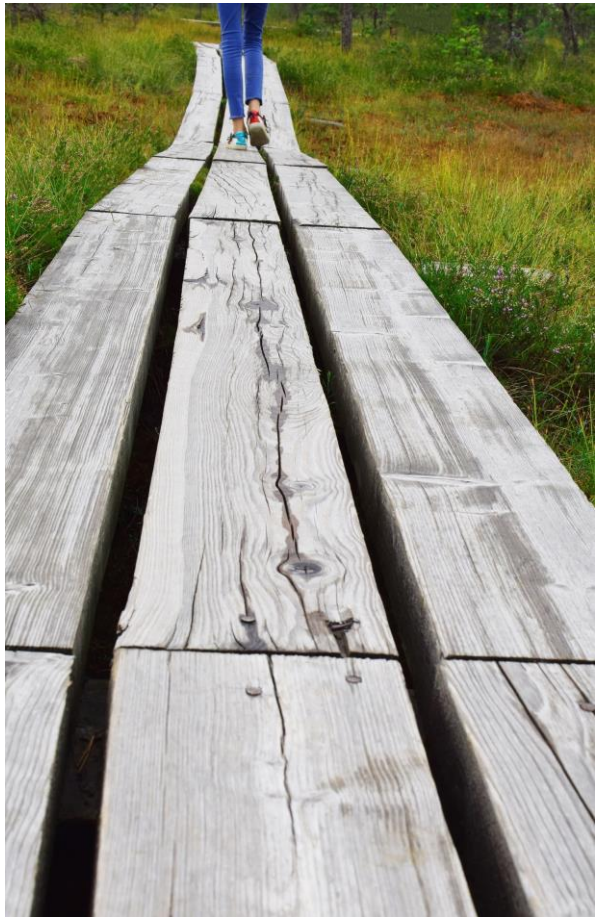


Introduction

In Vermont, 11% of adults and 7% of children currently have asthma, totaling over 68,000 people.

Asthma is a chronic disease that makes lungs become inflamed, causing the airways to swell and mucus to build up. This causes a variety of symptoms, like shortness of breath, wheezing, and chest pain. People with uncontrolled asthma often have difficulty sleeping and breathing, may miss school or work, and can end up with costly medical bills.

Managing asthma depends on many factors, like access to medication, occupational exposures, environment and lifestyle. Social determinants of health (income, health care access, education, and geography) can also impact how people with asthma manage the disease.

The purpose of this document is to present current data related to asthma and related risk factors among adults and children in Vermont.

Executive Summary

- The prevalence of adult current asthma has **remained consistent** in recent years, and child current asthma rates since 2022 are comparable to pre-pandemic years.
- More than one in five Vermonters with asthma have **moderate or severe persistent asthma**, and **half** of all adults and nearly half of all children with asthma **have had at least one exacerbation** in the past year.
- The **majority** of adults and children with asthma also have **seasonal allergy symptoms**.
- Although those with current asthma are more likely to experience some **adverse mental health outcomes**, they are similarly likely to experience some **positive outcomes** such as **life satisfaction** and **social support**.
- Of those with current asthma, 52% of children and 63% of adults have **uncontrolled asthma**.
- **Twice as many** adults with current asthma **smoke cigarettes every day** compared to those without asthma, and the prevalence of asthma is significantly more prevalent among adults who smoke.
- Approximately **11% of children in Vermont live in a household with an adult who smokes**, and those that do are two times more likely to have asthma than those who do not.
- The number of children with an **Asthma Action Plan** at school has **increased** in recent years.
- Most Vermont schools provide **rescue medication** and **daily medication administration** to students with asthma, and the majority also report asthma-friendly **cleaning practices**.

Data Notes

Data Sources: The data presented in this report on asthma and related risk and protective factors among adults and children in Vermont are drawn from a variety of data sources, including:

- 2023 Behavioral Risk Factor Surveillance System (BRFSS)
- 2023 Asthma Callback Survey (ACBS)
- 2023 Vermont Vital Records
- 2022 Vermont Uniform Hospital Discharge Data System (VUHDDS)
- 2022 New Hampshire and Massachusetts discharge data

For a description of data sources used, see the Data Sources section (pg. 74) at the end of this document.

Data Acknowledgement: The Vermont Department of Health recognizes the many social, economic and environmental inequities which drive the data in this report. We are working to incorporate data reflective of these lived experiences among all Vermonters. For this report demographic and population characteristic data (i.e., sex, race/ethnicity, sexual orientation, gender identity, disability status, etc.) was collected according to categories from a variety of data owners with different collection methods. You will see these categories reported as defined on pages 7-9.

Statistical Comparisons

For analyses in this document, we calculated 95% confidence intervals for each data point. These intervals reflect our level of certainty that the data point reflects the true population value. If we were to repeatedly draw samples from the population, approximately 95% of the calculated intervals would contain the true population value.

Statistical significance in this document is assessed by comparing the confidence intervals. If the confidence intervals from two groups do not overlap, we consider the estimates to be significantly different from one another. Statistical difference is noted throughout this document by an asterisk (*) or the terms “significantly different,” or “significantly higher or lower.” If confidence intervals do overlap, it indicates that we are unable to detect a significant difference, and these results are denoted as “similar”.

The following may also be important things to consider when interpreting differences in results:

- A 95% confidence interval can vary due to the size of a particular population. Sometimes, when comparing the data points of two or more groups, the overall data points may look very different, but the values are not statistically different. Other times, the values may be very close but differ statistically.
- It is important to consider whether observed differences between groups or categories may be *meaningful,* in addition to whether they are statistically significant. Consider whether a disparity might merit a targeted intervention or mean something important to the community.

Definitions

Indicator	Definition
Adult/Child	Adults: 18 years old or older Children: under 18 years old
Sex	Self-reported response to *Are you male or female?* with response options 'Male' and 'Female'
Any Disability	A composite measure of any self-reported disability (mobility, cognitive, visual, hearing, self-care, independent living) of any duration or permanence
Sexual Orientation	Self-reported response to *Do you consider yourself to be…* with response options 'Straight', 'Lesbian or Gay', 'Bisexual', and 'Other'
Gender Identity	Self-reported response to *Do you consider yourself to be transgender?* with categories of 'Cisgender' and 'Transgender' (including those who reported identifying as gender nonconforming)
Race/Ethnicity	Self-reported race/ethnicity selected from non-mutually exclusive response options, may be collapsed to 'BIPOC': Black, Indigenous, and People of Color and 'White non-Hispanic'
Exacerbation	An episode of asthma or an asthma attack, often characterized by worsening symptoms such as coughing or wheezing

Definitions (cont.)

Indicator	Definition
Suicidal Ideation	Seriously considered attempting suicide in the past 12 months
Stress	Usually or always felt tense, restless, nervous or anxious in the past 30 days
Life Dissatisfaction	A person reports feeling dissatisfied or very dissatisfied with their life
Depression	A person has ever been told by a doctor that they have depression disorder
Isolation	Usually or always feels socially isolated from others
Social & Emotional Support	Rarely or never gets the social and emotional support needed
Cigarette Smoking	Smoked at least 100 cigarettes in lifetime and now smokes every or some days
Controller Medication	Preventative or maintenance medication used routinely to prevent symptoms
Rescue Medication	Quick-relief or fast-acting medications used to immediately relieve symptoms
Lifetime Asthma*	A person has been told by a medical professional that they have asthma at any point during their lifetime
Current Asthma*	A person reports still having asthma in the present moment

* For data source-specific definitions of these terms, see the following page.

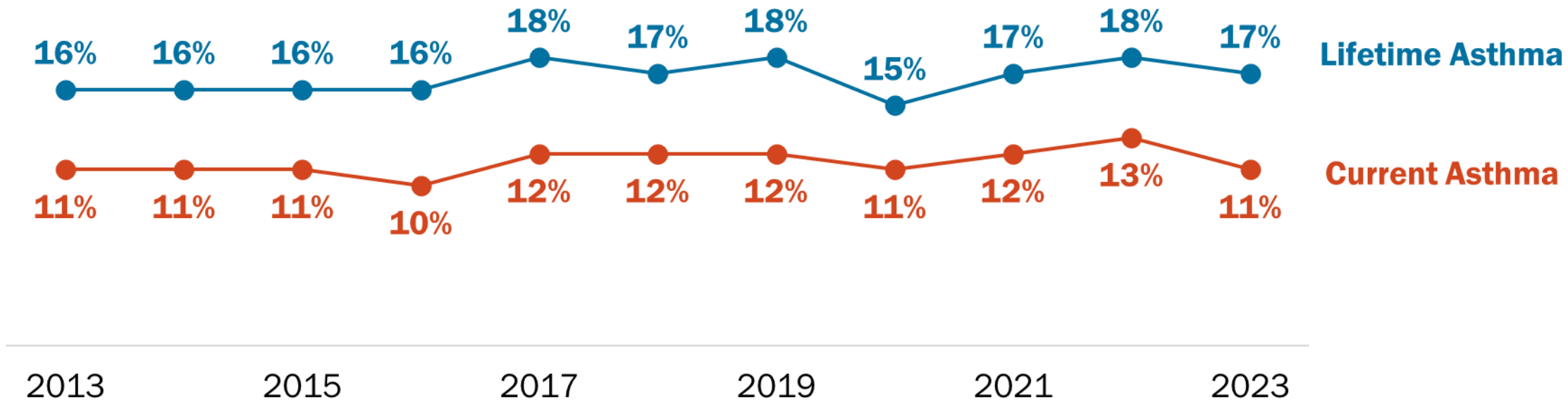
Asthma Definitions by Source

Data Source	Asthma Measure	Definition
BRFSS & ACBS	Adult Lifetime Asthma	Adults with **lifetime asthma** have responded "yes" to the question: *Has a doctor, nurse, or other health professional ever told you that you had asthma?*
BRFSS & ACBS	Child Lifetime Asthma	Children with **lifetime asthma** have had a parent respond "yes" to the question: *Has a doctor, nurse or other health professional ever said that the child has asthma?*
BRFSS & ACBS	Adult Current Asthma	Adults with current asthma have reported having lifetime asthma and have responded yes to the question: *Do you still have asthma?*
BRFSS & ACBS	Child Current Asthma	Children with current asthma have had a parent/guardian report they have lifetime asthma responded "yes" to the question: *Does the child still have asthma?*
Vital Records	Asthma	ICD-10 code J45 or J46
Hospital Discharge Data	Asthma	ICD-10-CM code J45 or J46, ICD-9-CM code 493

Asthma Prevalence in Vermont

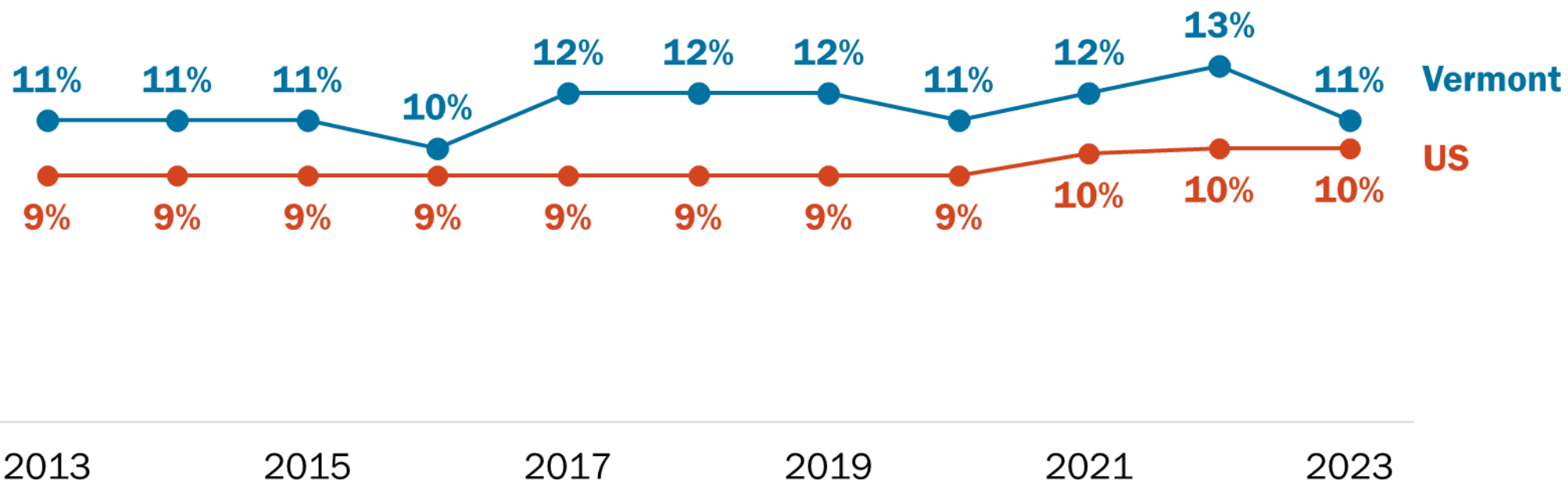
Adult lifetime and current asthma rates have not changed significantly over time.

- About 60,500 Vermont adults had current asthma in 2023.
- While around 92,500 reported having asthma at some point during their life in 2023.
- Both the current and lifetime asthma rates for adults in 2023 are similar to 2013.



Source: Behavioral Risk Factor Surveillance System (BRFSS) 2013-2023

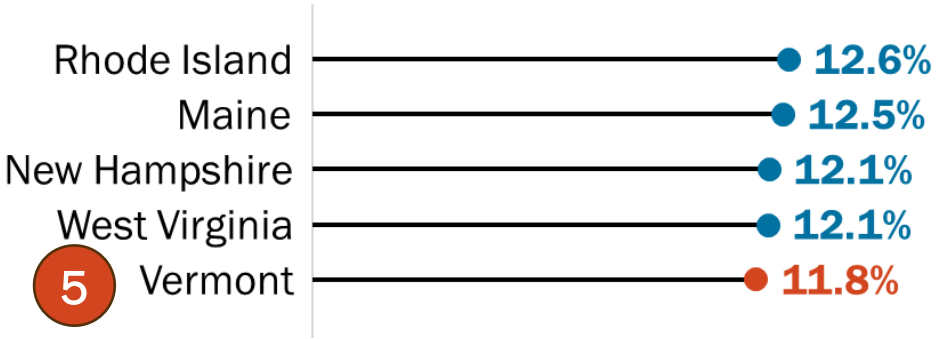
Current Vermont adult asthma prevalence has been significantly higher than the US rate‡ since 2013.



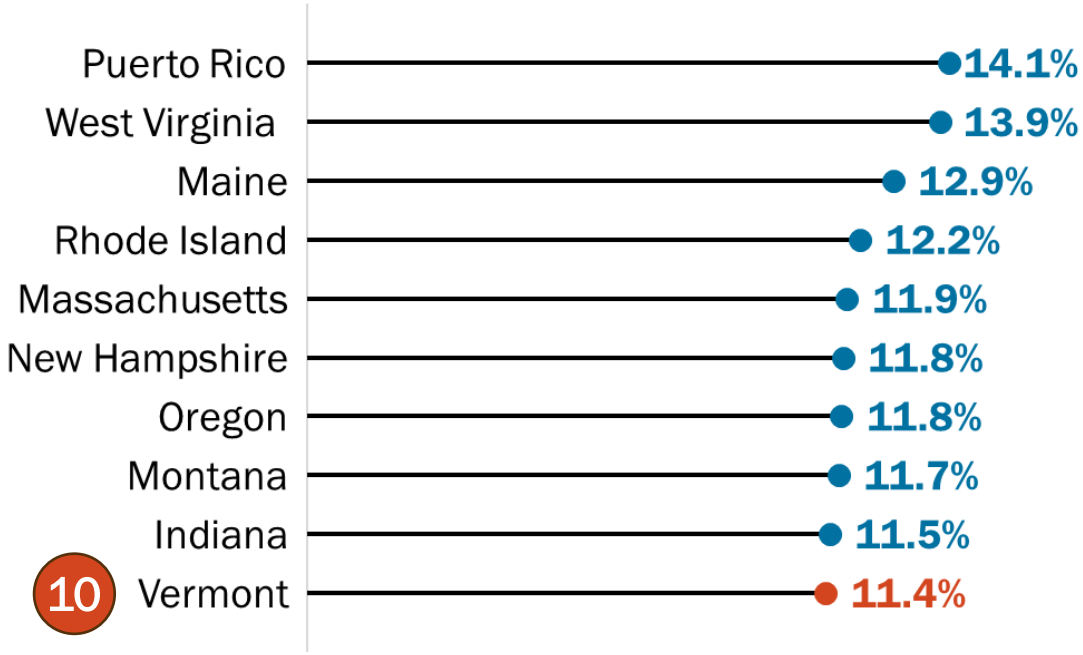
‡ Data was available for 52 state and territories in 2023
Source: BRFSS 2013-2023

The Vermont rate of adult current asthma dropped from fifth highest among all states and territories in 2021 to 10th in 2023.

Adult Current Asthma, 2021



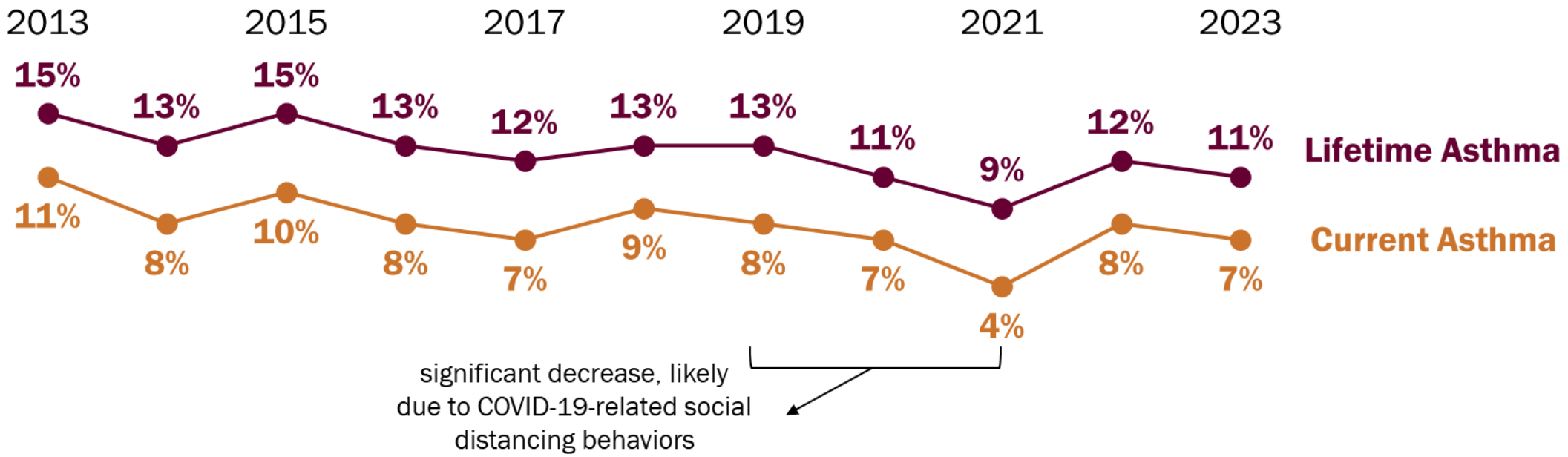
Adult Current Asthma, 2023



Data Note: Vermont data presented here may differ slightly from CDC estimates published elsewhere due to additional state-specific data available to the Vermont Department of Health. Data available for 52 states and territories in 2023 and 53 jurisdictions in 2021.
Source: BRFSS 2021 & 2023

Vermont child lifetime and current asthma have remained stable since 2022.

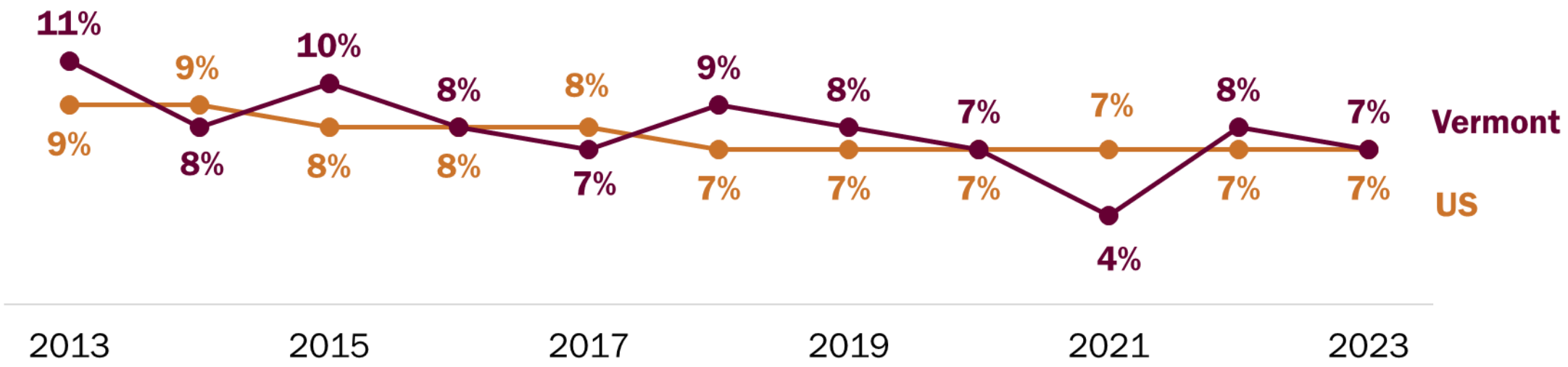
- Child lifetime asthma has not changed significantly since 2013.
- Since 2022, current child asthma rates have been similar to rates prior to the pandemic.
- About 7,700 children in Vermont had current asthma in 2023.
- Around 12,300 children in Vermont had lifetime asthma in 2023.



Source BRFSS 2013-2023

Vermont's child asthma rates have been similar to the national rate since 2022.

- After being significantly lower than the US rate in 2021, current child asthma in Vermont was comparable to the national rate in 2022 and 2023.

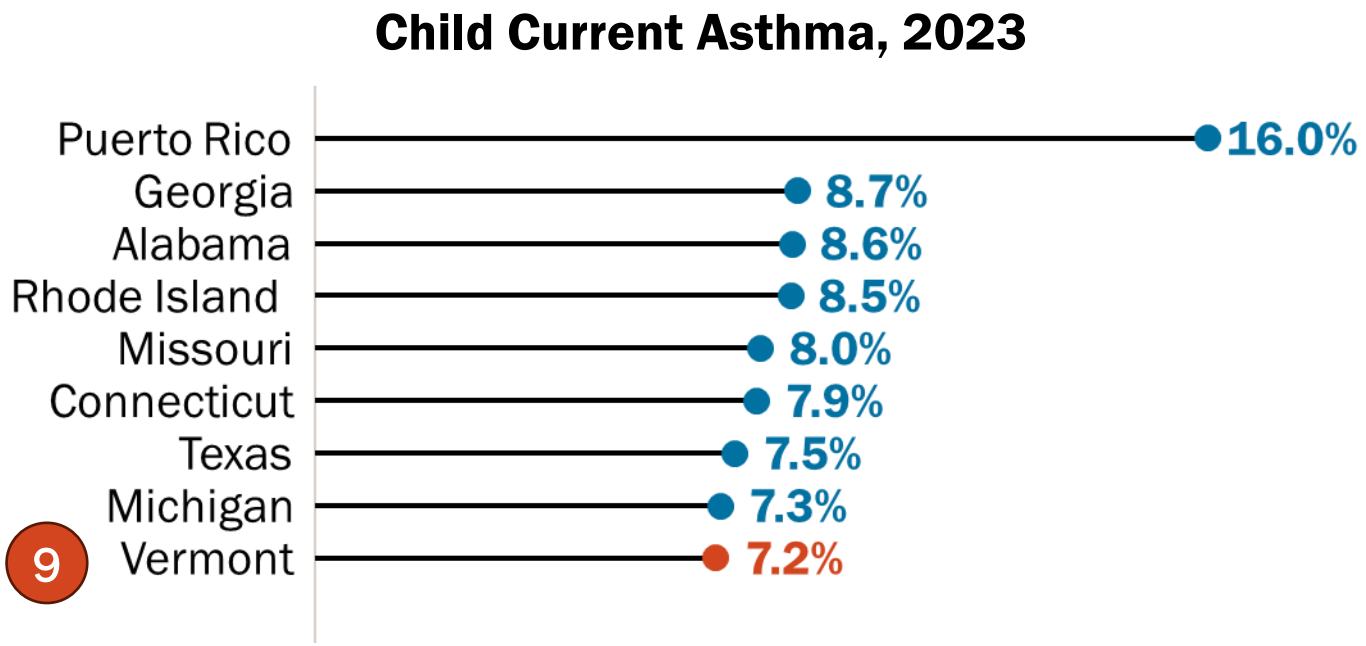


Source: BRFSS 2013-2023

After having the lowest child current asthma rate of all states and territories surveyed in 2021, Vermont rose to having the ninth highest in 2023.

