



ASTHMA IN MINNESOTA

A STRATEGIC FRAMEWORK • 2021-2030

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m DEPARTMENT
OF HEALTH

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ASTHMA is the third most commonly diagnosed chronic disease in Minnesota, following only hypertension and high cholesterol. Unlike these two other conditions, asthma is common in children as well as in middle-aged and senior adults. Combined direct and indirect costs to individuals who have asthma, their families, employers, and the state have been calculated as **costing billions of dollars annually**. The emotional and psychological cost of living with asthma or with a family member who has asthma, is difficult to measure.

While asthma prevalence in Minnesota has been and continues to be **lower than the national average**, the **health disparities that exist in Minnesota are among the worst in the nation**.

Low-income groups and communities of color experience higher levels of environmental exposures that widen the asthma disparity gap. Despite Minnesota's public insurance programs and the relatively low percentage of people who are uninsured [6.3% in 2017], asthma-related emergency department visits and hospitalizations are elevated in lower income areas.

Both individual and system-level factors contribute to these disparities.

The complex factors that contribute to higher rates of asthma cannot be addressed without increased partnerships that support state and system-wide interventions and collaboration with Minnesota communities. Impactful interventions must include guideline-driven asthma diagnosis and management, availability of

affordable asthma medications, providing patients with individualized asthma

self-management skills, and comprehensively addressing the environmental triggers of asthma, especially in Minnesota's disparate communities.

Clearly, there is still work to be done to reduce the burden of asthma in Minnesota communities.

HEALTH DISPARITIES
that exist in Minnesota
ARE AMONG THE
WORST
IN THE NATION



ASTHMA OVERVIEW

OVERVIEW | **ASTHMA STAKEHOLDERS**

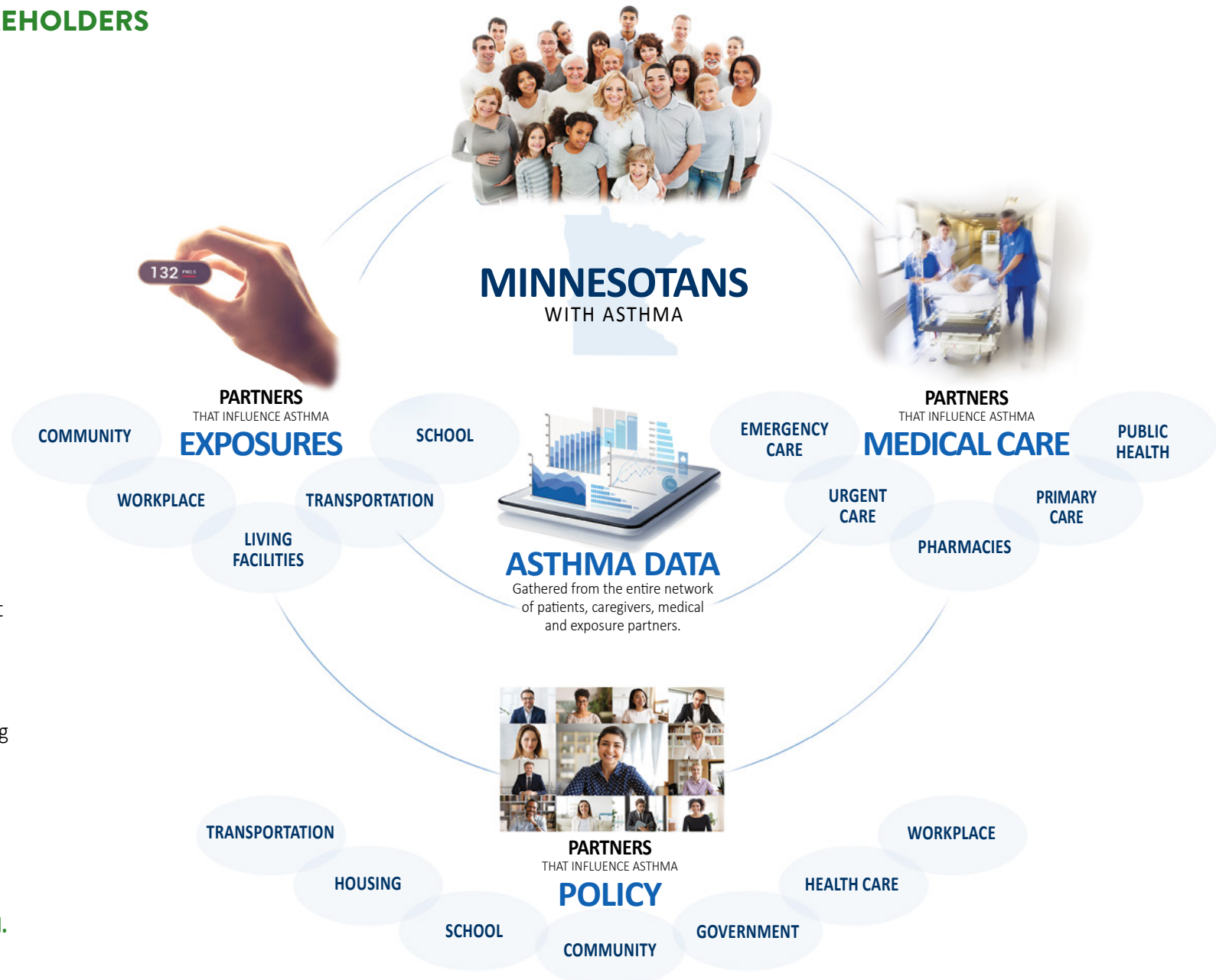
THE QUALITY OF LIFE for all Minnesotans with asthma can only be improved through concerted collaborative action across private, public, and governmental sectors.