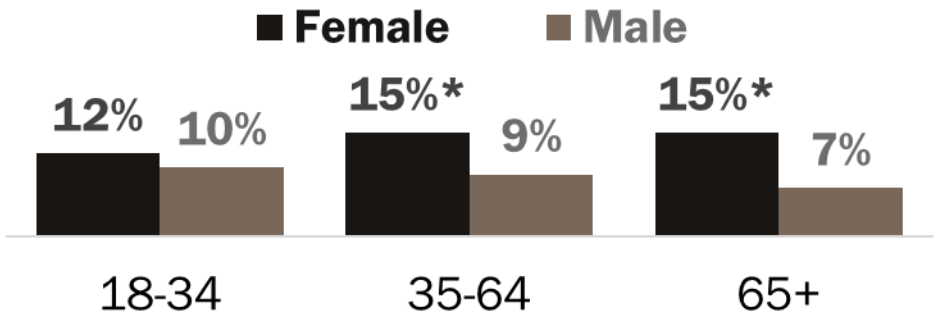
- After having the 16th highest rate of child asthma in 2020 (7%), in 2021 Vermont saw the lowest rate of child current asthma (4%) out of the 31 states and territories surveyed (data not shown).
- In 2023, Vermont rose to having the ninth highest rate of child current asthma (7%) out of 26 states and territories surveyed.

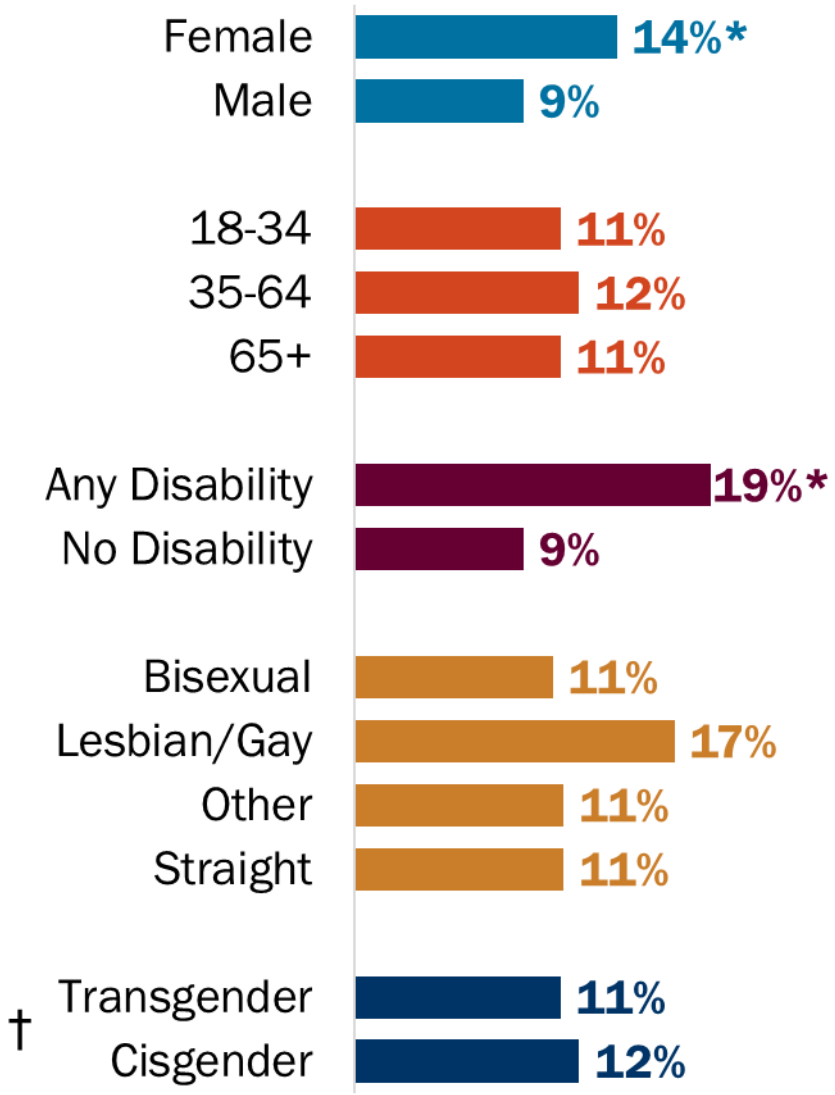
Data Note: Rankings should be interpreted with caution as data were not available for many states and territories. Vermont data presented here may differ slightly from CDC estimates published elsewhere due to additional state-specific data available to the Vermont Department of Health.
Source: BRFSS 2021 & 2023



Prevalence of Current Asthma by Demographic Characteristics

- Female adults and those who have disabilities have a significantly higher prevalence of currently having asthma than males and those who do not have disabilities, respectively.
- Adult current asthma does not differ significantly by sexual orientation or gender identity.
- Although current asthma does not vary significantly by age in the whole population, females age 35+ are significantly more likely to have asthma than males of the same age.





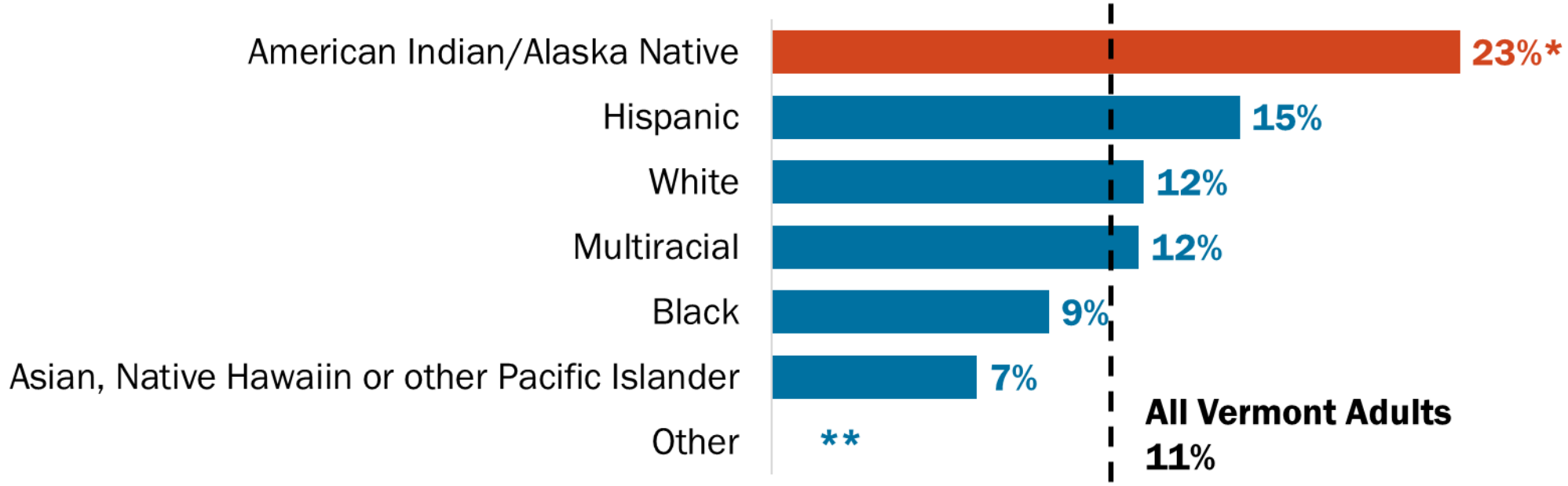
* Statistically significant difference between categories

† Gender identity data are from 2022-2023 combined. All other data are 2023 only.

Source: BRFSS 2023 & BRFSS 2022-2023

American Indian and Alaska Native adults have a significantly higher prevalence of current asthma than Vermont as a whole.

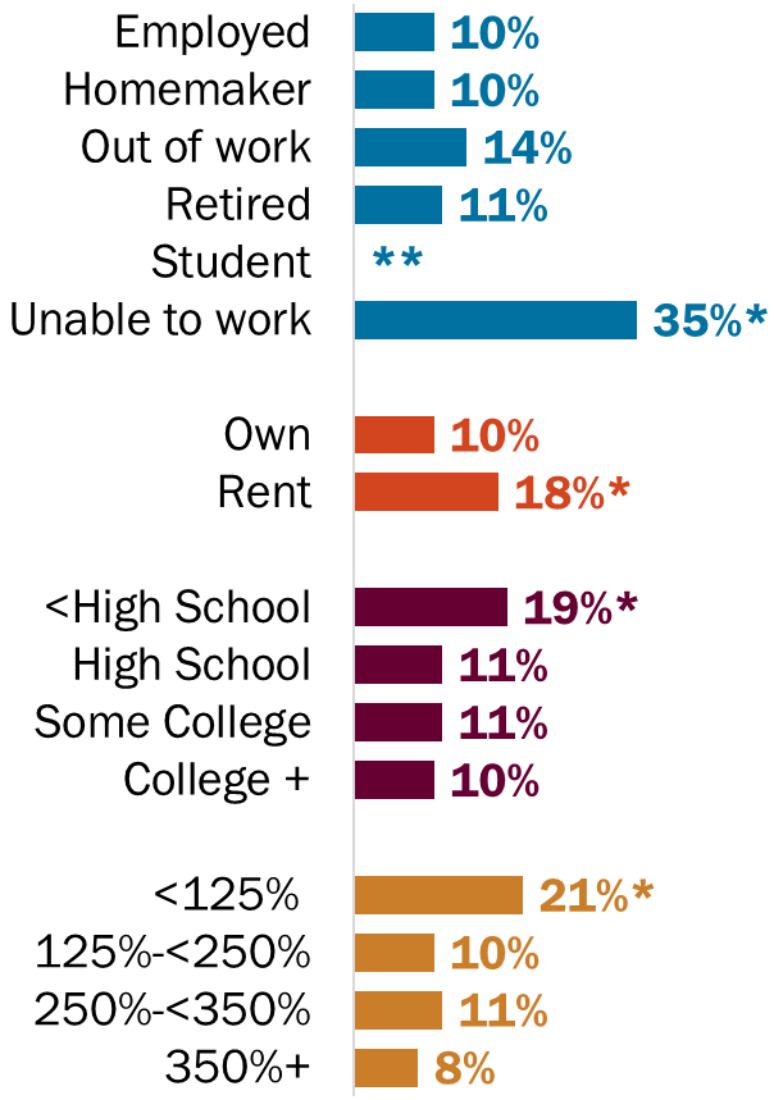
- All other racial and ethnic groups had a similar prevalence of asthma to Vermont as a whole.



* Statistically significant difference from the Vermont state rate.
** Data have been suppressed due to small numbers.
Racial categories do not include those identifying as Hispanic.
Source: BRFSS 2022-2023

Prevalence of Adult Current Asthma by Population Group

- There is a higher prevalence of current asthma among adults living below 125% of the Federal Poverty Level compared to those with higher income levels.
- Adults unable to work report having asthma at a higher rate than those of all other employment statuses, including those who are out of work or retired.
- Adults who rent their housing are nearly two times more likely to have asthma than those who own.
- Adults who have less than a high school education are nearly two times more likely to have asthma than those who have completed high school or college.

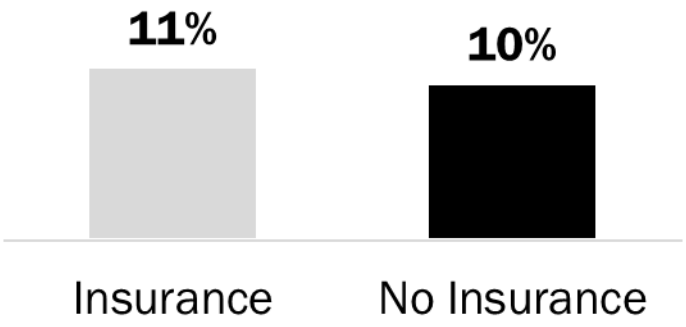


* Statistically significant difference from the Vermont state rate
** Data have been suppressed due to small numbers.
Source: BRFSS 2023

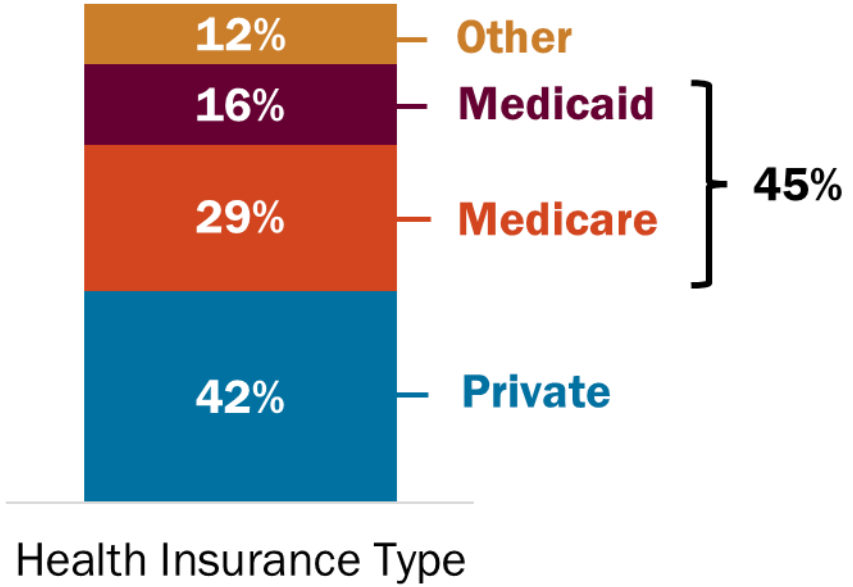
Among adults who have current asthma and are insured, the majority are on a private health insurance plan.

- The prevalence of current asthma is similar between adults with and without health insurance coverage.
- Nearly half (45%) of those with current asthma are on either Medicare or Medicaid.

Prevalence of Asthma by Health Insurance Status



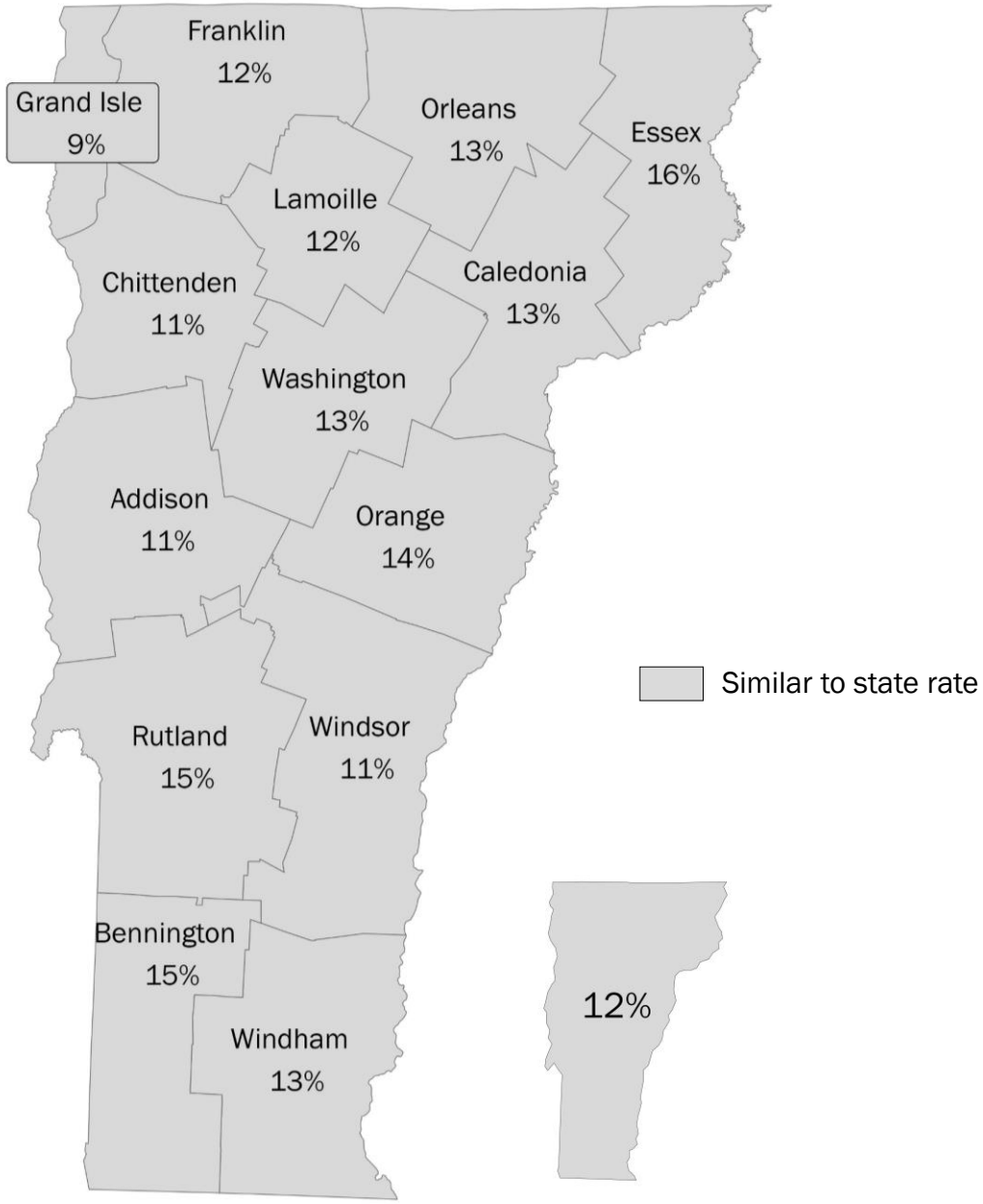
Type of Insurance among Insured Adults with Current Asthma



Source: BRFSS 2023

Prevalence of Adult Current Asthma by County, 2022-2023

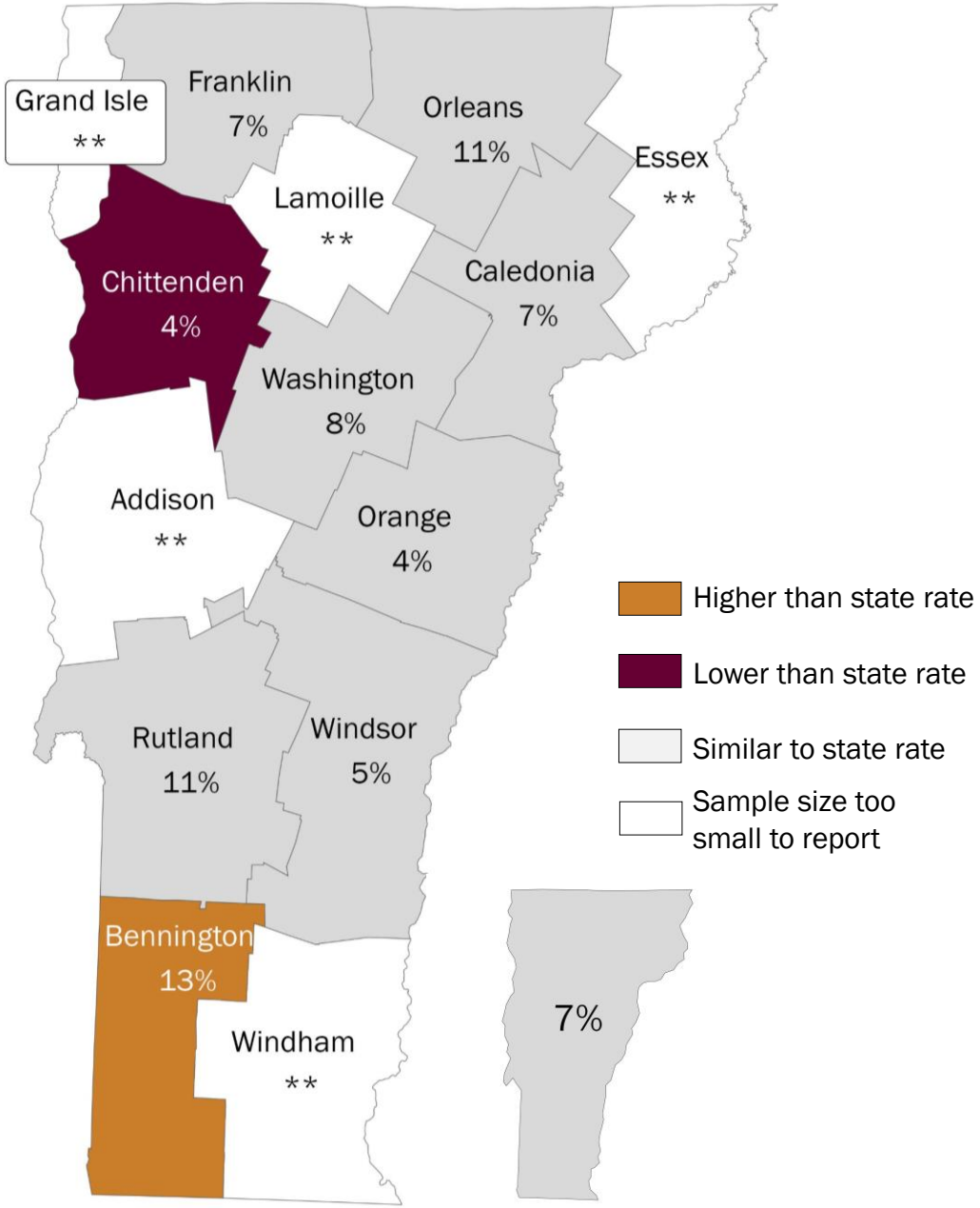
- All counties have a similar prevalence of adult current asthma to Vermont as a whole (12%).
- Between the period of 2020-2021 and 2022-2023, there has been a significant increase in the prevalence of adult current asthma in Lamoille County from 7% to 12%.
- No other counties saw significant changes in the rate of adult current asthma over this time period.



Source: BRFSS 2022-2023 & 2020-2021

Prevalence of Child Current Asthma by County, 2021-2023

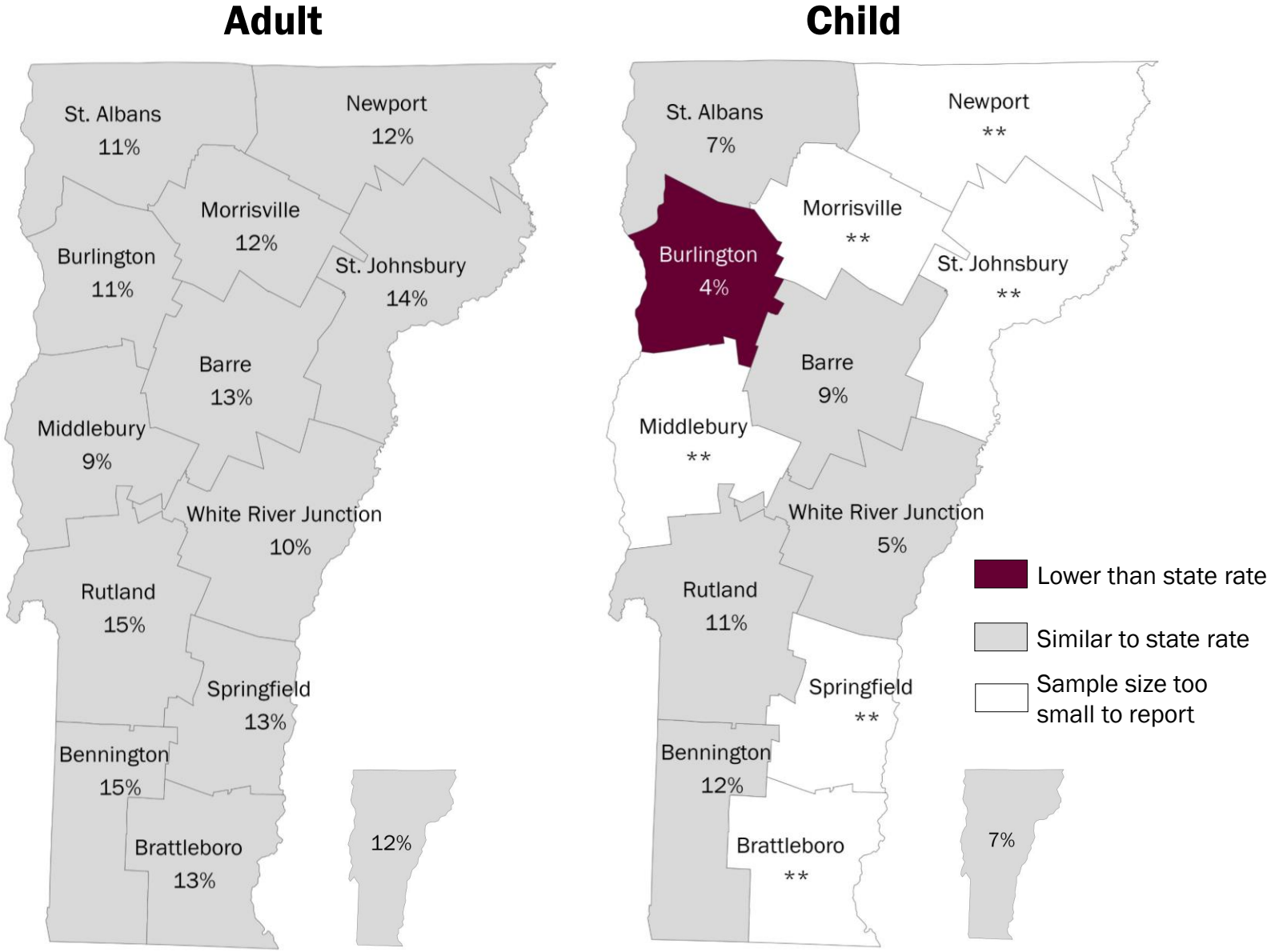
- Children in Bennington County are more likely to have current asthma than the state as a whole (7%).
- Children in Chittenden County are less likely to have current asthma than Vermont as whole (7%).
- The rate of current child asthma in all reportable counties did not change significantly between 2018-2020 and 2021-2023.



Source: BRFSS 2021-2023 & 2018-2020

Prevalence of Current Asthma by Health District

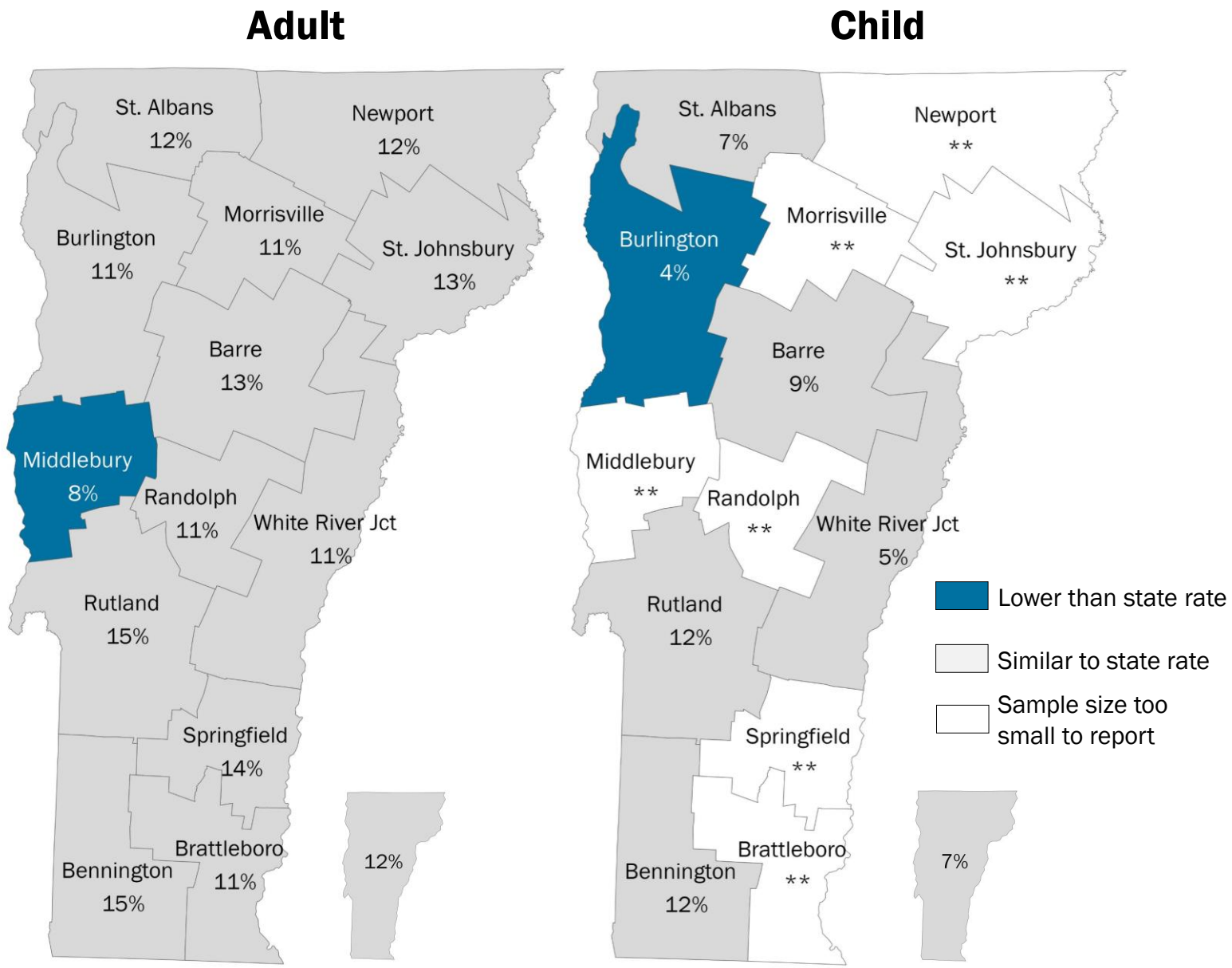
- All health districts have a similar prevalence of adult current asthma compared to Vermont as a whole (12%).
- The Burlington Health District has a lower prevalence of child asthma than the state as a whole (7%).
- All other reportable health districts have a similar prevalence of current child asthma compared to the state.



Source: BRFSS 2022-2023 (Adult)
BRFSS 2021-2023 (Child)

Prevalence of Current Asthma by Hospital Service Area (HSA)

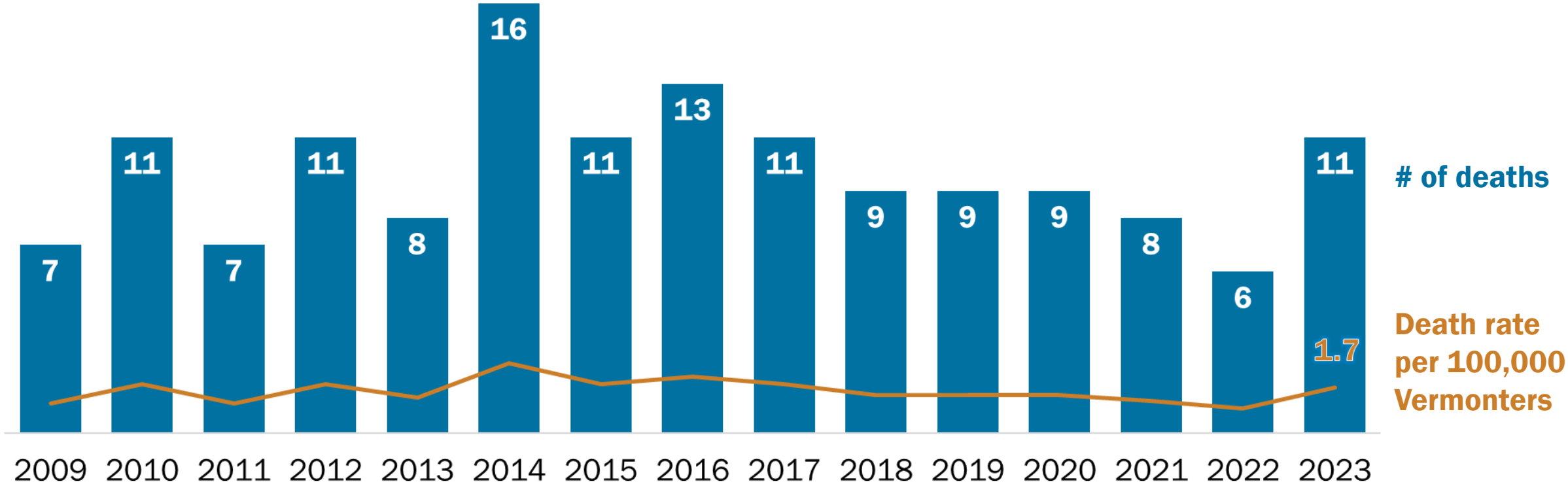
- Most HSAs have a similar prevalence of adult current asthma to Vermont as a whole.
- Adults in the Middlebury HSA are less likely to have current asthma than Vermont as a whole (12%).
- Children in the Burlington HSA have nearly half the prevalence of current asthma compared to Vermont as a whole (7%).



Source: BRFSS 2022-2023 (Adult)
BRFSS 2021-2023 (Child)

Since 2009, 148 Vermonters have died due to asthma as a primary cause.

- The death rate in Vermont due to asthma in 2023 is similar to 2022 and 2009.
- The Vermont asthma death rate in 2023 is similar to the US death rate of 1.1 per 100,000 people.



Source: Vermont Vital Records 2009-2023

Quality of Life

Severity

Asthma severity is measured by a combination of factors, including:

- Emergency department visits
- Number of missed work or school days
- Frequency and persistence of symptoms
- Sleep disruption

The level of severity into which an individual's most severe symptom or indicator falls is the level at which their asthma severity is classified.

Severe Persistent

- **7+ ER visits in past year**
- **75+ day of missed work/school in past year**
- **Symptoms continue all day, every day in past month**
- **Symptoms made it difficult to sleep 11+ days in past month**

Moderate Persistent

- **3-6 ER visits in past year**
- **6-75 days of missed work/school in past year**
- **Symptoms every day in past month but do not continue all day**
- **Symptoms made it difficult to sleep 5-10 days in past month**

Mild Persistent

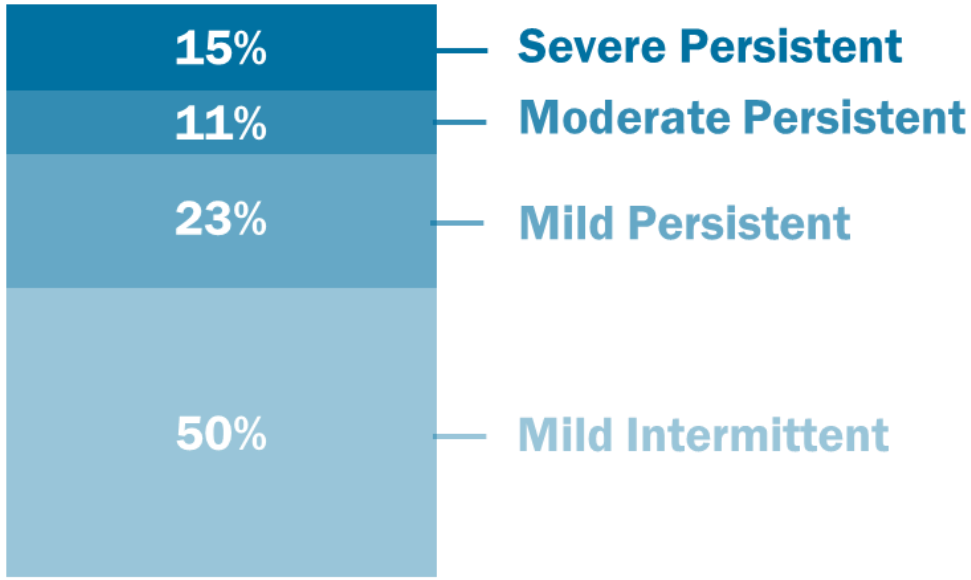
- **1-2 ER visits in past year**
- **1-5 days of missed work/school in past year**
- **Symptoms 9-29 days in past month**
- **Symptoms make it difficult to sleep 3-4 days in past month**

Mild Intermittent

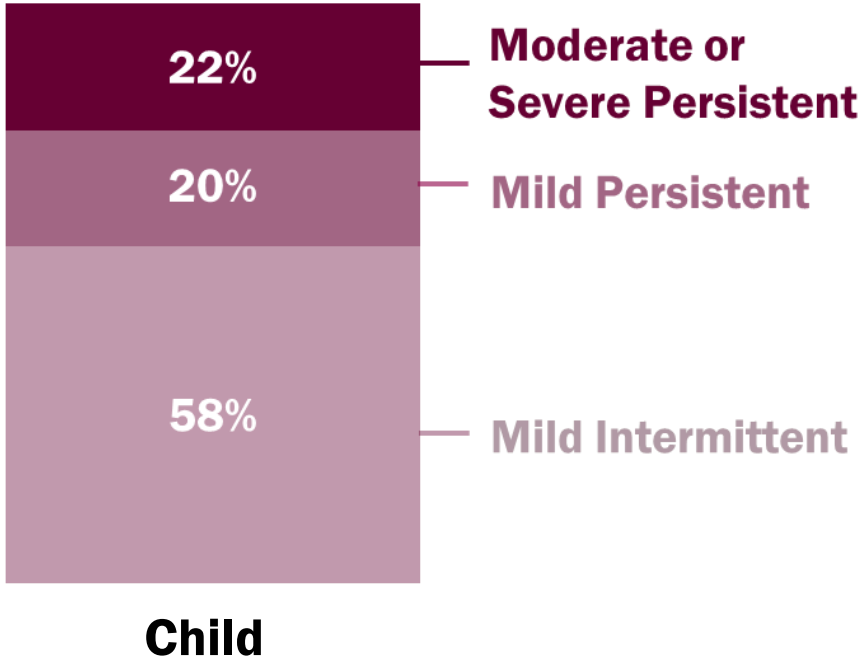
- **No ER visits in past year**
- **No missed work/school in past year**
- **Symptoms 8 days or less in past month**
- **Symptoms made it difficult to sleep 2 days or less in past month**

More than 20% of Vermonters who currently have asthma have moderate or severe persistent asthma.

More than one in four (26%) adults with asthma have moderate or severe persistent asthma.



22% of children with asthma have moderate or severe persistent asthma.

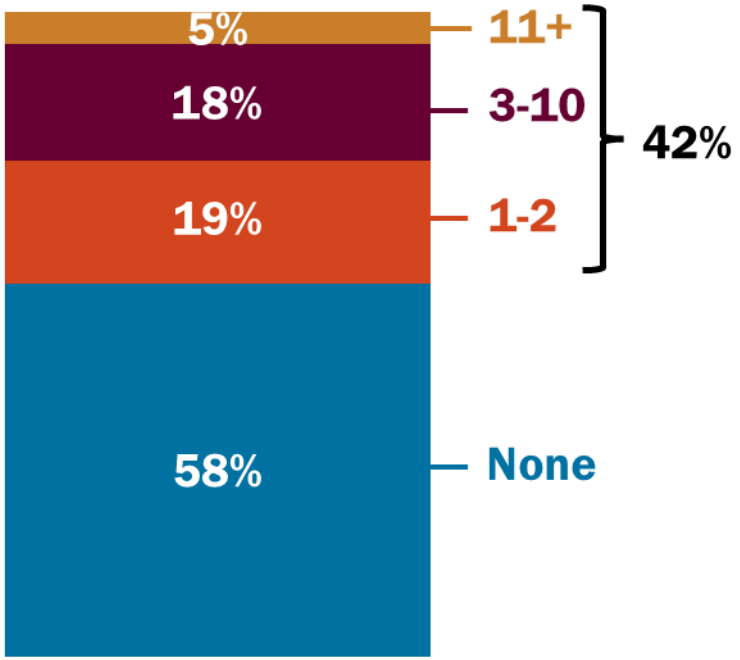


Data Note: For children, moderate and severe persistent asthma have been combined due to small numbers.
Source: Asthma Callback Survey (ACBS) 2023 (Adult) & 2021-2023 (Child)

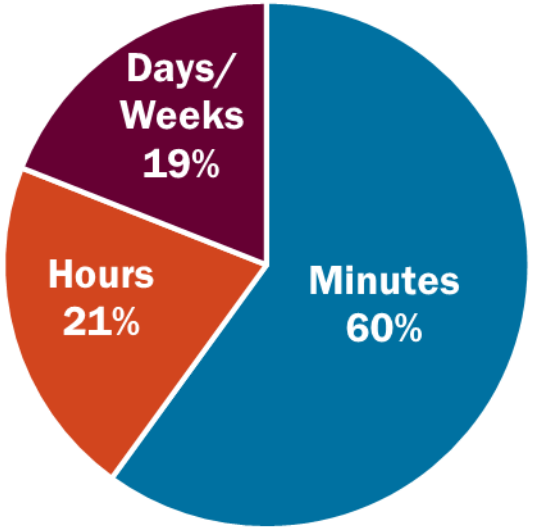
Half of Vermont adults with current asthma had an exacerbation in the past year.

- 42% of Vermont adults with current asthma had an exacerbation in the past three months.
  - Nearly 1 in 4 (23%) had three or more exacerbations in the past three months.
- The duration of the most recent exacerbation lasted hours or longer for 40% of adults.

Number of Exacerbations in Past 3 Months



Duration of Most Recent Exacerbation

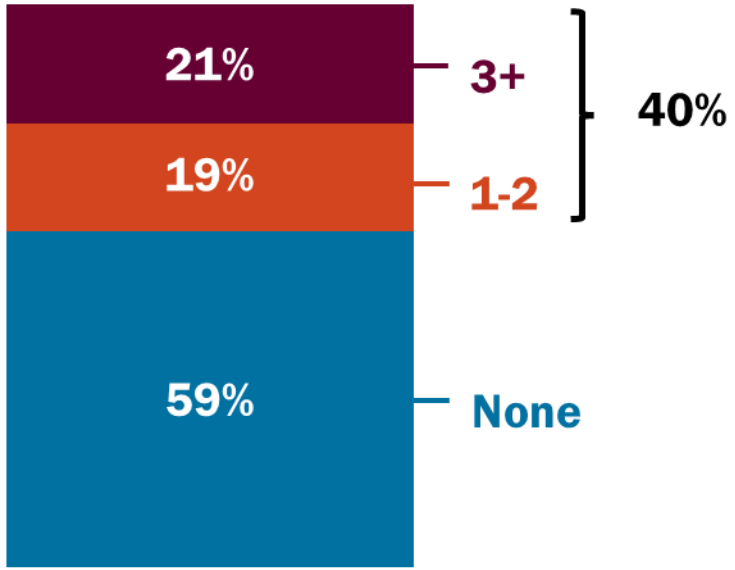


Source: ACBS 2023

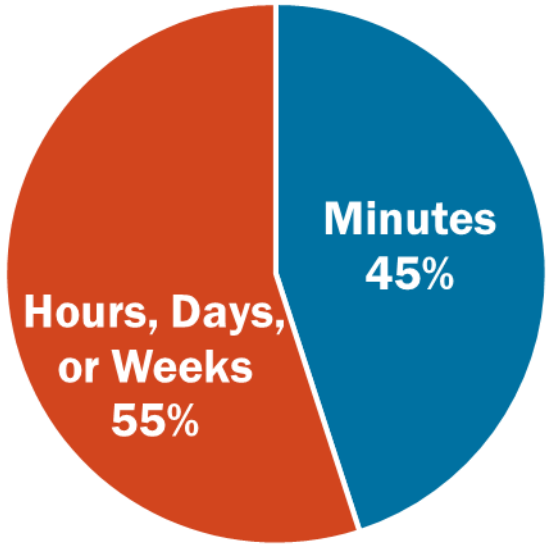
Nearly half (45%) of children in Vermont with current asthma had an exacerbation in the past year.

- 40% of Vermont children with current asthma had an exacerbation in the past three months.
  - 21% had at least three exacerbations in the past three months.
- The duration of the most recent exacerbation lasted hours or longer for more than half of children (55%).

Number of Exacerbations in Past 3 Months



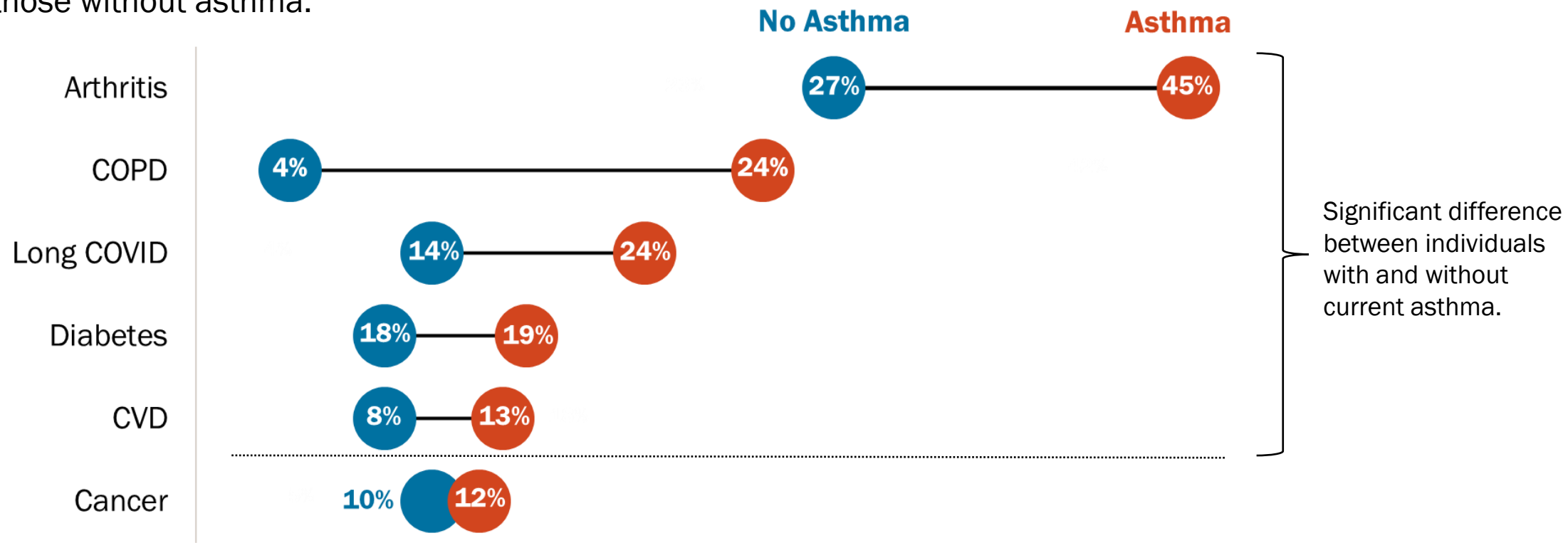
Duration of Most Recent Exacerbation



Source: ACBS 2021-2023

Vermont adults with current asthma are more likely to have other chronic conditions than those without current asthma.

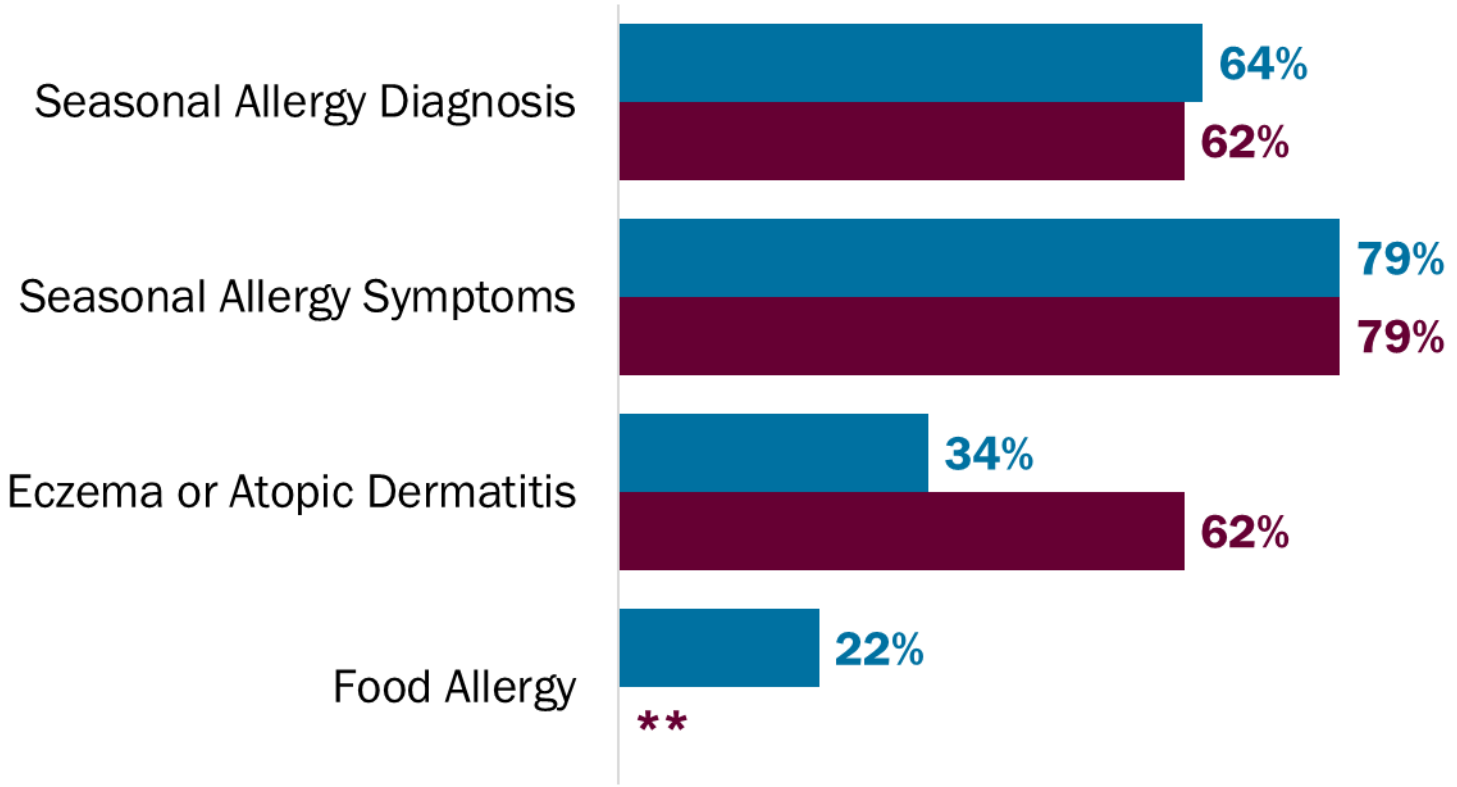
- Adults with asthma are 6 times more likely to have COPD than those without asthma.
- Adults with asthma are also more likely to have arthritis, diabetes, and cardiovascular disease than those without asthma.