We need **YOUR** help to move the goals presented in this Framework forward. Use this Framework to:

- Align with Action Steps
- Build new relationships and expand existing partnerships
- Educate and inform all Asthma Stakeholders on the development of asthma programming
- Identify and collect data to drive and support asthma programming and high quality medical care

How can **YOU** reach the goals in this Framework?

READ IT. SHARE IT. TAKE ACTION.



ASTHMA FACTS

What is Asthma

Overview

The Impact of Asthma

Asthma Mortality

Hospitalization & Emergencies

Health Equity

Disparities

Mortality

Social Determinants of Health

The Burden of Uncontrolled Asthma

Direct Costs

Indirect Costs

Quality of Life

Asthma Risk & Control

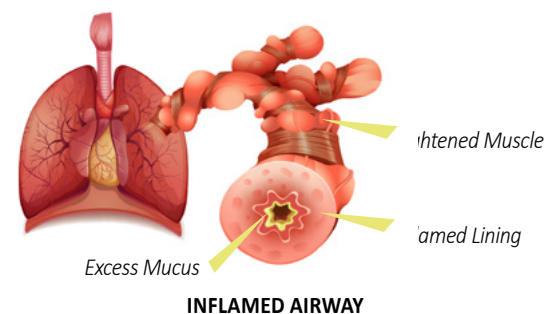
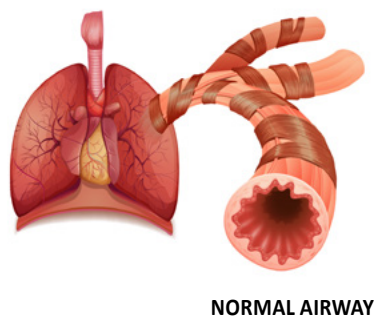
Access to Health Care



FACTS | WHAT IS ASTHMA

ASTHMA is a chronic inflammatory disease of the lungs and one of the most common lifelong health conditions. In asthma, muscles surrounding the airways contract, narrowing the airways; the lungs produce excessive mucus that clogs the airways; and the tissue lining the airways swells. All these factors limit the amount of air that can get through and contribute to making breathing difficult.

AIRWAY
OF PERSON
WITH ASTHMA VS
WITHOUT ASTHMA



LEARN MORE
[What asthma is
and how it
affects your lungs](#)



Asthma can be challenging, disruptive and frightening for those who have it, and for family, friends, and caregivers. While prompt and appropriate medical attention can usually resolve asthma attacks, in 2019, **over 3,000 Americans died due to asthma.**¹

2019 • MORE THAN
3,000
AMERICANS DIED
FROM ASTHMA

Genetics and the environment in which we live, work, and play both contribute to the development of asthma and an individual's ability to keep their asthma under control. **Symptoms, onset, and triggers vary greatly** from person to person. Allergens, irritants, strong odors, poor air quality, both indoors and out, cold air and changes in the weather, exercise, hormones, strong emotions and even some medications can trigger attacks. While there is currently no cure for asthma, with proper treatment, **people who have asthma can live normal, healthy lives.** ■

FACTS | WHAT IS THE IMPACT OF ASTHMA IN MINNESOTA?