Source: BRFSS 2023

The majority of adults and children with current asthma also have seasonal allergy symptoms.

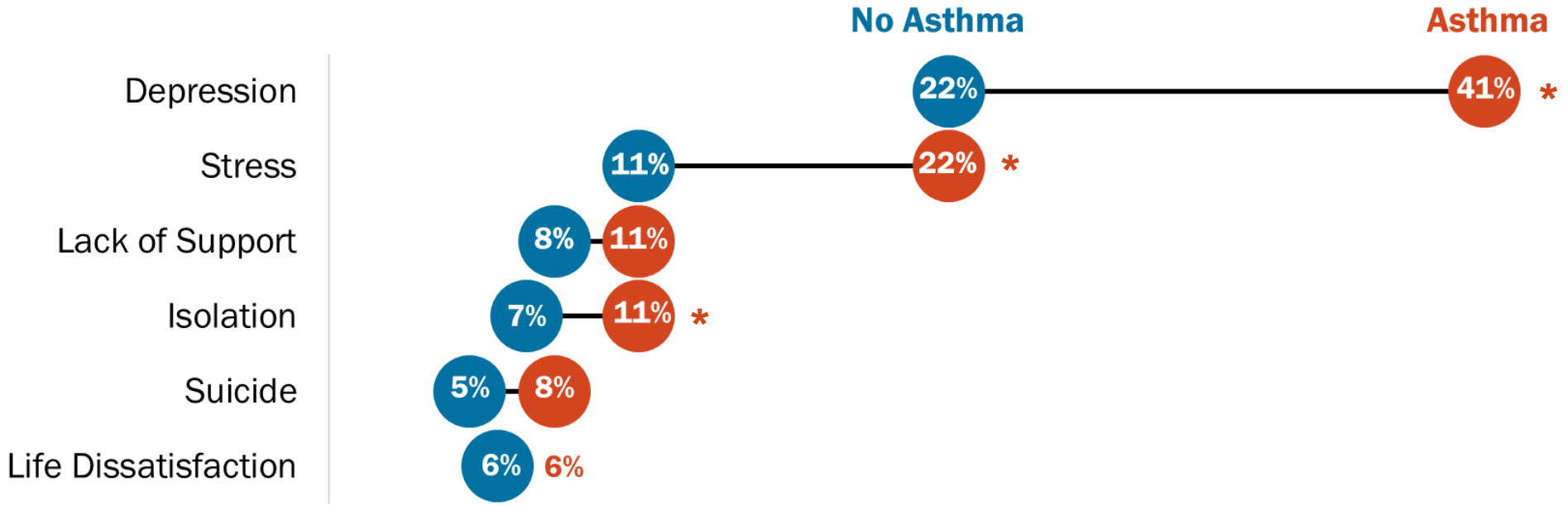
- More than half of adults and children have also been told by a doctor that they had hay fever, seasonal or year-round allergies.
- Nearly one-third of adults and two-thirds of children with current asthma have eczema or atopic dermatitis.
- Nearly a quarter of adults with asthma also report having a food allergy.



** Suppressed due to small numbers
Source: ACBS 2023

Although adults with current asthma are more likely to experience some mental health challenges, they are similarly likely to experience life satisfaction and feel supported.

- Those with current asthma are more likely to experience depression, stress and social isolation than those without current asthma.
- However, they report having the social and emotional support they need and experience life satisfaction at similar rates as those without asthma.



* Statistically significant difference between those with and without current asthma

Source: BRFSS 2022

Asthma Management

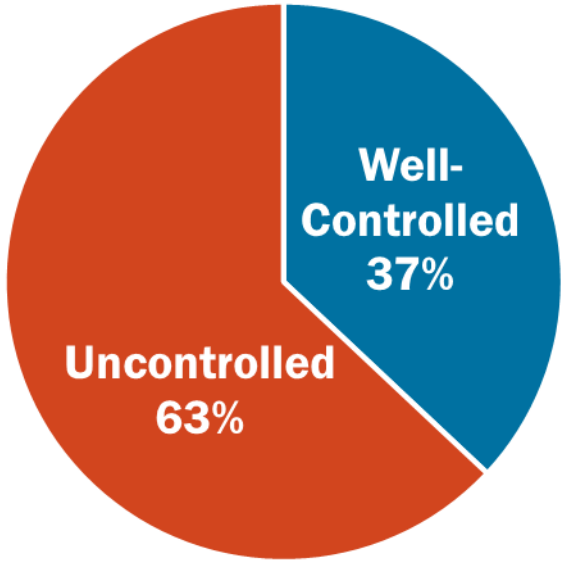
Control

- One measure of asthma management is asthma control.
- Asthma control is measured by a combination of factors, including past 30-day symptoms, nighttime symptoms, activity limitation and weekly Short-Acting Beta-Agonist (SABA) quick-relief medication use.
- Uncontrolled asthma is asthma that is not well controlled or very poorly controlled.

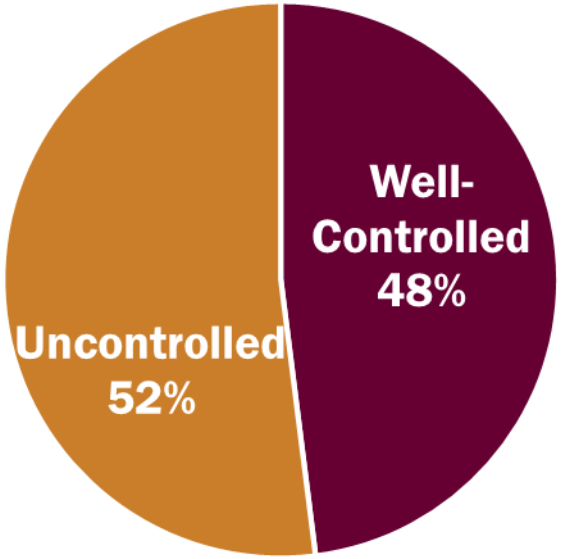
Well Controlled	Not Well Controlled	Very Poorly Controlled
Worst symptoms/indicators include one of the following: • **Symptoms 2 days per week or less** • **2 days or less with nighttime symptoms in the past month** • **No activity limitation** • **SABA use 2x per week or less**	**Worst symptoms/indicators include one of the following:** • **Symptoms 9-30 days in past month (not continuous)** • **3-12 days with nighttime symptoms in past month** • **Some activity limitation** • **SABA use between 3x per day and 2x per week**	**Worst symptoms/indicators include at least one of the following:** • **Daily, continuous symptoms in past month** • **13+ days with nighttime symptoms in past month** • **Extreme activity limitation** • **SABA use 2x per day or more**

Almost two thirds of adults and half of children in Vermont with current asthma have uncontrolled asthma.

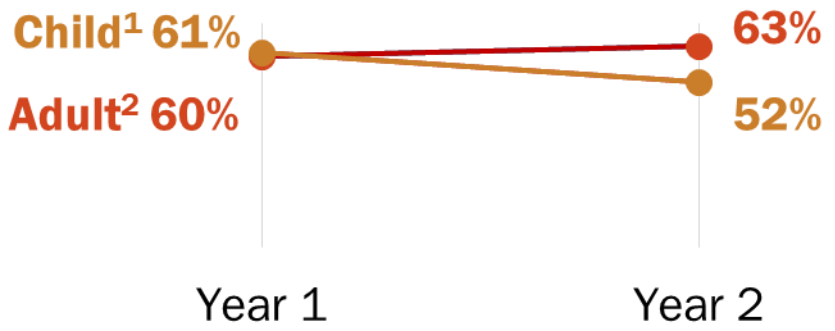
Prevalence of Adult Asthma Control, 2023



Prevalence of Child Asthma Control, 2021-2023



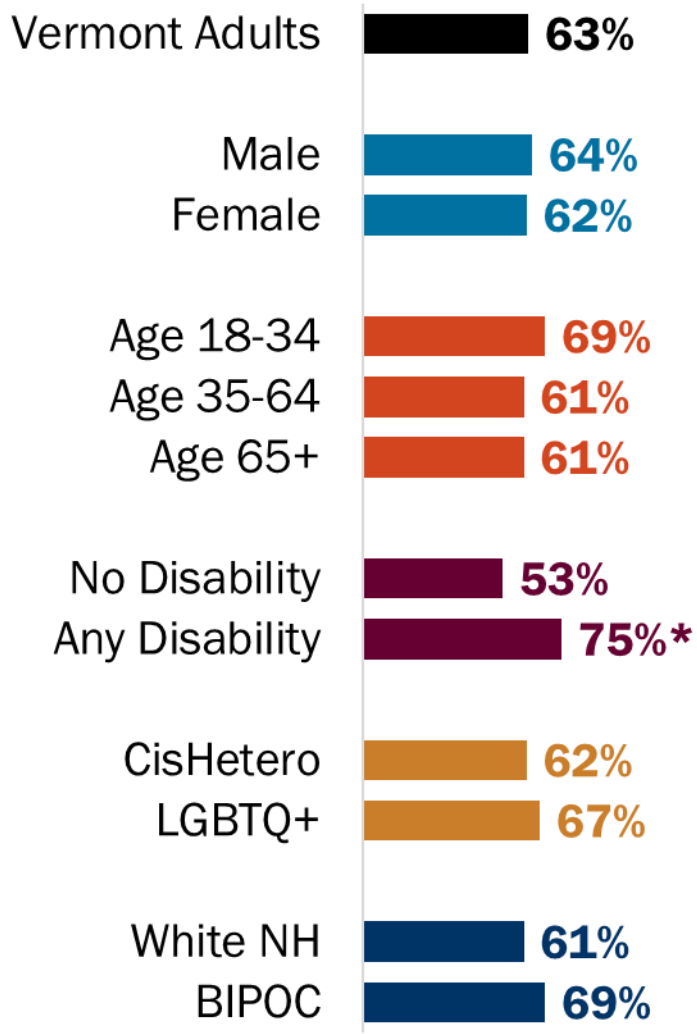
- 63% of adults and 52% of children have either not well or very poorly controlled asthma.
- Although the rate of uncontrolled asthma in children has decreased, no changes in the rate of uncontrolled asthma in recent years for adults or children were statistically significant.



Source: Child ACBS 2019-2021 & 2021-2023[1]; Adult ACBS 2021 & 2023[2]

Prevalence of Adult Uncontrolled Asthma by Demographic Characteristics

- Adults with current asthma who report having a disability are significantly more likely to have uncontrolled asthma than those without a disability.
- No other significant variation in uncontrolled asthma was observed within demographic groups.
- Demographic categories, including having a disability, do not significantly differ from the rate of uncontrolled asthma in Vermont as a whole.

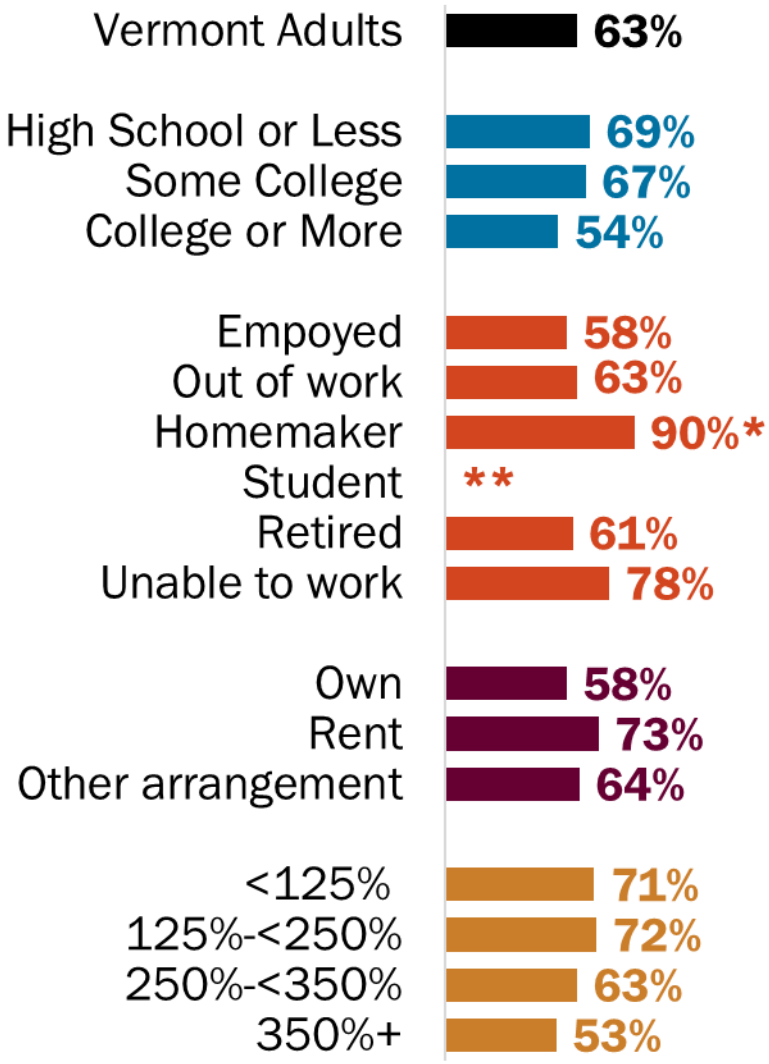


* Statistically significant difference between categories within demographic characteristic

Source: BRFSS 2023 & ACBS 2023

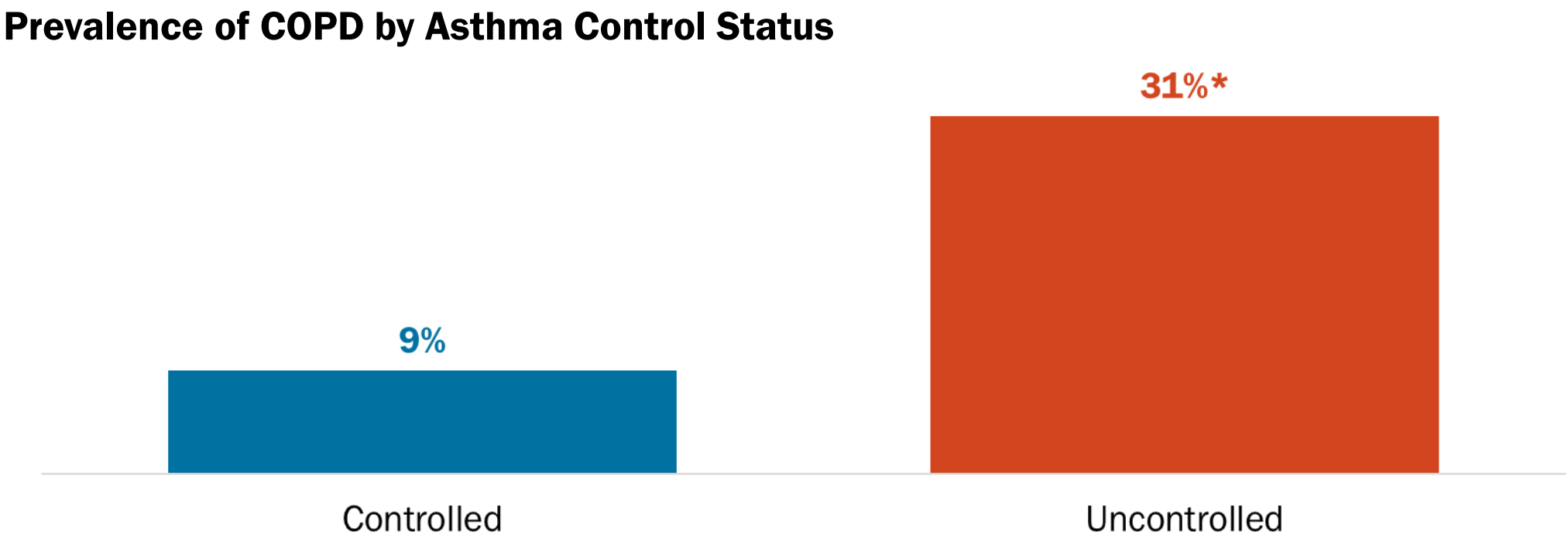
Prevalence of Adult Uncontrolled Asthma by Population Groups

- Adults with asthma who report being homemakers are significantly more likely to have uncontrolled asthma than those who are employed or retired.
- No other significant variation in uncontrolled asthma was observed within demographic groups.
- Being a homemaker was also the only population group that differed significantly from the rate of uncontrolled asthma for Vermont as a whole.
- All other population groups had a similar rate of uncontrolled asthma to the state rate.



* Statistically significant difference between categories within population group
** Suppressed due to small numbers
Source: BRFSS 2023 & ACBS 2023

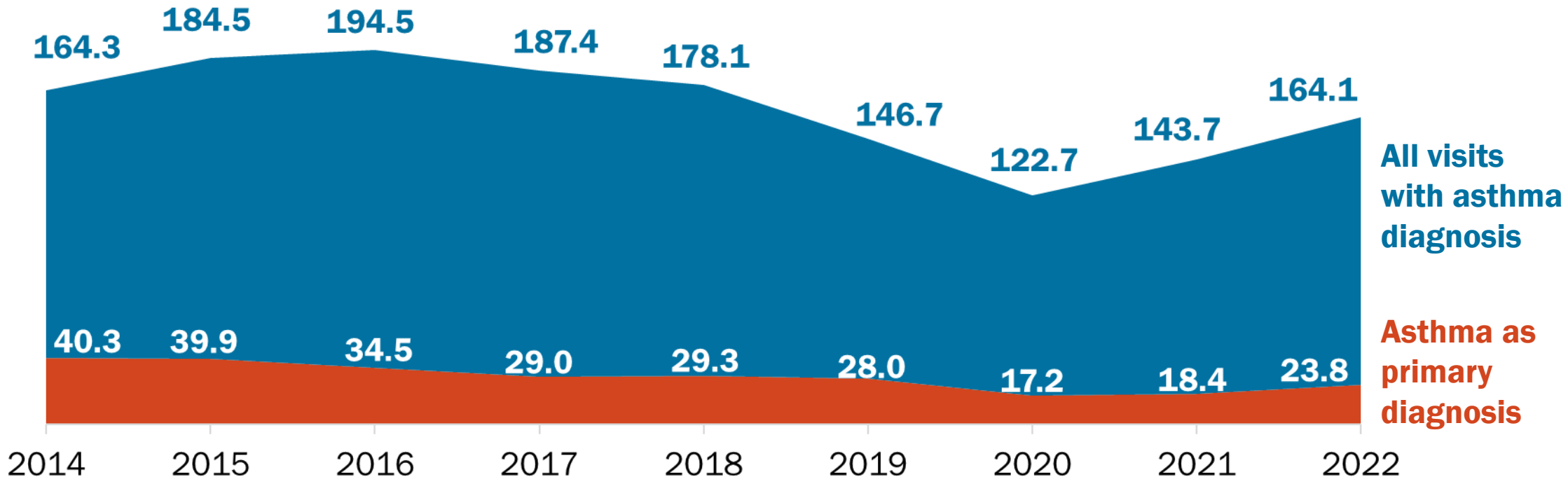
Adults with uncontrolled asthma are more than three times as likely to have COPD than those without current asthma.



* Statistically significant difference between categories within population group
Source: BRFSS 2023 & ACBS 2023

After a sharp decrease in 2020 related to COVID-19, emergency department visits for asthma have increased in recent years.

- The rate of emergency department visits with a primary diagnosis of asthma per 10,000 in 2022 was significantly higher than rates from 2019-2021 but significantly lower than 2018.

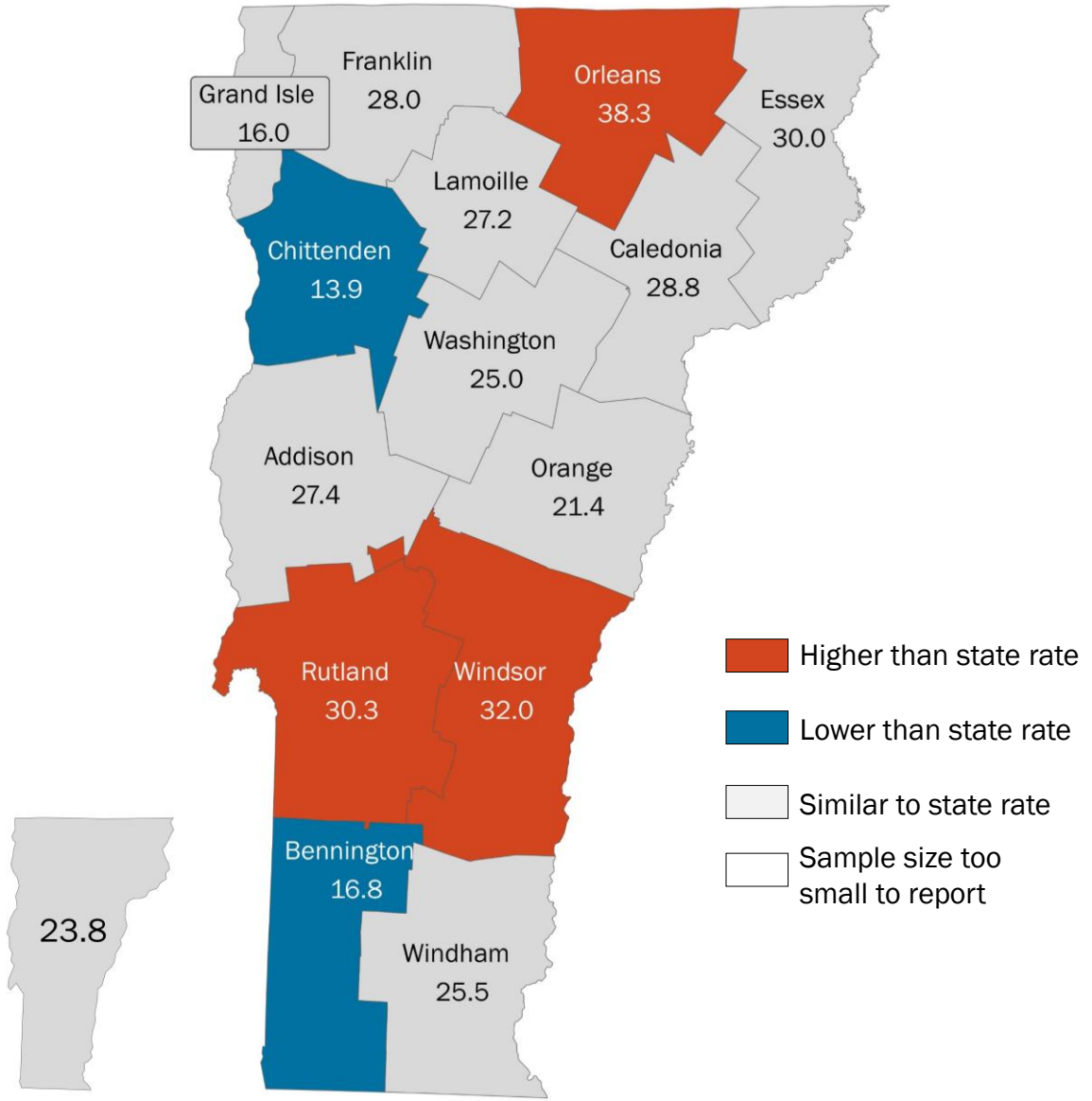


Source: VUHDDS 2014-2022, Massachusetts & New Hampshire Hospital Discharge Data 2014-2022

Emergency Department Visit Rates for Asthma by County, 2022

Rate per 10,000 Vermont Residents

- Residents of Orleans, Rutland, and Windsor Counties have a significantly higher rate of emergency department visits for a primary cause of asthma than the state as a whole (23.8).
- Residents of Bennington and Chittenden Counties have a lower rate of emergency department visits for asthma than the state as a whole (23.8).
- Most counties in Vermont have a similar rate of asthma-related emergency department visits to the state rate.

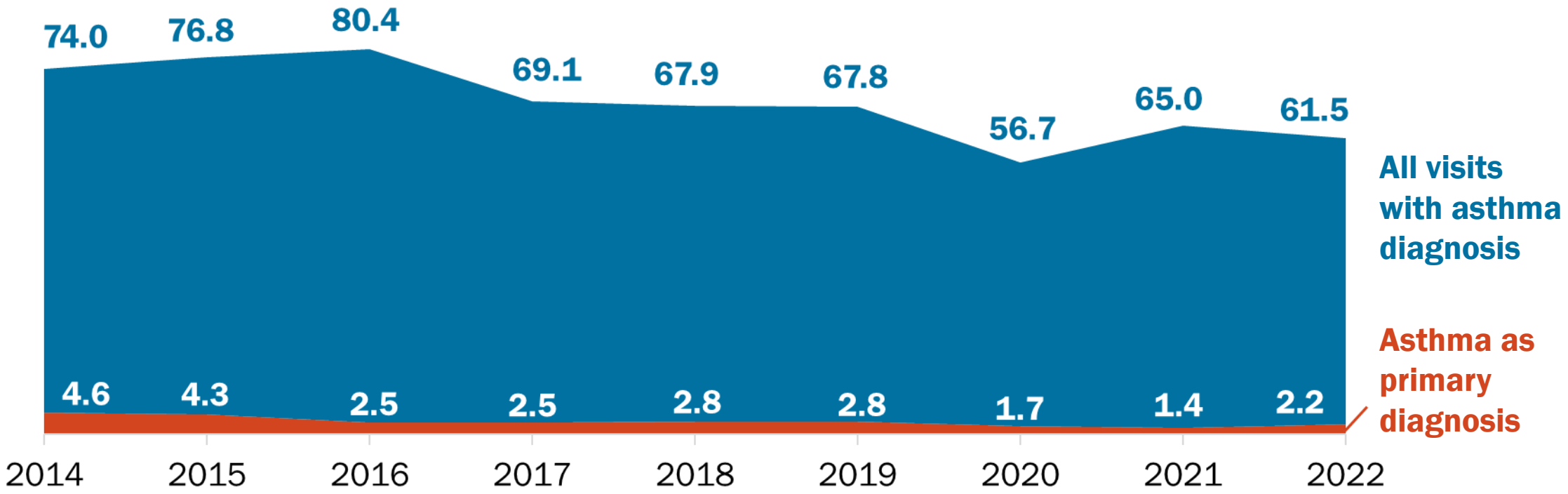


Data Note: Rates may represent an undercount of up to 10 visits per county as Massachusetts data are not included due to small numbers.

Source: VUHDDS 2022, New Hampshire Hospital Discharge Data 2022

Other than a slight decrease in 2020 related to COVID-19, hospitalizations for asthma have remained consistent.

- The rate of hospitalizations with a primary diagnosis of asthma per 10,000 population in 2022 was significantly higher than 2021 but similar to 2020.

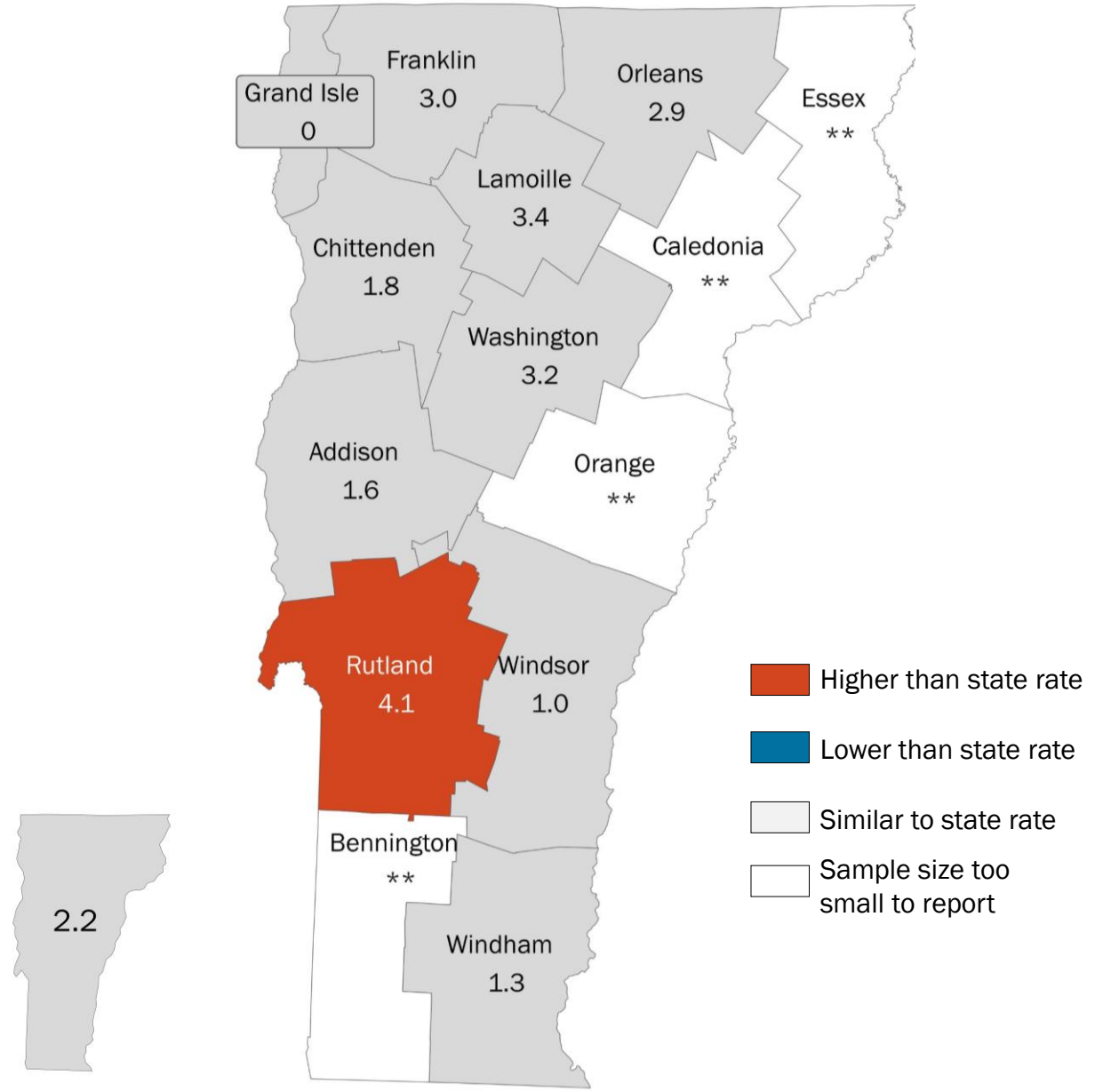


Source: VUHDDS 2014-2022, Massachusetts & New Hampshire Hospital Discharge Data 2014-2022

Hospitalization Rates for Asthma by County, 2022

Rate per 10,000 Vermont Residents

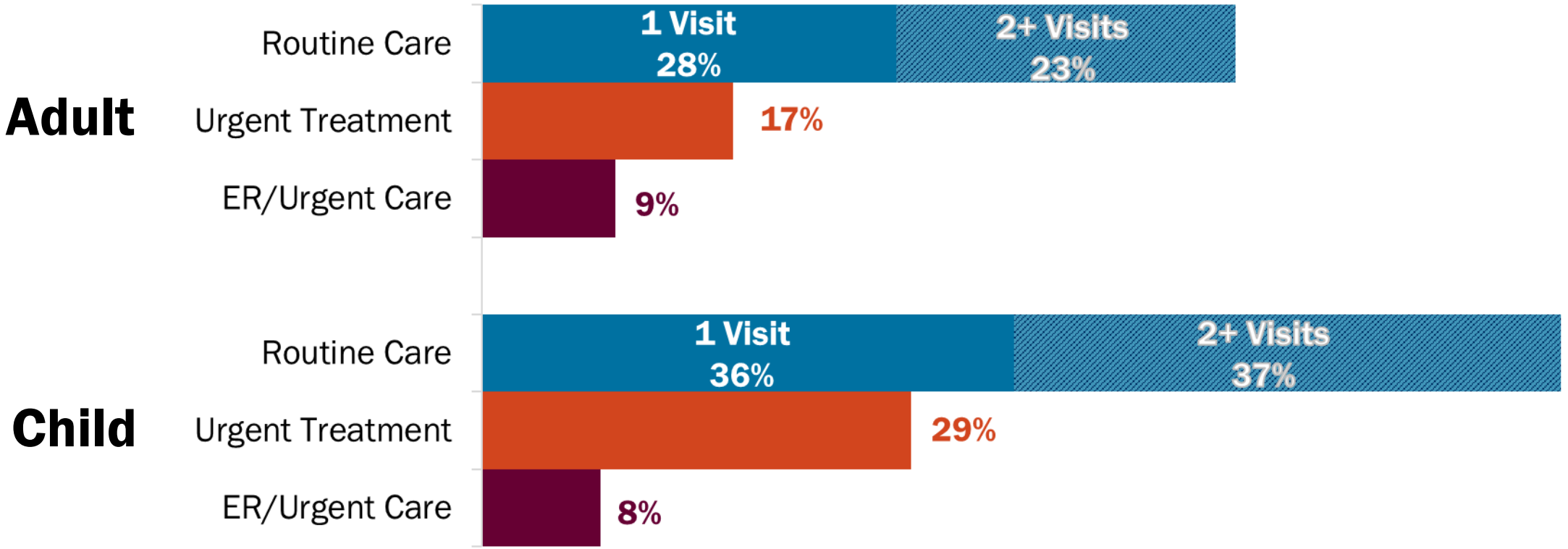
- Rutland County has a significantly higher rate of emergency department visits for asthma as the primary cause than the state as a whole (2.2).
- All other reportable counties in Vermont have a similar rate of asthma-related emergency department visits to the state rate.



Data Note: Rates may represent an undercount of up to 10 visits per county as Massachusetts data are not included due to small numbers.

Source: VUHDDS 2022, New Hampshire Hospital Discharge Data 2022

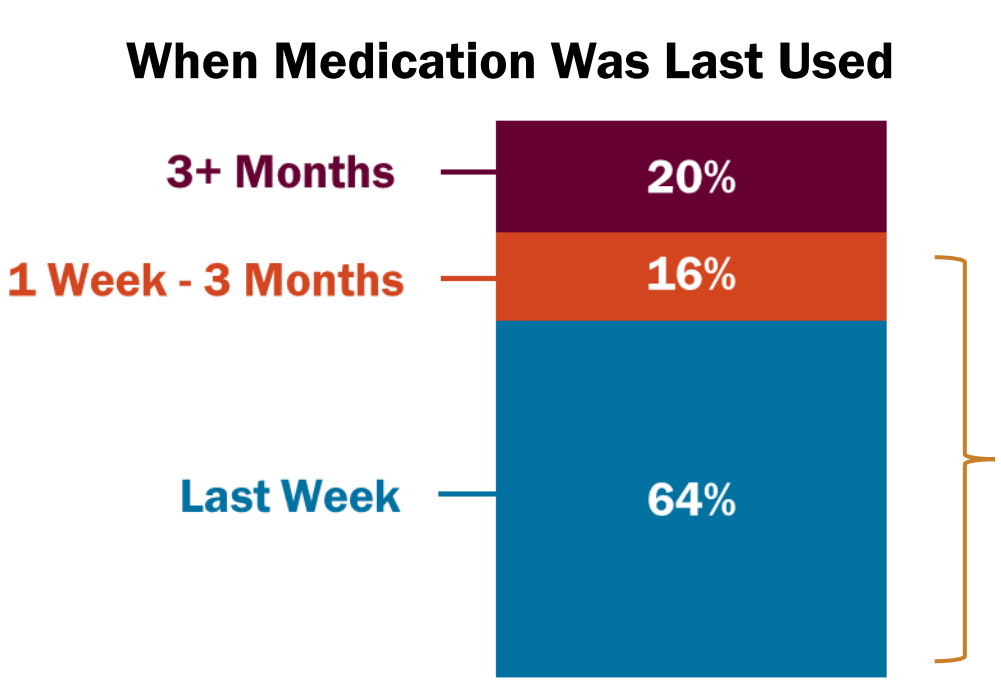
Children with asthma are more likely to have received routine or urgent treatment in the past year than adults.

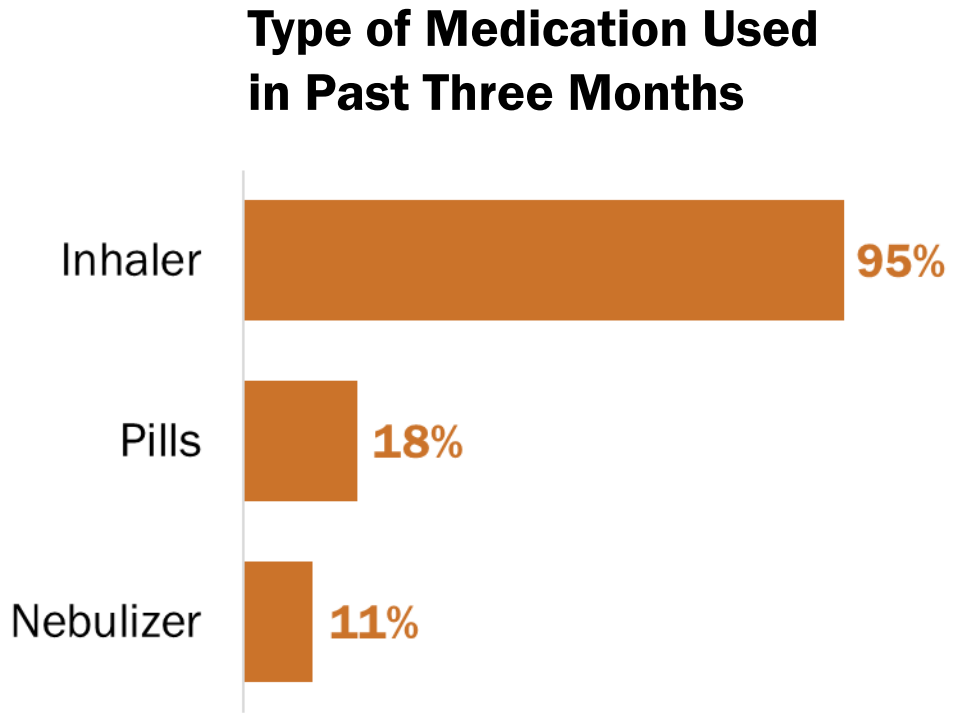


Source: ACBS 2023 (Adult) & 2021-2023 (Child)

Nearly two-thirds (60%) of adults who used medication in the past three months used inhalers.

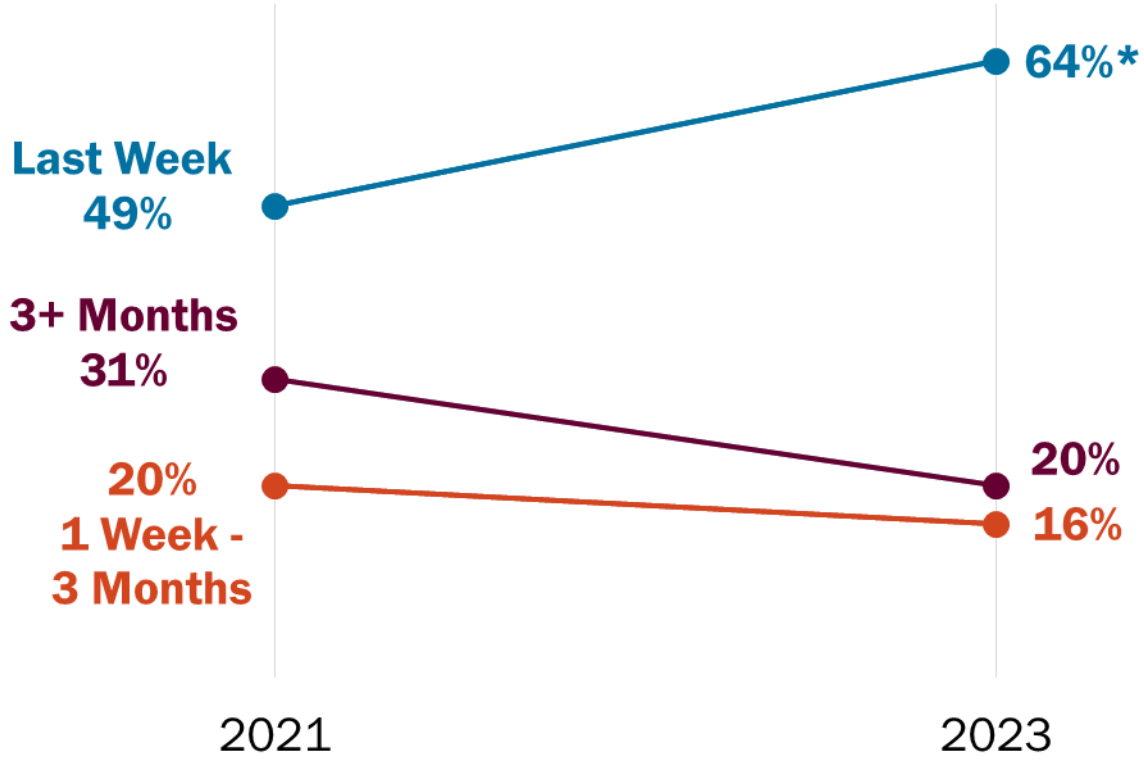
- Nearly two-thirds (64%) of adults who used medication reported using it in the past week.
- There were no significant changes in the types of medication used between 2021 and 2023.





Source: ACBS 2021 & 2023

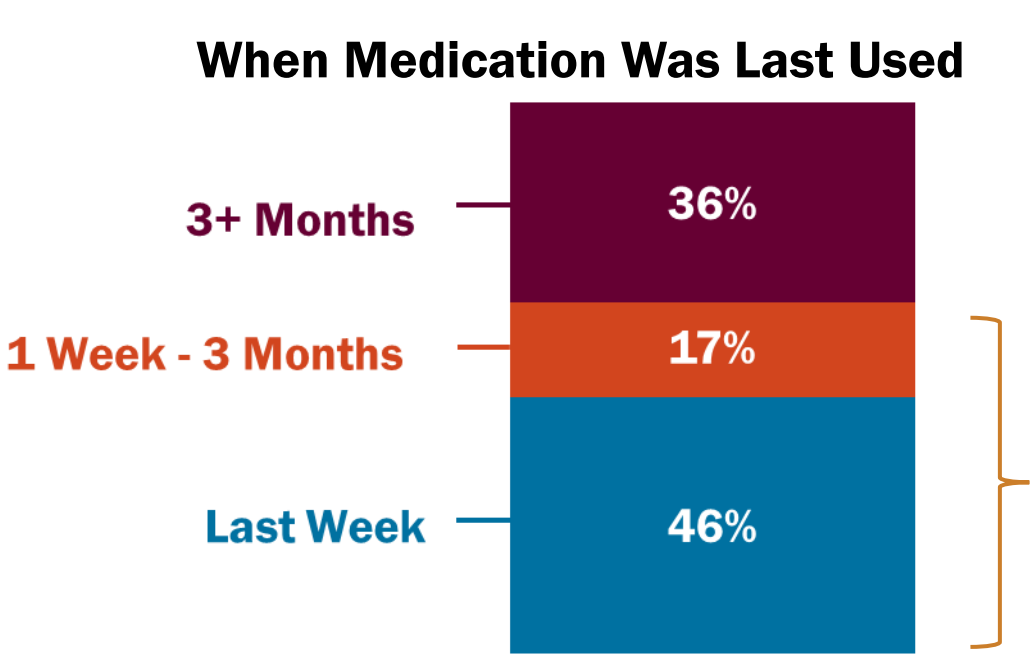
The number of adults with asthma who used medication in the past week increased from 2021 to 2023.

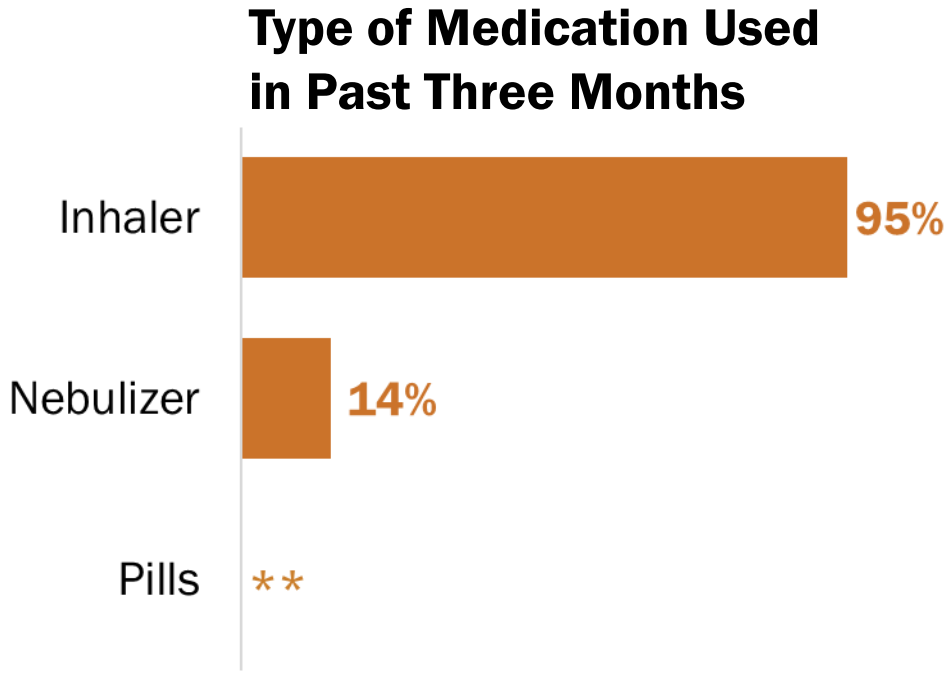


Data Note: Results are among adults who have ever used medication for their asthma.
* Statistically significant difference between 2021 and 2023
Source: ACBS 2023

Nearly two-thirds of children with current asthma used medication in the past three months.

- Less than half of children who used medication used it in the past week, a lower prevalence than adults.
- The majority of children who used medication in the past three months used inhalers.

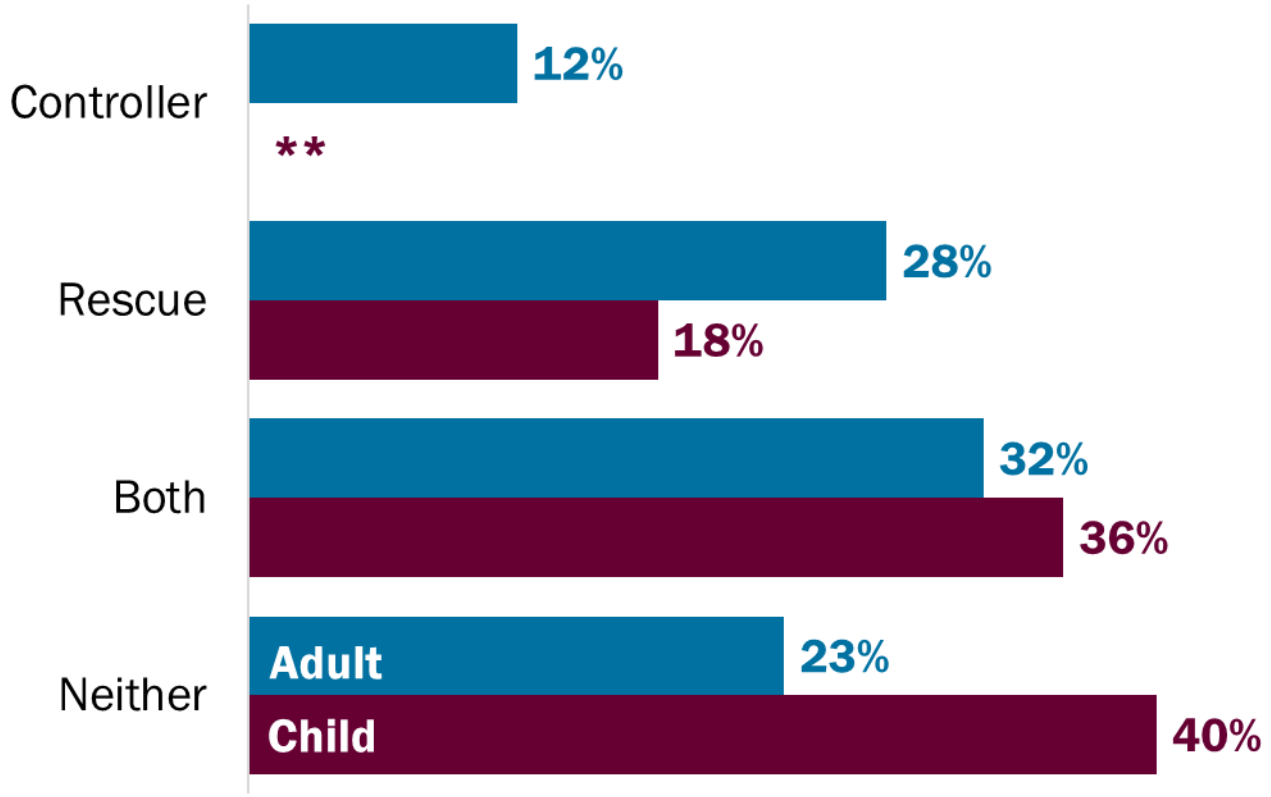




** Sample size too small to report
Source: ACBS 2021 & 2023

Around one third of children and adults are using a combination of both controller and rescue medication.