1 in 20
CHILDREN

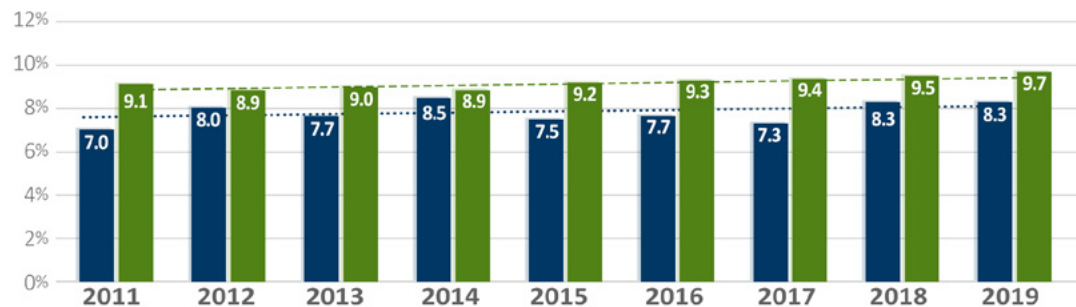
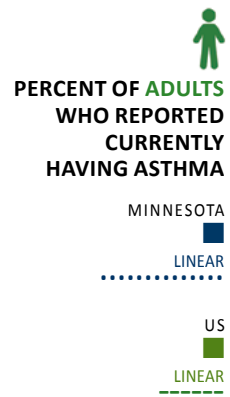


1 in 12
ADULTS

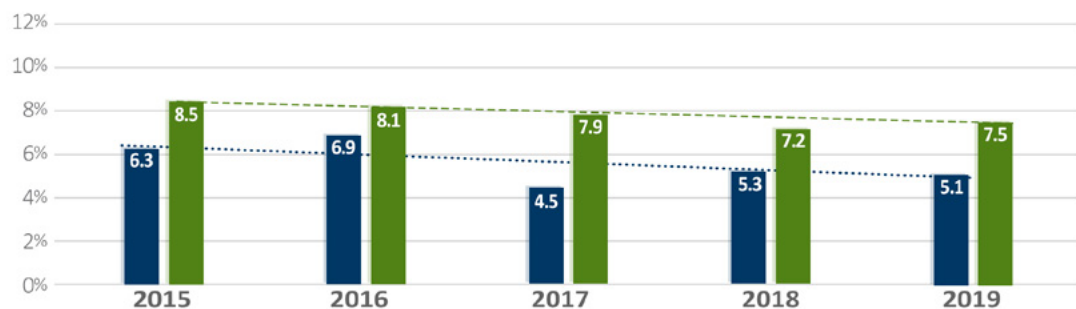
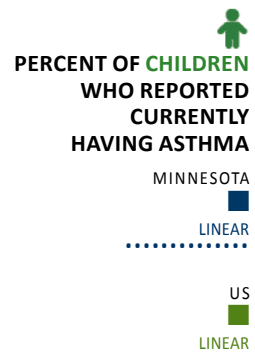
IN 2019, one in 20 children (5.1%) and one in 12 (8.3%) adults in Minnesota reported that they currently had asthma, adding up to over 422,703 Minnesota residents directly impacted by the disease. This compares with 7.5% of children and 9.7% of adults nationwide.^{2,3}

Since 2011, asthma rates among adults have risen slightly both in Minnesota and in the country as a whole.

In contrast, between 2015 and 2019, **asthma rates for children have fallen**, both nationwide and in Minnesota.



SOURCE: BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)



SOURCE: BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

The *Minnesota Student Survey* uses self-report to assess asthma among students in grades 5, 8, 9, and 11.

In the 2019 *Minnesota Student Survey*, **16.9% reported ever having been told that they have asthma.**

In both 2017 and 2019, the survey found racial disparities. In both surveys, reported **asthma was higher in Black, African, and African American** compared to other racial groups.

In 2019, reported asthma prevalence among 11th graders was **higher than the state average for transgender students (26%) and LGBTQ+ students (21%)**. Note that the Student Survey asks whether students have ever been told they have asthma, while the lower numbers reported above for adults and children are based on “current asthma.”

Data from the Behavioral Risk Factor Surveillance System (BRFSS) shows that asthma rates vary widely between population groups and between years for Minnesota’s adult population. BRFSS is a nationally-representative, cross-sectional survey of non-institutionalized U.S. adults. Rates of “current asthma” in 2019 BRFSS data ranged from 3.6% for Hispanics to 18% for American Indians.

More detail on asthma among racial and ethnic groups can be found in the [Health Equity](#) section of this report.