- More adults appear to be using only rescue medication than children.
- More children seem to be using neither controller nor rescue medication compared to adults.

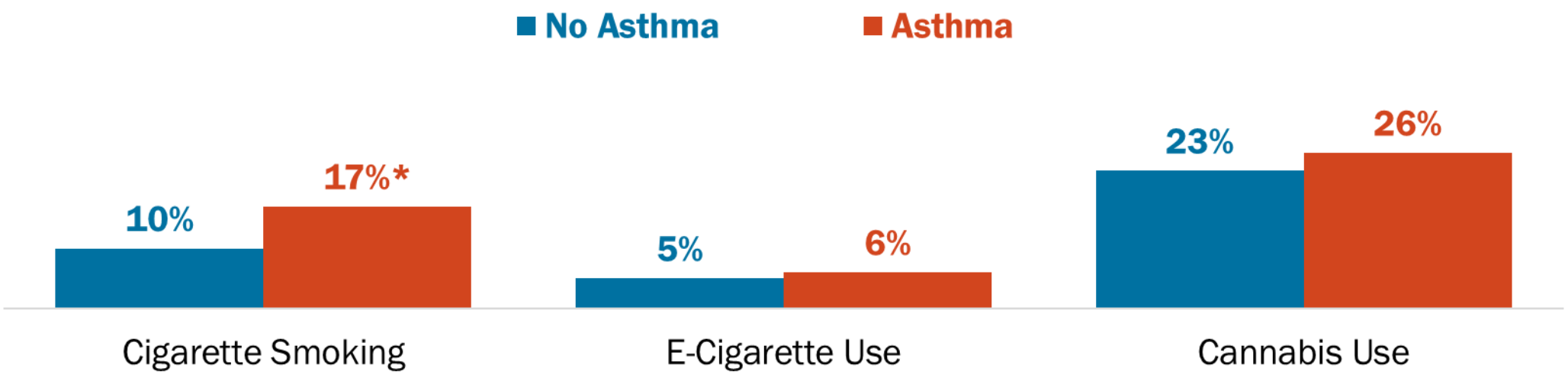


Data Note: Results on this page should be interpreted with caution as no differences between adults and children were found to be statistically significant.
** Sample size too small to report
Source: ACBS 2023 (Adult) & 2021-2023 (Child)

Risk Factors

Cigarette smoking is significantly more prevalent among adults with current asthma compared with those without asthma.

- 17% of adults with current asthma report currently smoking cigarettes.
- There is a 7% higher rate of cigarette smoking among adults with current asthma than among adults without asthma in 2023.
- Vermont adults with asthma use e-cigarettes and cannabis at similar rates to those without asthma.

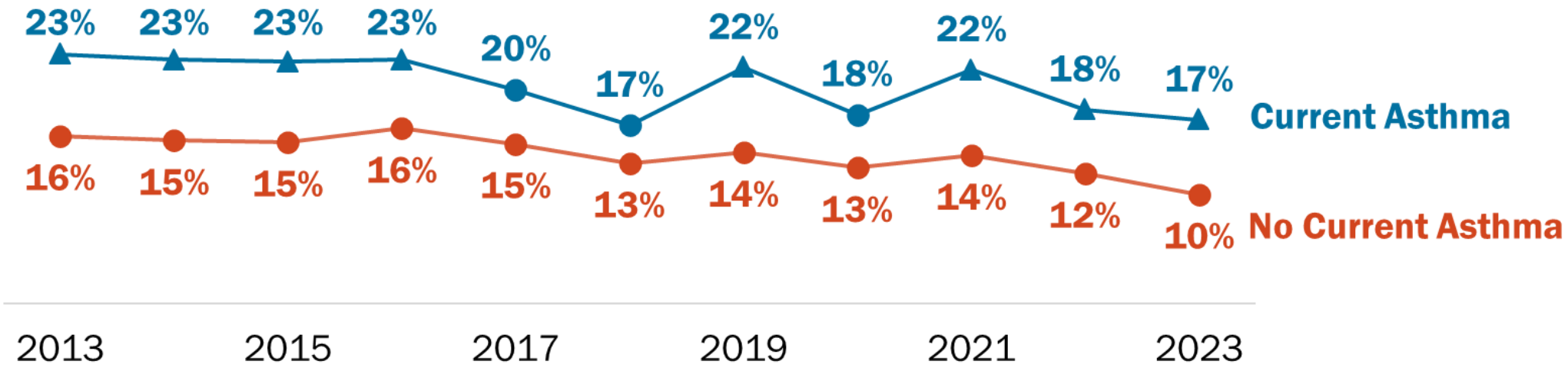


* Statistically significant difference between those with and without asthma

Source: BRFSS 2023

Since 2021, adults with current asthma are significantly more likely to smoke cigarettes than those who do not have asthma.

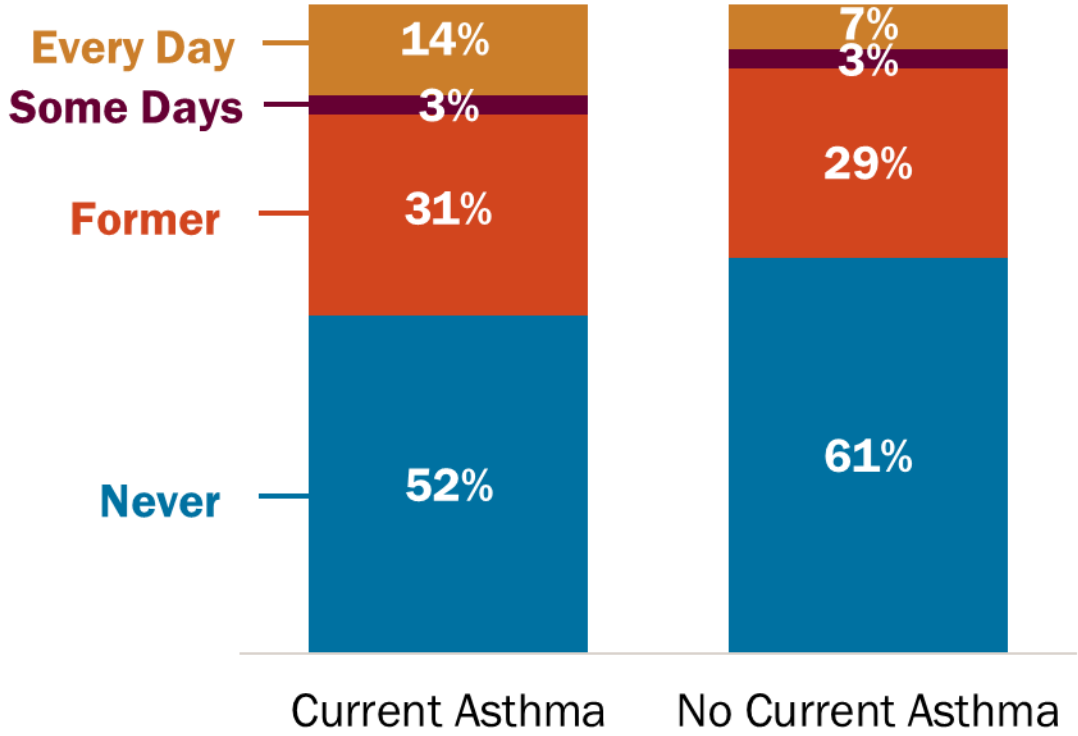
- With the exception of a few years between 2017 and 2020, smoking rates have been significantly higher among adults with asthma compared to those without asthma since 2013.
- The rate of smoking among adults with asthma in 2023 is similar to the rate in 2013.



▲ Statistically significantly higher prevalence of smoking than among those without current asthma
Source: BRFSS 2013-2023

Twice as many adults with current asthma smoke cigarettes every day compared to those without asthma.

- Adults with current asthma are significantly more likely to report smoking every day compared to those without asthma.
- Adults with current asthma are also less likely to report never having smoked.



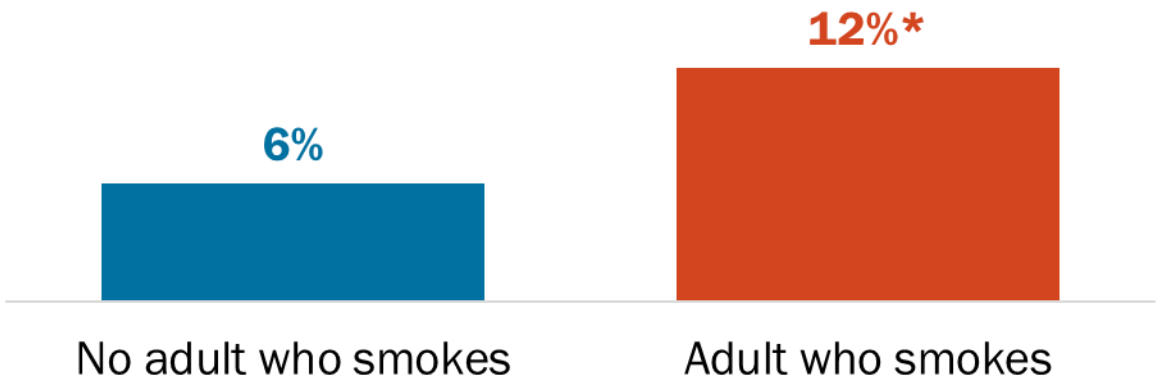
* Statistically significant difference between those with and without current asthma

Source: BRFSS 2023

Approximately 11% of Vermont children live in a household with someone who smokes cigarettes.

- There is no safe level of secondhand smoke. Children who are exposed are at heightened risk for respiratory infections and asthma attacks[1].
- Children living in homes with an adult who smokes cigarettes are two times more likely to have asthma than those who live in a smoke-free home.

Prevalence of Child Current Asthma by Presence of Adult Who Smokes in Home



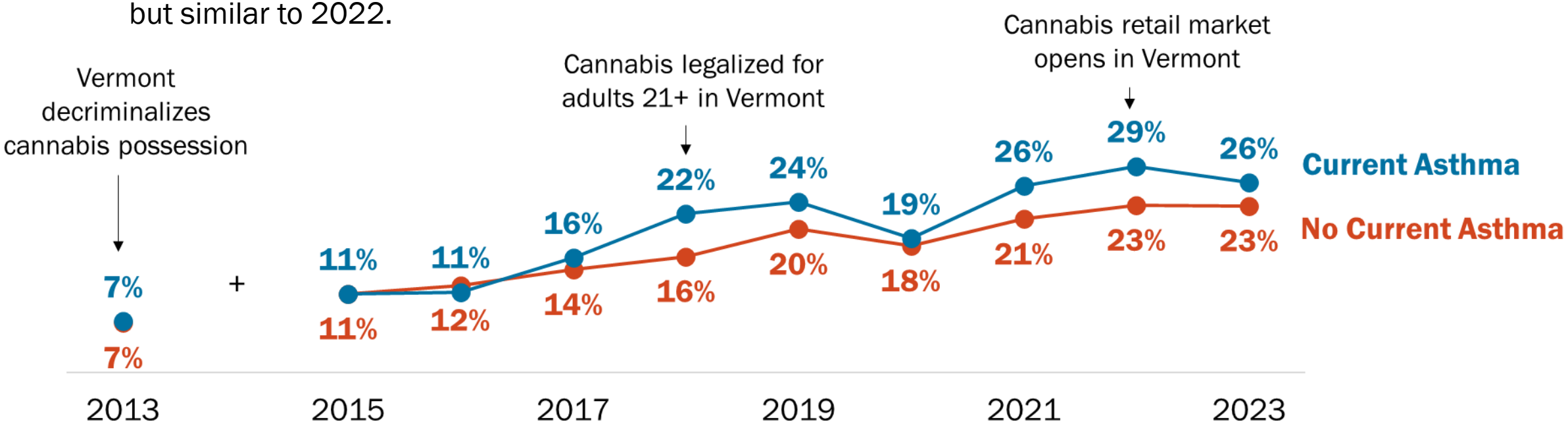
[1]Centers for Disease Control and Prevention. (2025, January 31). Health Problems Caused by Secondhand Smoke. https://www.cdc.gov/tobacco/secondhand-smoke/health.html

* Statistically significantly higher prevalence than comparison group

Source: BRFSS 2021-2023

Adults with and without current asthma were similarly likely to use cannabis in 2023.

- While the overall rate of cannabis use has increased in the last decade, adults with and without asthma have been using cannabis at similar rates since 2013.
- The rate of cannabis use among adults with current asthma in 2023 is significantly higher than in 2015 but similar to 2022.



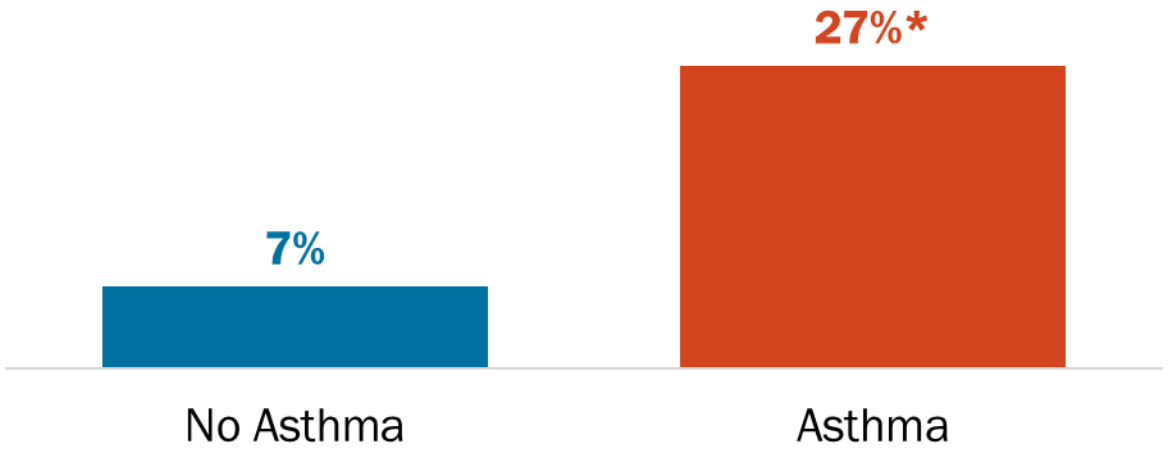
+ Data not available for this year

Source: BRFSS 2013-2023

Vermont adults with current asthma are nearly three times as likely to report a health issue that was caused or made worse by their home environment.

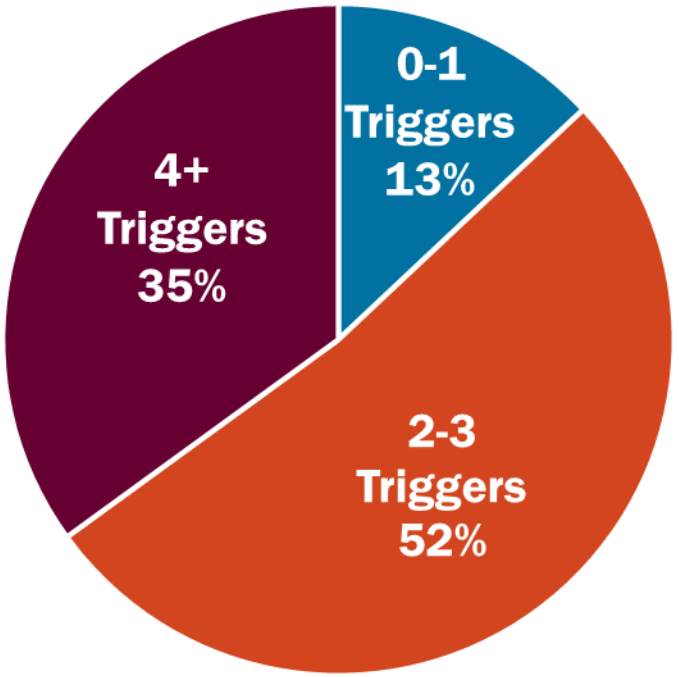
- More than a quarter of adults with asthma (27%) reported an illness or symptom that was caused or made worse by air quality, mold, pests, furnishings, or excessive heat or cold in their home.
- Adults with asthma reported their home environment impacted their health at a significantly higher rate than those without asthma.

Prevalence of Home Triggers by Adult Current Asthma Status

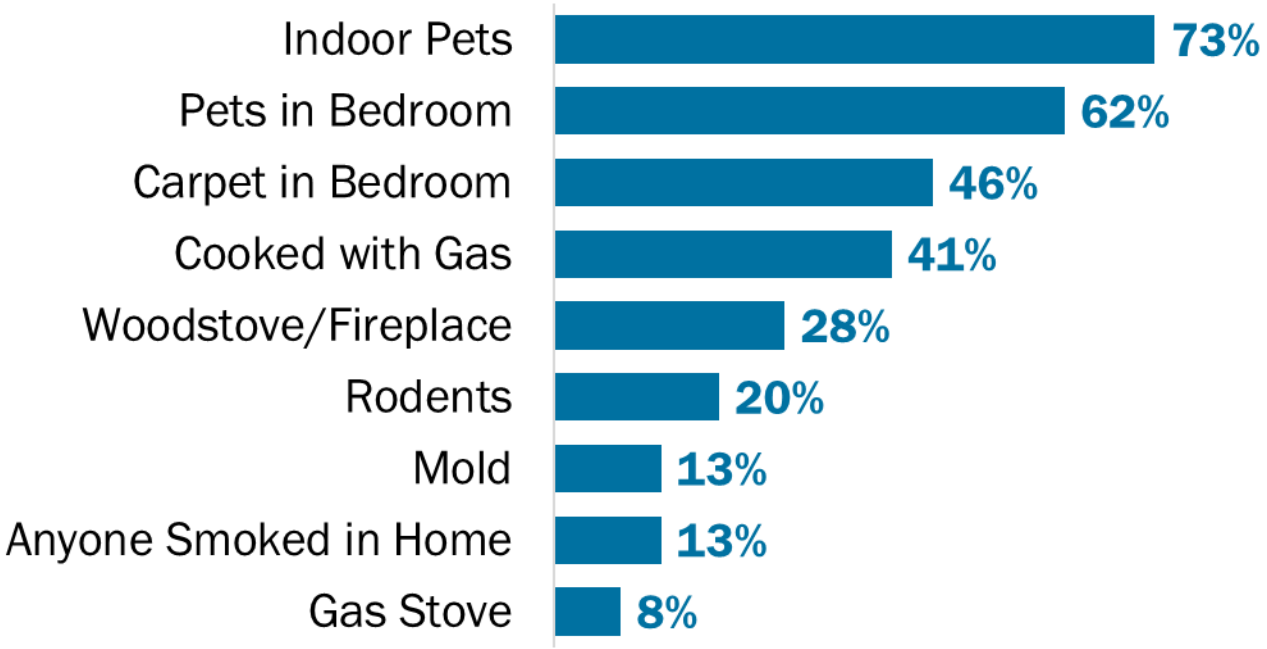


* Statistically significantly higher prevalence than comparison group
Source: BRFSS 2023

Nearly nine in 10 adults with current asthma report two or more triggers in their home.

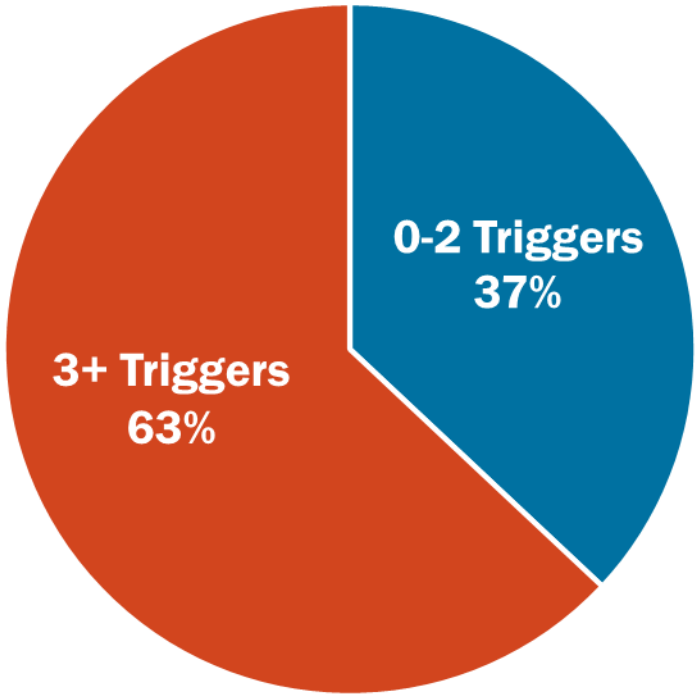


- More than half of adults with asthma report having indoor pets and pets in the bedroom.
- Having carpet in the bedroom and cooking with gas are the next most common triggers present for adults with asthma in Vermont.



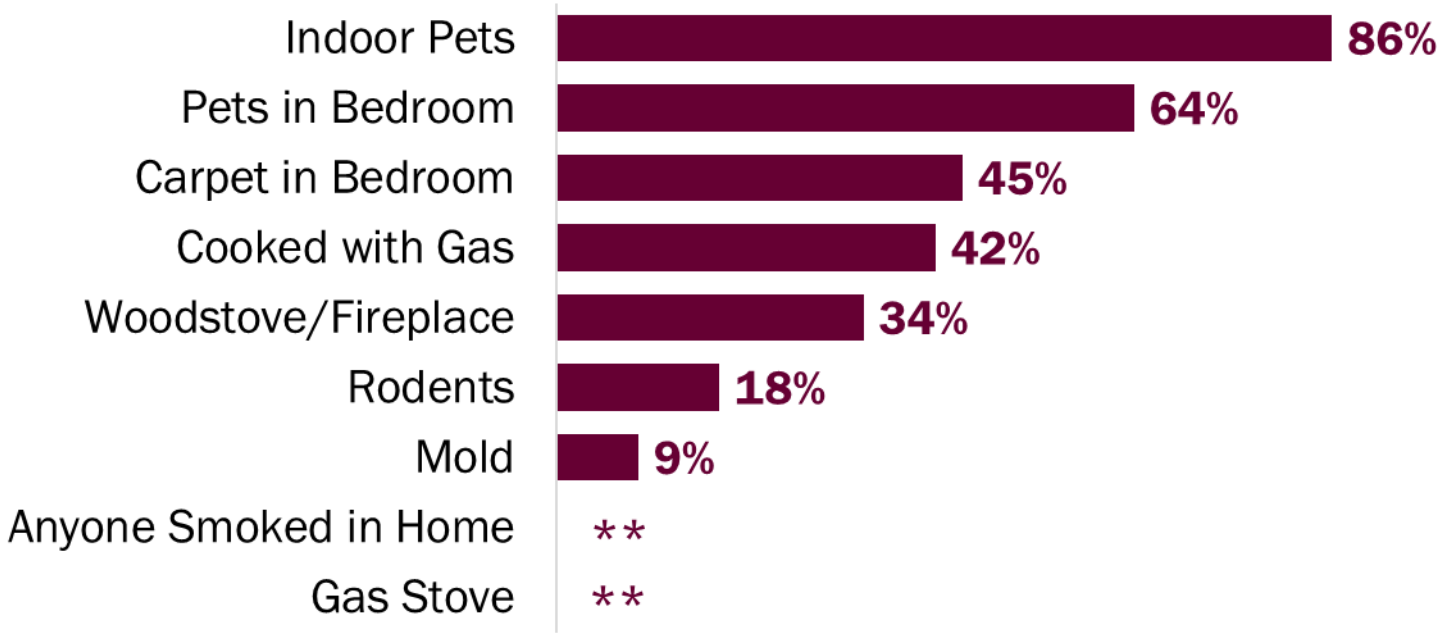
Source: ACBS 2023

More than 60% of children with current asthma are exposed to three or more triggers in their home.



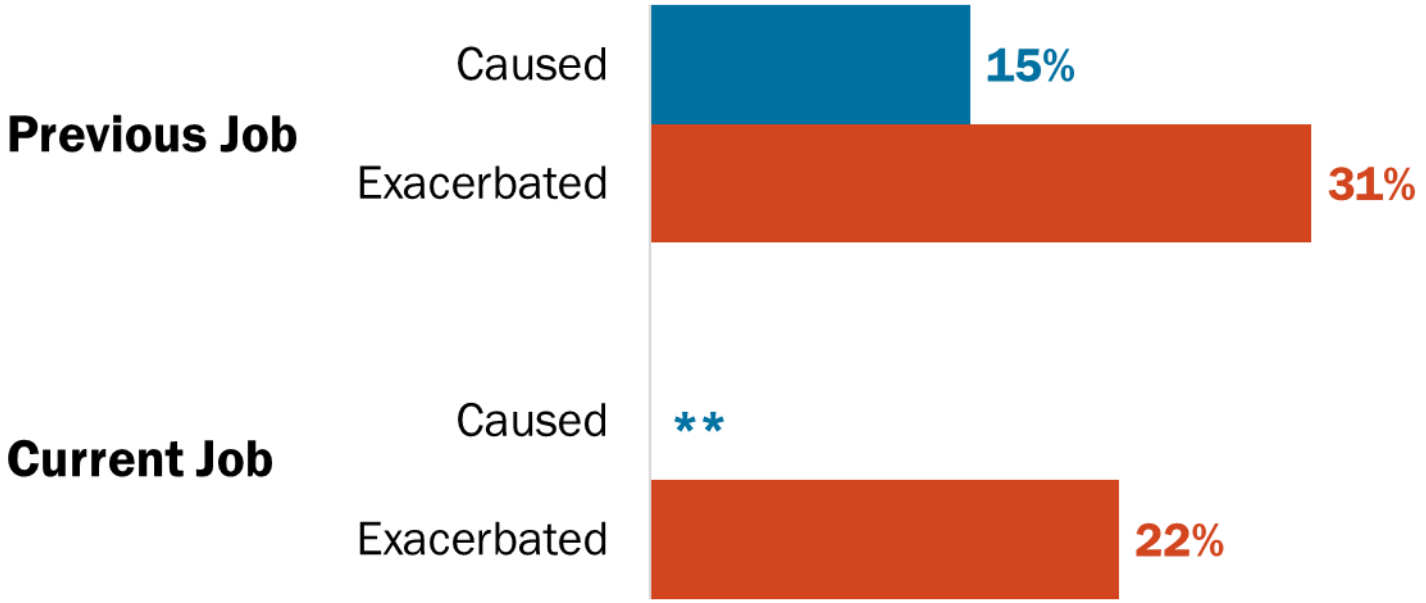
** Sample size too small to report
Source: ACBS 2021-2023

- More than half of children with asthma have indoor pets and pets in the bedroom.
- Having carpet in the bedroom and being in a home with gas cooking are the next most common triggers present for children with asthma in Vermont.



Over half of adults with current asthma have work-related asthma.

- 55% of adults with asthma reported their asthma was caused or exacerbated by a current or previous job.
- Despite the high prevalence of work-related asthma, just one in five (21%) adults with asthma reported having discussed the work impacts of their condition with their doctor.



** Sample size too small to report
Source: ACBS 2023

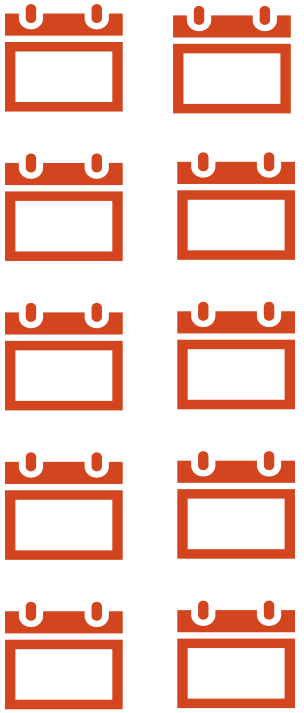
Adults with work-related asthma (WRA) may miss more work than those with non-work-related asthma.

- Adults with WRA missed an average of 10 days of work per year, while those with non-WRA missed an average of four days of work. Though those with WRA appear to miss more work, the differences were not found to be statistically significant.
- 8% of adults with asthma report having lost or quit their job due to their asthma.

Average Days of Work Missed for non-WRA

Four Days

Average Days of Work Missed for WRA

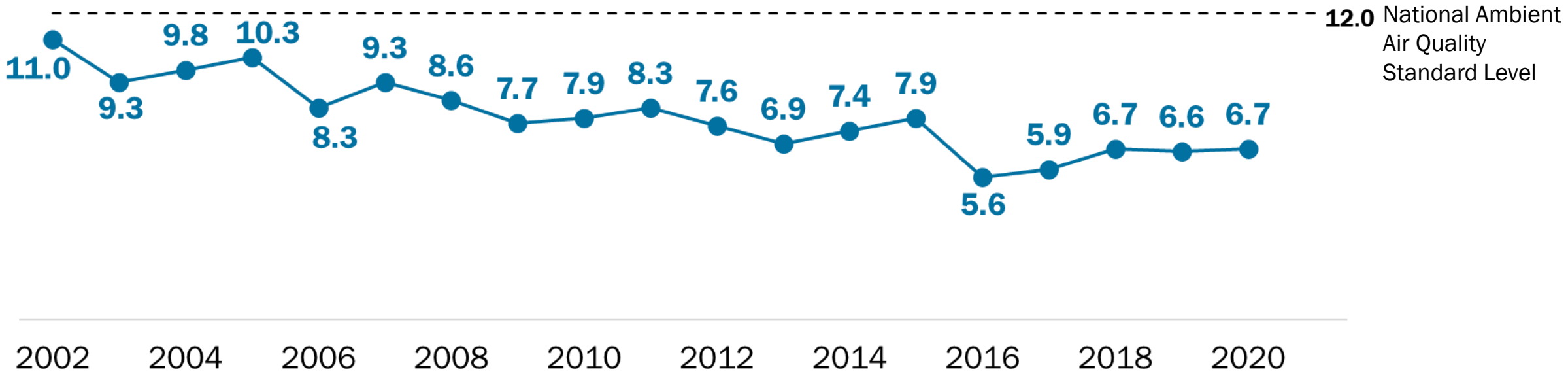


Ten Days

Source: ACBS 2023

There was an overall decrease in fine particulate matter concentrations in Vermont from 2002-2020.

- Fine particulate matter ($PM_{2.5}$) is a risk factor for respiratory health as it can penetrate deep into the lungs and compromise lung function, especially for those with existing respiratory conditions such as asthma.
- The average annual concentration of $PM_{2.5}$ in Vermont has not exceeded the national air quality standard during the past two decades.

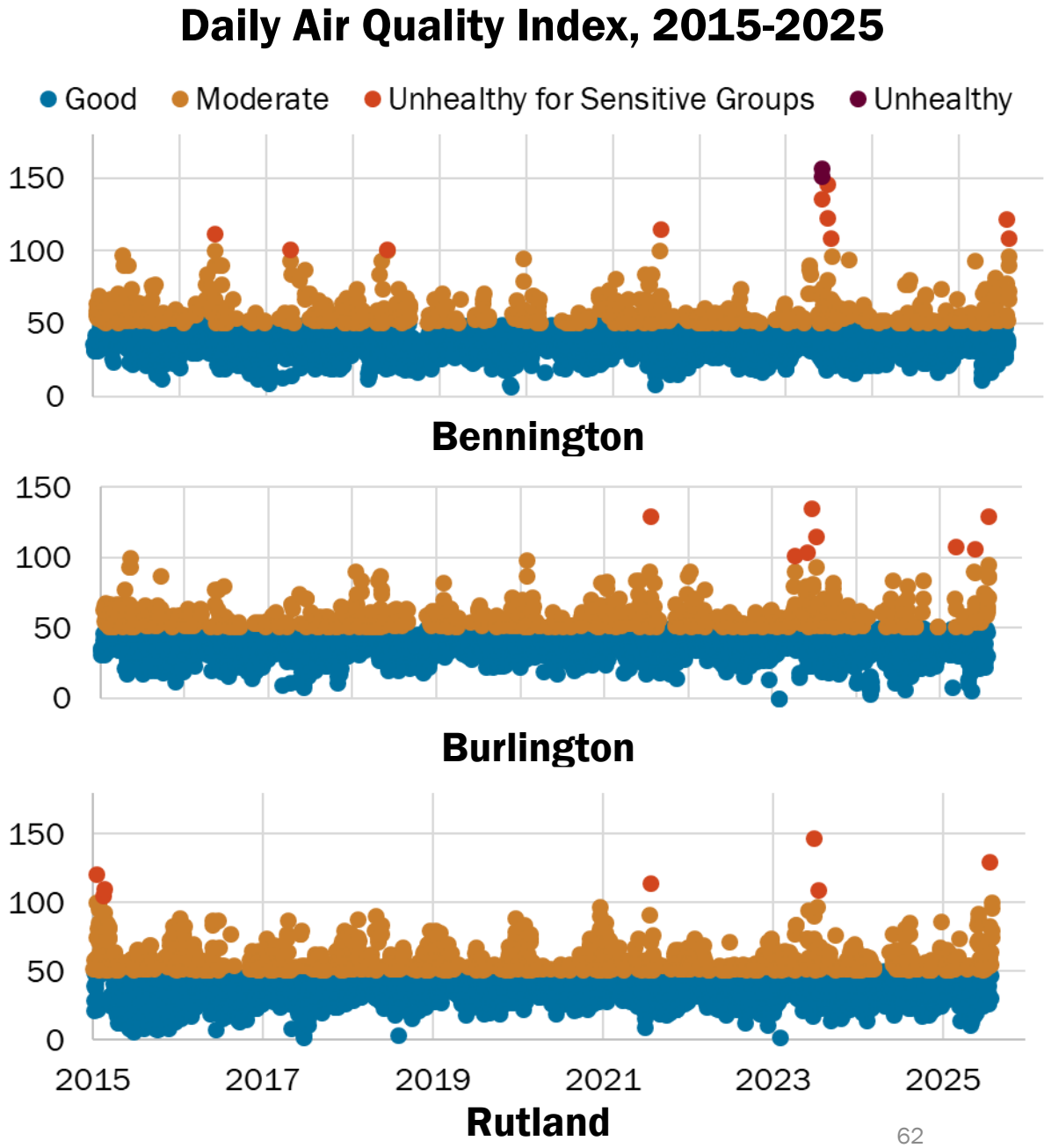


Data Note: $PM_{2.5}$ is measured in micrograms per cubic meter of air.
Source: VT Environmental Public Health Tracking Network 2000-2020

Since 2021, wildfire smoke has increased the number of days with unhealthy air quality.

- The daily Air Quality Index (AQI) measures the concentration of air pollutants such as ozone, PM2.5 and PM10 each day.
- The daily AQI is available for three locations in Vermont.
- All three locations show an increase in days with air quality that is moderately unhealthy or unhealthy for sensitive groups in recent years.
- People with asthma are considered a sensitive group, and poor air quality may increase risk for exacerbations.

Source: US Environmental Protection Agency, 2015-2025

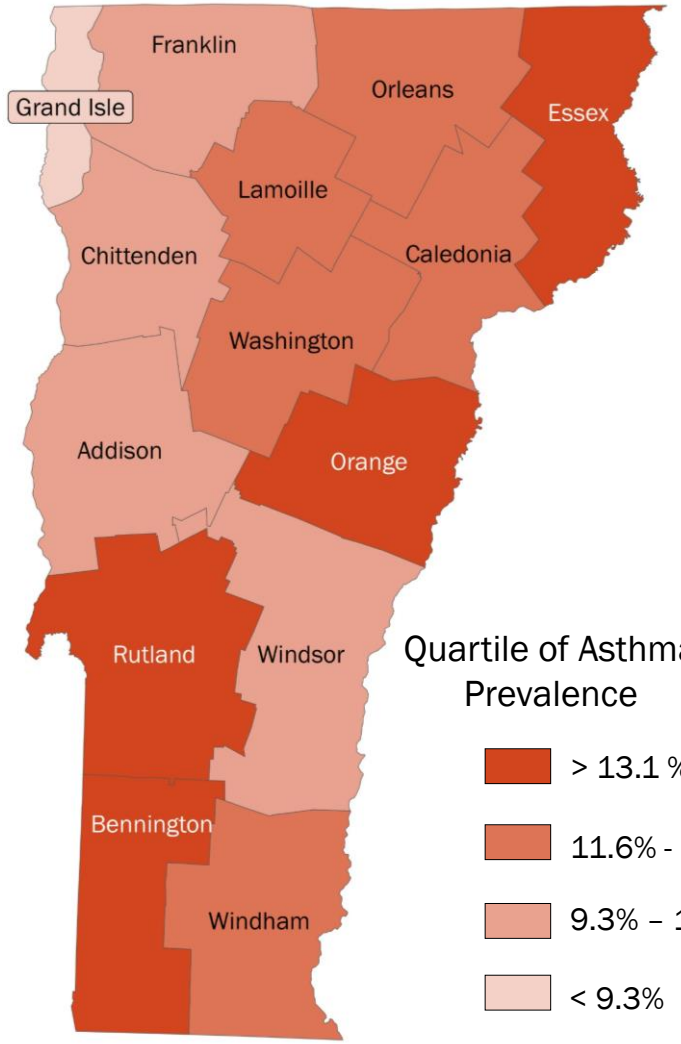


Adult Current Asthma and Excessive Heat Days

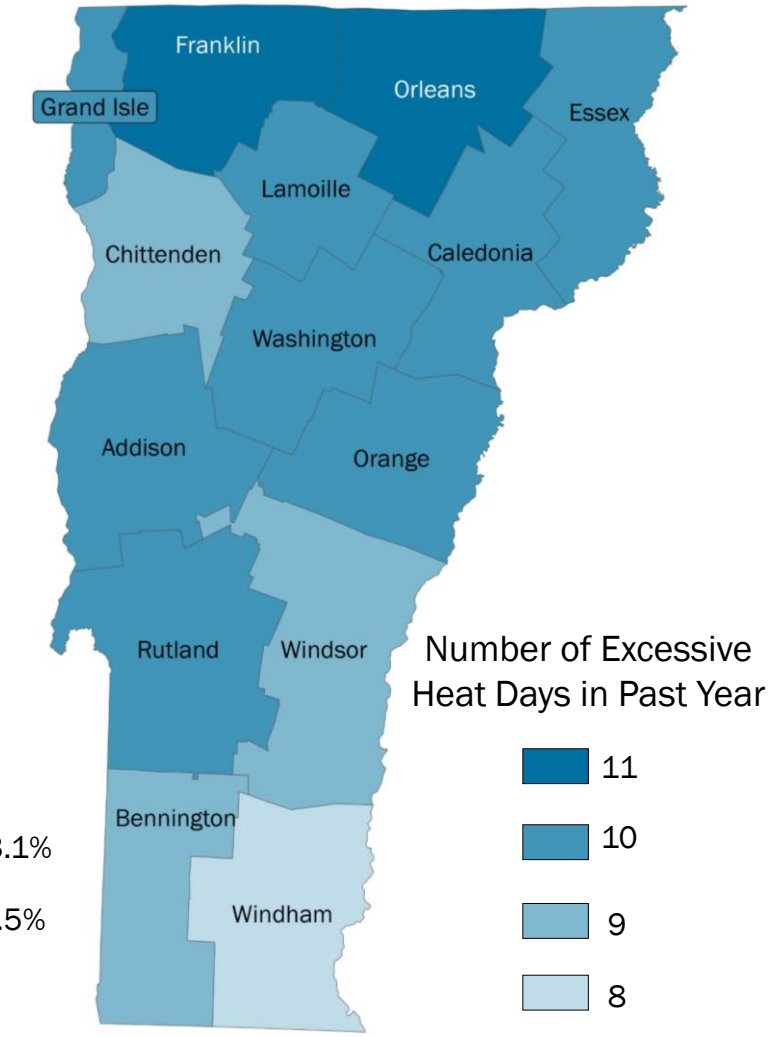
- Adults in Essex, Rutland, and Orange Counties may have an elevated risk of asthma exacerbations due to higher levels of both asthma and excessive heat days.
- Adults in Essex, Orange, Rutland, and Bennington Counties experienced the highest prevalence of adult current asthma.
- Residents of Franklin and Orleans Counties experienced the highest number of excessive heat days.

Data Note: An excessive heat day is when the maximum heat index value exceeds the 95th percentile of daily index values from 1991-2020
Source: BRFSS 2022-2023, National Environmental Public Health Tracking Network 2022

Adult Current Asthma Prevalence 2022-2023



Excessive Heat Days 2022

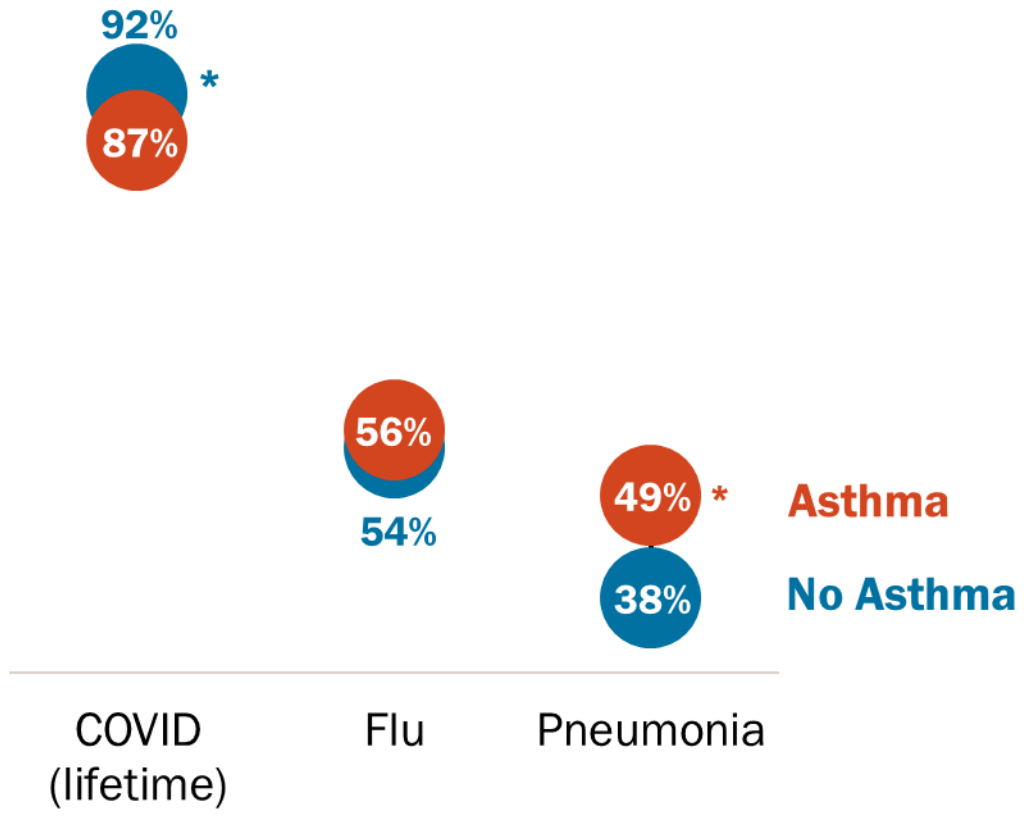


Protective Factors

Adults with asthma are significantly more likely to be vaccinated against pneumonia but less likely to have ever received a COVID-19 vaccine.

- Adults with asthma are 5% less likely to have ever had a COVID-19, but 11% more likely to be vaccinated against pneumonia.
- Nearly 90% of adults with asthma have received at least one dose of a COVID-19 vaccine.
- Around half of adults with asthma have received a flu or pneumonia vaccine in the past year.
- There were no significant changes in flu, COVID-19, or pneumonia vaccination rates for adults with asthma between 2021 and 2023.

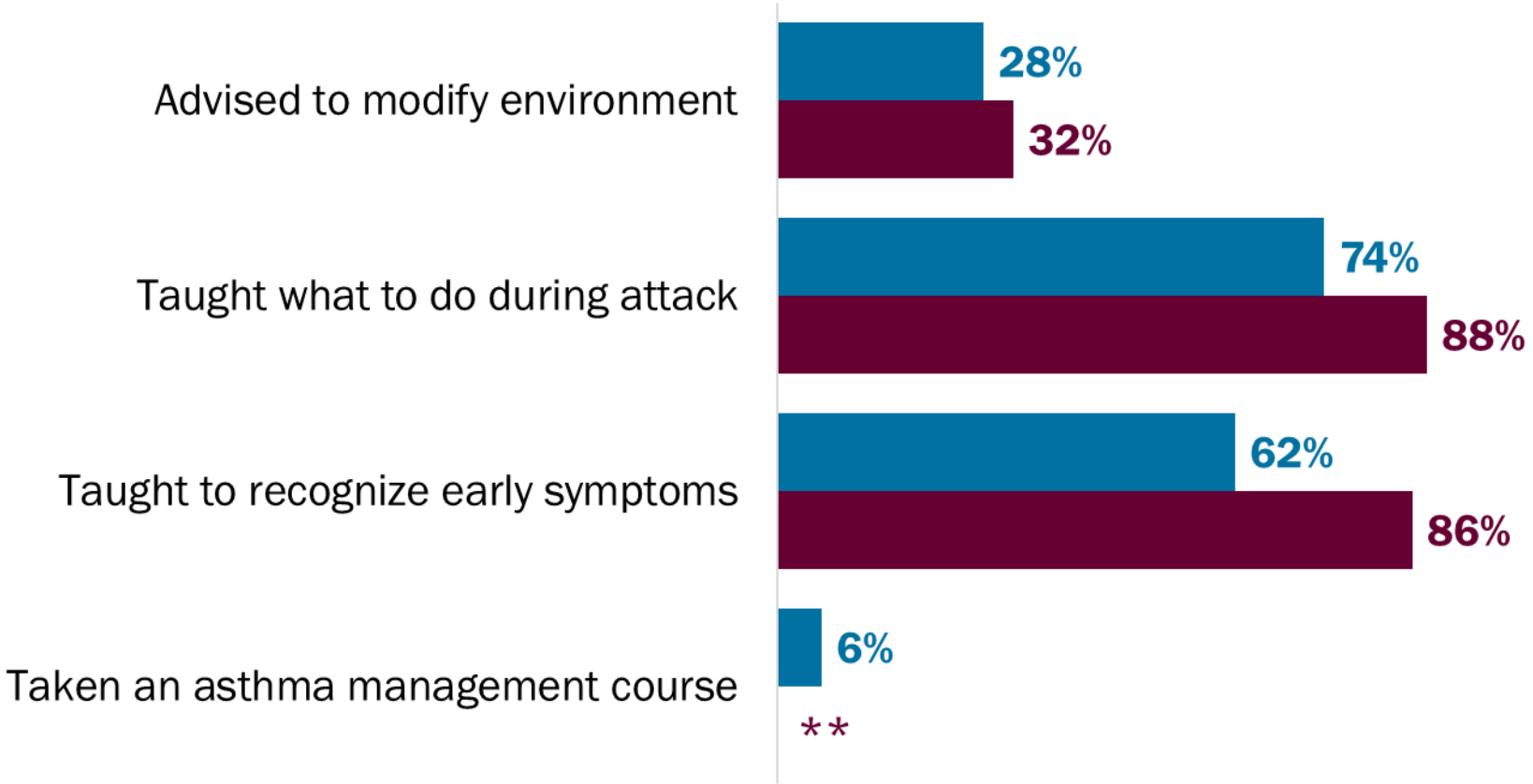
Vaccination Rates by Asthma Status, 2023



* Statistically significant difference between groups
Source: BRFSS 2021 & 2023

More children receive education on asthma management than adults.

- Most children get education on recognizing early exacerbation symptoms and what to do during an attack.
- Although most adults and children have received education on preventing and managing exacerbations, fewer have been advised to modify their environments, and almost none have taken an asthma management course.

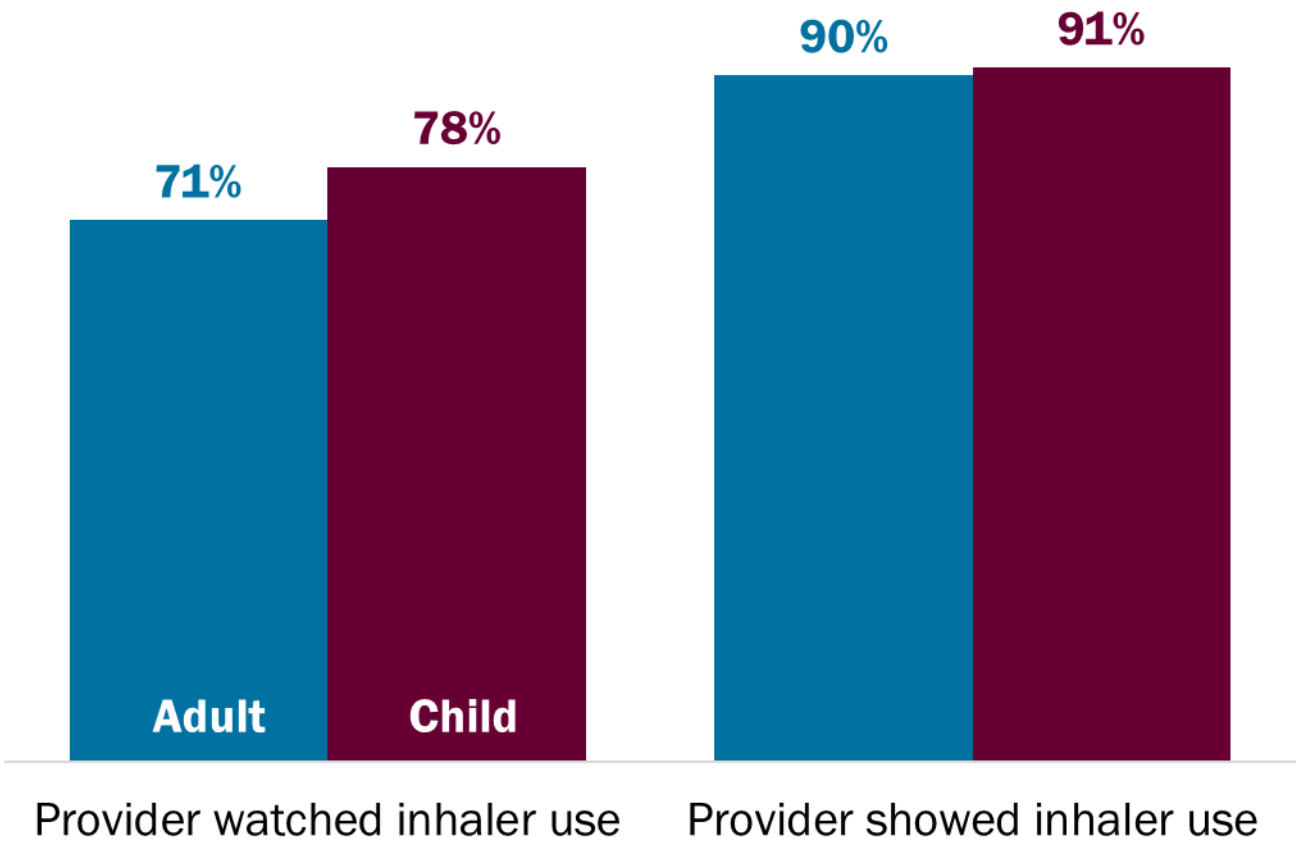


** Sample size too small to report

Source: ACBS 2022 (Adult) & 2021-2023 (Child)

More adults and children have been shown how to use an inhaler than have had a provider observe their inhaler use.

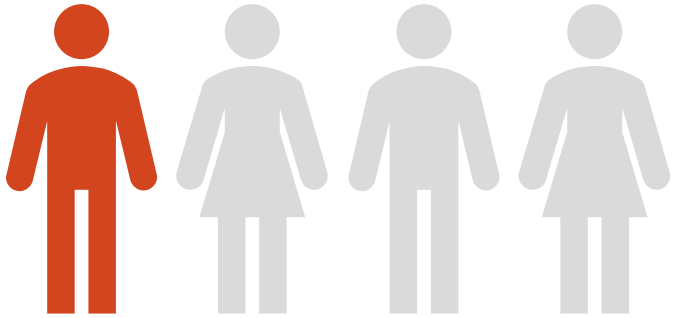
- Nine in 10 adults and children have had a provider show them how to use an inhaler.
- Nearly eight in 10 children and seven in 10 adults have had a provider observe them using their inhaler to ensure the proper technique.



Source: ACBS 2022 (Adult) & 2021-2023 (Child)

Children with asthma are much more likely to have an Asthma Action Plan than adults with asthma.

An Asthma Action Plan (AAP) is a medical form that helps someone with asthma and their caregivers understand and manage their asthma. An AAP identifies what type of asthma you have, identifies common triggers, provides guidance on what medicines to take, and instructs on how to manage worsening symptoms, what to do during an asthma attack, and when to seek further medical care.

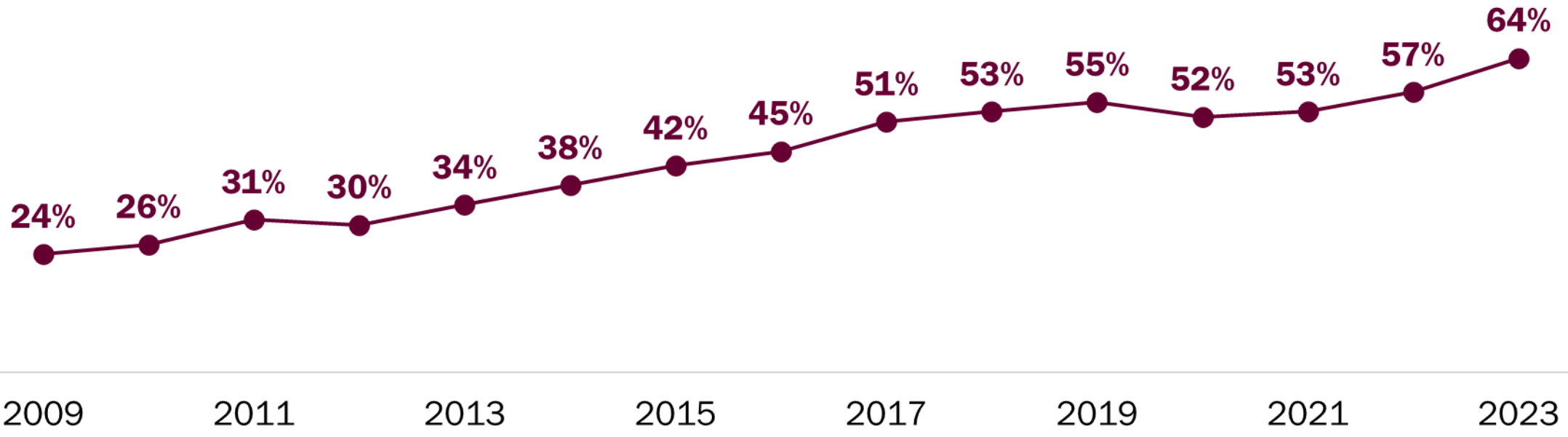


Less than one in four adults (22%) with asthma received an Asthma Action Plan from their provider.

Almost two thirds (64%) of children with asthma received an Asthma Action Plan from their provider.

Source: ACBS 2022 (Adult) & 2021-2023 (Child)

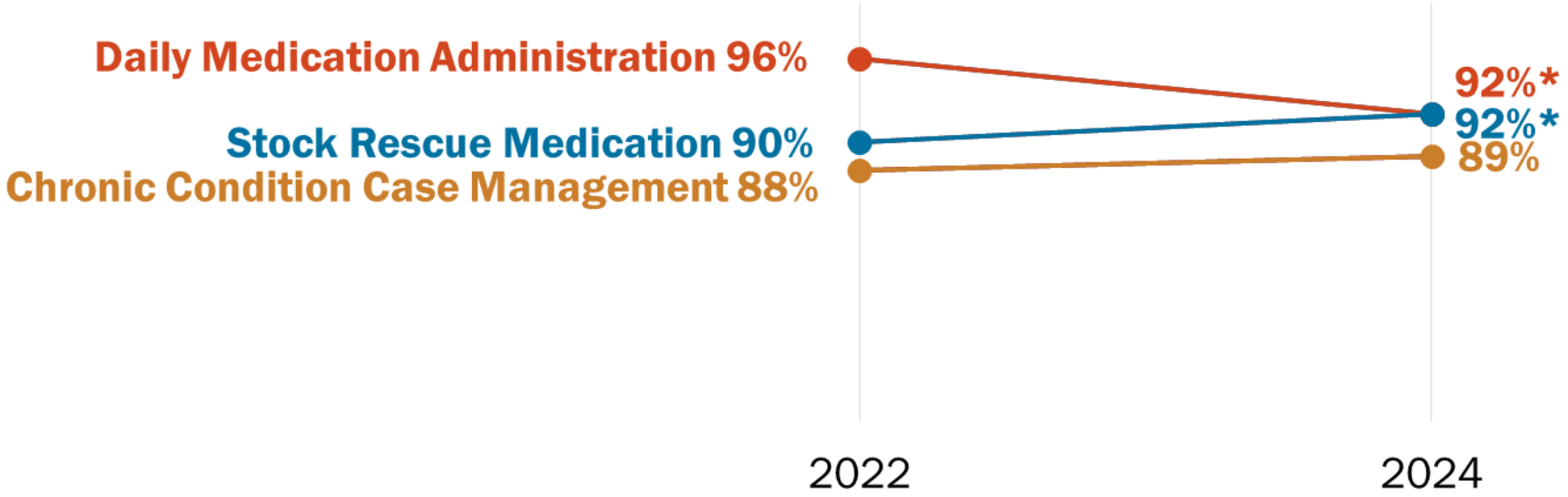
The percentage of children with asthma who have a registered AAP on file at school has been increasing since 2021.



Source: School Nurse Survey 2009-2023

Most Vermont schools provide health services to support students with asthma.

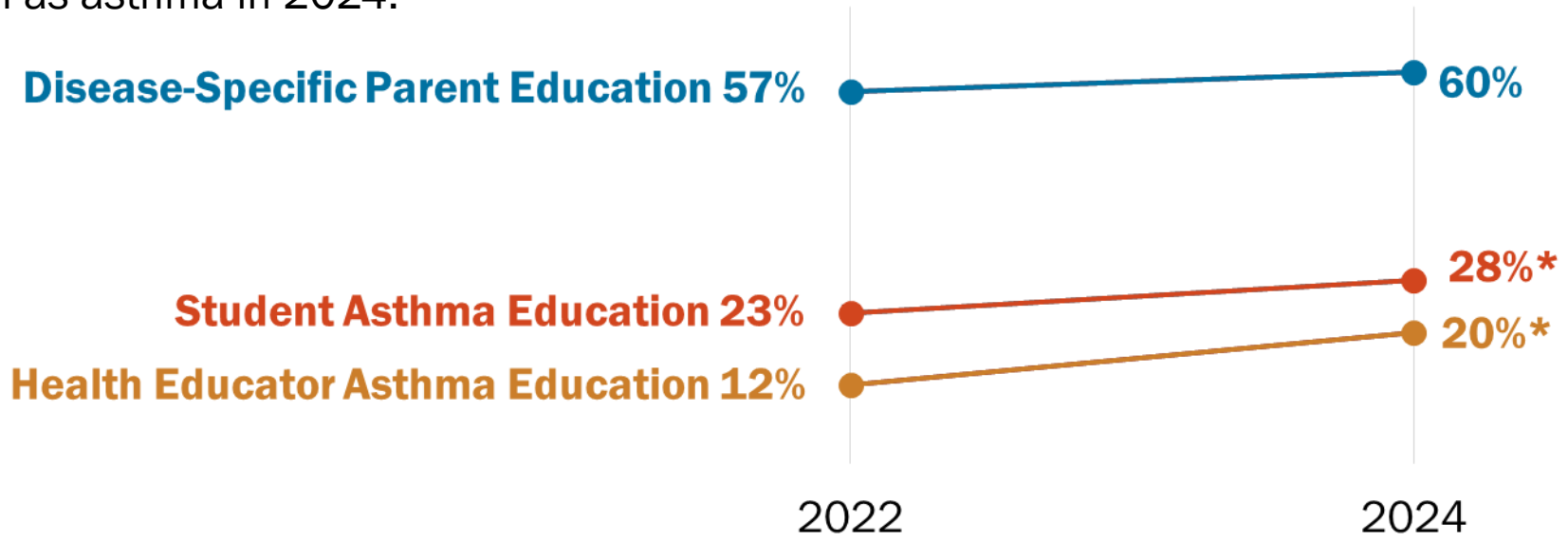
- Although it remains high, the percentage of schools offering daily medication administration for students with chronic health conditions decreased slightly from 2022 to 2024.
- The percentage of schools stocking rescue or “as-needed” medication for students experiencing a health emergency, such as an asthma attack, increased by 2% from 2022 to 2024.



* Statistically significant difference between 2022 and 2024
Source: School Health Profiles 2022 & 2024

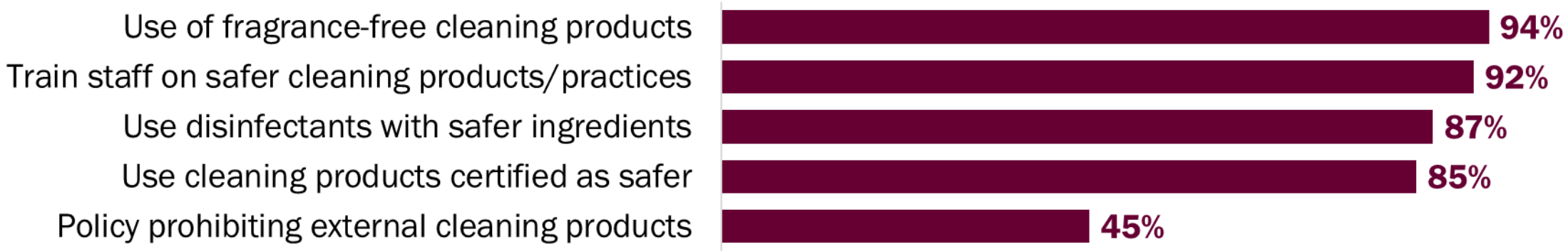
Significantly more health educators received professional development on asthma in 2024 than in 2022.

- The percentage of schools that reported providing education to students on asthma also increased slightly from 2022 to 2024.
- 60% of schools reported providing education for families of students with chronic health conditions such as asthma in 2024.



* Statistically significant difference between 2022 and 2024
Source: School Health Profiles, 2022 & 2024

Principals in most Vermont schools report using asthma-friendly cleaning practices.



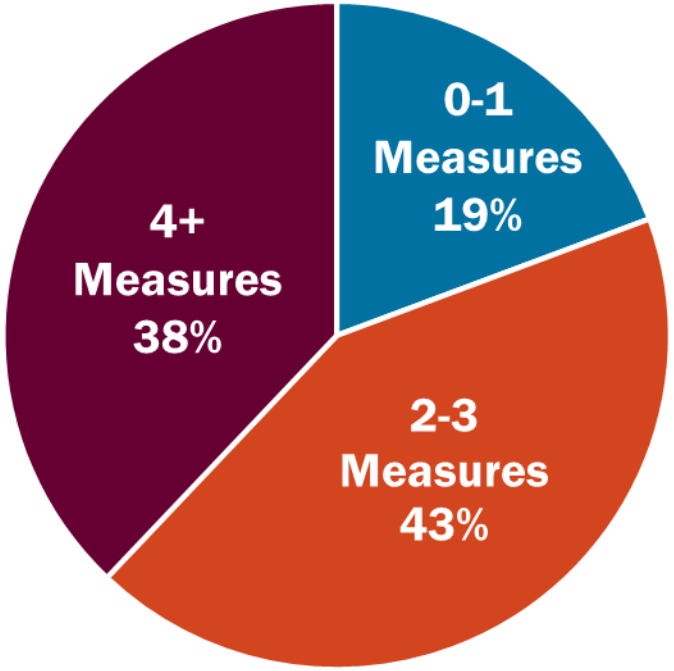
- Although these data suggest a high use of asthma-friendly cleaning practices, other data from school walkthroughs suggest that there are still unsafe cleaning products present in Vermont schools.
- This discrepancy may reflect confusion about product labels for various safety certifications. Efforts are underway to improve data quality on this topic.

Did you know that in 2012, the Vermont General Assembly passed Act 68, requiring commercial vendors to sell only third-party certified environmentally preferable cleaning products to schools?

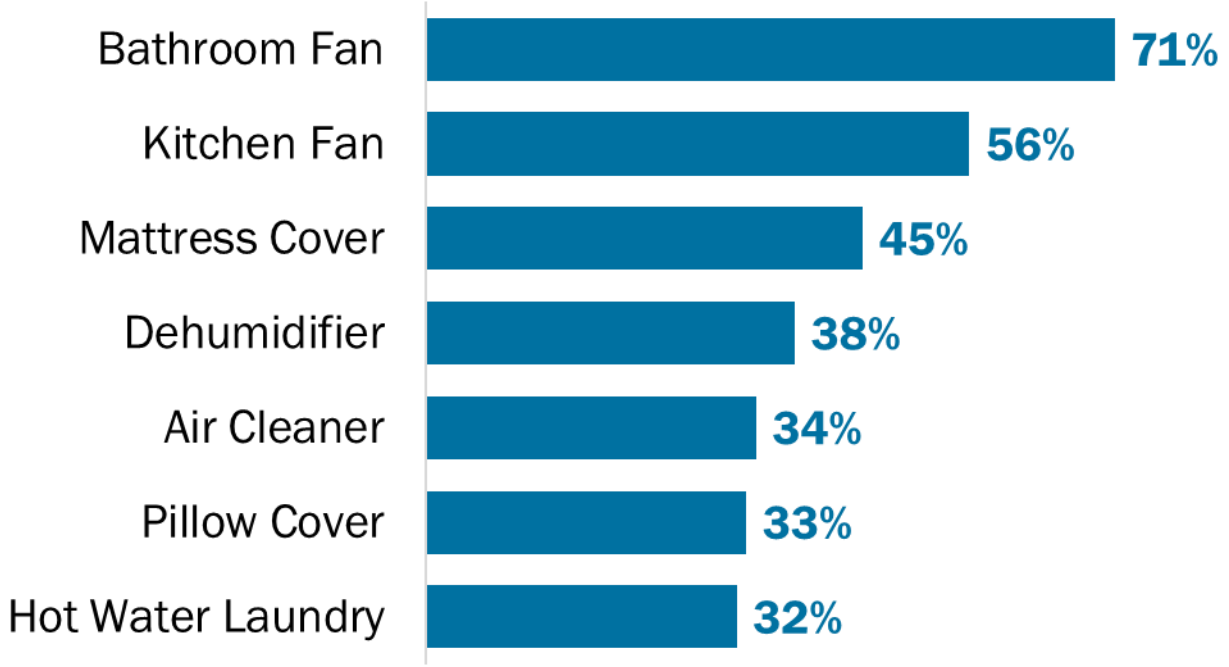
Learn more about cleaning safely in schools here: Cleaning Safely in Schools | Vermont Department of Health

Source: School Health Profiles, 2022 & 2024

More than 80% of adults with asthma have two or more protective measures present in their homes.

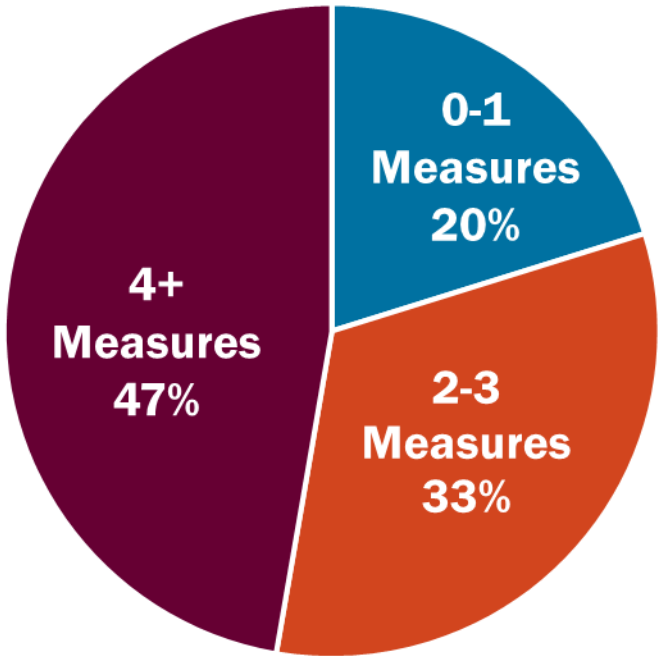


- More than half of adults with asthma use bathroom and kitchen exhaust fans.
- Many adults also report having mattress covers and dehumidifiers, which can improve asthma symptoms.

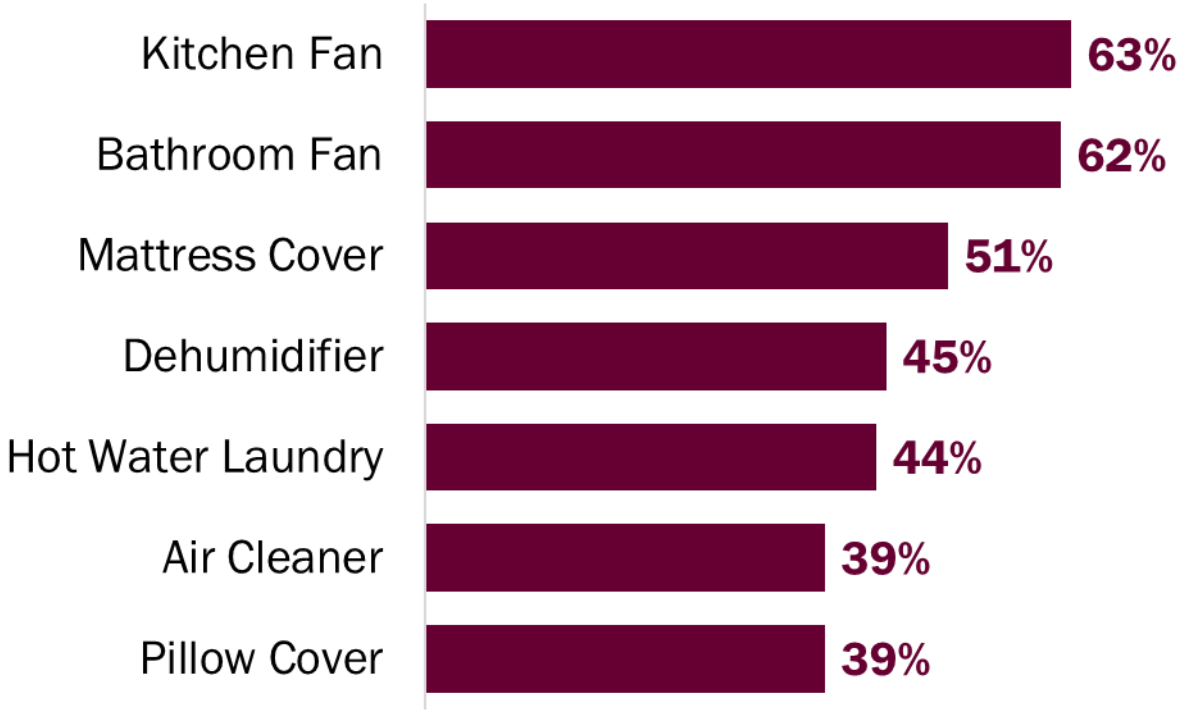


Source: ACBS 2023

80% of children with asthma have two or more protective measures present in their homes.



More than half of children with asthma have mattress covers, with more than three in five using kitchen fans and bathroom exhaust fans in their homes.



Source: ACBS 2021-2023

Data Sources

Data Sources

Behavioral Risk Factor Surveillance System (BRFSS): Vermont tracks risk behaviors using this telephone survey of non-institutionalized adults. Approximately 7,000 Vermonters are randomly and anonymously selected annually. An adult (18 or older) in the household is asked a uniform set of questions. If the BRFSS respondent reports having at least one child under 18 in the household, they are asked questions about a child selected at random, including whether they have now or have ever had asthma. The results are weighted to represent the adult population of the state. Data on the randomly selected children are calculated to represent the child population of the state.

Asthma Callback Survey (ACBS): The ACBS is a follow-up to the BRFSS survey and addresses critical questions surrounding the health and experiences of people with asthma. The survey includes questions on asthma symptoms, medication and management, and risk and protective factors related to asthma. BRFSS respondents who report ever having been diagnosed with asthma are eligible for the ACBS. Randomly selected children of BRFSS respondents who have ever been diagnosed with asthma are also eligible for the survey.

Data Sources (cont.)

Vermont Vital Records: The Vermont Department of Health vital statistics system tracks Vermont births and deaths. The Department of Health also receives extracts for Vermont resident births and deaths that occur in other states which allows the Department to do statistical analyses of vital events involving all Vermont residents, including those events which occurred outside of the state.

Green Mountain Care Board (GMCB) Vermont Uniform Hospital Discharge Data System (VUHDDS): Hospital and emergency department discharge data are collected from in-state hospitals and from hospitals in bordering states. A primary diagnosis of a condition refers to when that condition is listed as the first diagnosis code. 'All visits' refers to when the condition in question is listed as any of the twenty available diagnosis codes. Patients admitted to the hospital from the emergency department are included in the hospital discharge data set and are not included in the emergency department data set. Discharge data documenting hospital and emergency department visits to **New Hampshire** and **Massachusetts** facilities by Vermont residents were obtained from those states and are included in this report.

NOTE: All analyses, conclusions, and recommendations provided here from VUHDDS are solely those of the Department of Health and not necessarily those of the GMCB.

Data Sources (cont.)

National Environmental Public Health Tracking Network: The Environmental Public Health Tracking Program collects, integrates, analyzes, and disseminates non-infectious disease, environmental, and socio-economic data from various sources, including a network of national, state, and local partners including Vermont. In Vermont, environmental data are available on indicators including PM 2.5, ozone concentration, and excessive heat days, among others.

Contact Information

For additional information, visit:

- Asthma & Lung Disease | Vermont Department of Health
- Asthma Data | Vermont Department of Health
- Asthma | Vermont Department of Health

If you need help accessing or understanding this information, contact: ahs.vdhhpdpanalytics@vermont.gov