LEARN MORE

[Minnesota
Student Survey](#)



Asthma Mortality

Chronic **lower respiratory disease**, which includes chronic bronchitis, emphysema, and asthma, was the **fifth leading cause of death** in Minnesota in both 2017 and 2018. In 1999, the first year for which data are available, 104 Minnesotans died of asthma. The number and rate of asthma deaths have generally declined since then, with 58 deaths reported in 2018. **Most deaths occur in people ages 65 and older.**⁴

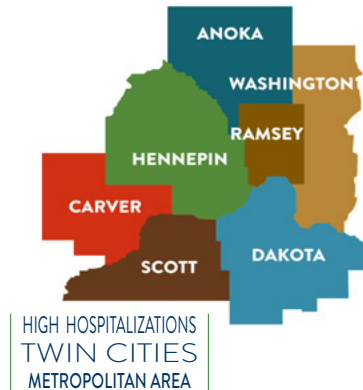


44.2%
DECREASE
IN ASTHMA DEATHS
1999 TO 2018

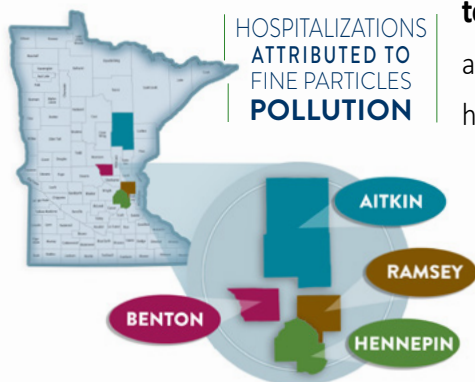
Hospitalization & Emergencies

Asthma hospitalizations and asthma-related emergency department visits among children in the Twin Cities metro area have historically been higher than among children in other areas of Minnesota. Between 2015 and 2018, asthma-related hospitalization rates among metro children ranged from 48% to 63% higher, and emergency department visits ranged from 38% to 57% higher. While asthma-related hospitalizations of children declined 67% between 2000 and 2018 within the seven county Twin Cities metropolitan area, metro hospitalization rates remain 46% higher.

Hospitalization rates in at least ten Minneapolis and St. Paul zip codes remain two or more times higher than the state average, and the rate in one Minneapolis zip code (55411) is nearly five times higher.⁵



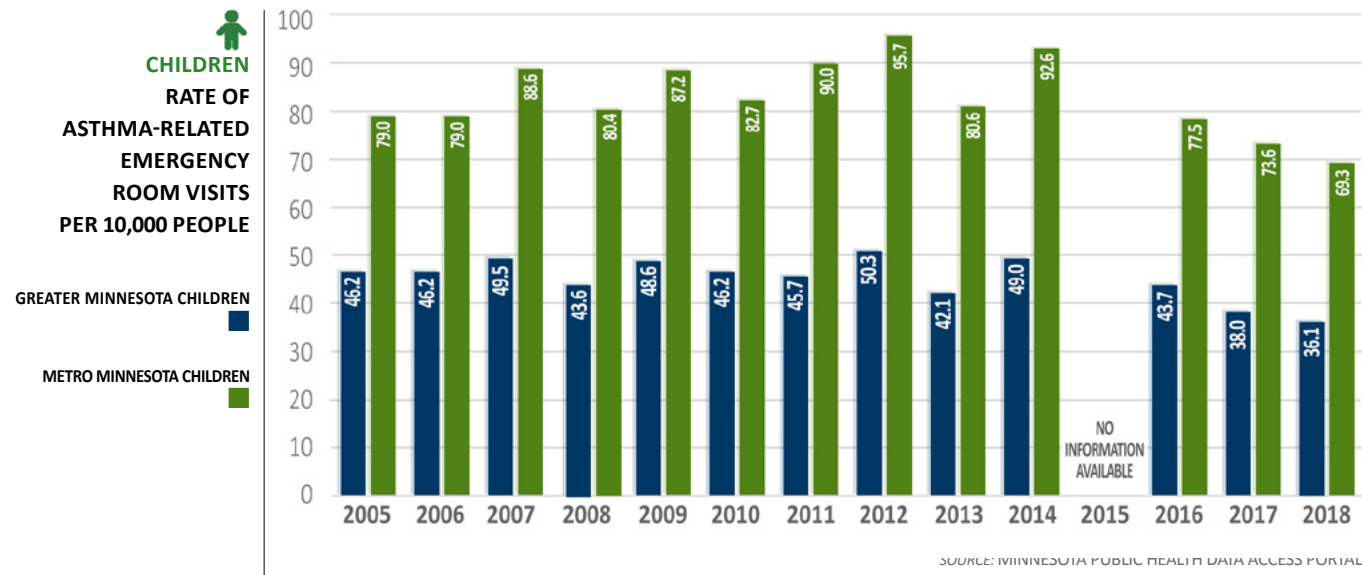
A proportion of the asthma-related **emergency department visits** and hospitalizations are **attributable to fine particles pollution**. Hennepin, Ramsey, Aitkin, and Benton counties experience the highest rate of childhood asthma hospitalizations attributable to fine particles. These counties also have the highest rate of asthma-related hospitalizations in the overall population.⁶



LEARN MORE

[*Life and Breath*](#) report on how air pollution affects health in Minnesota

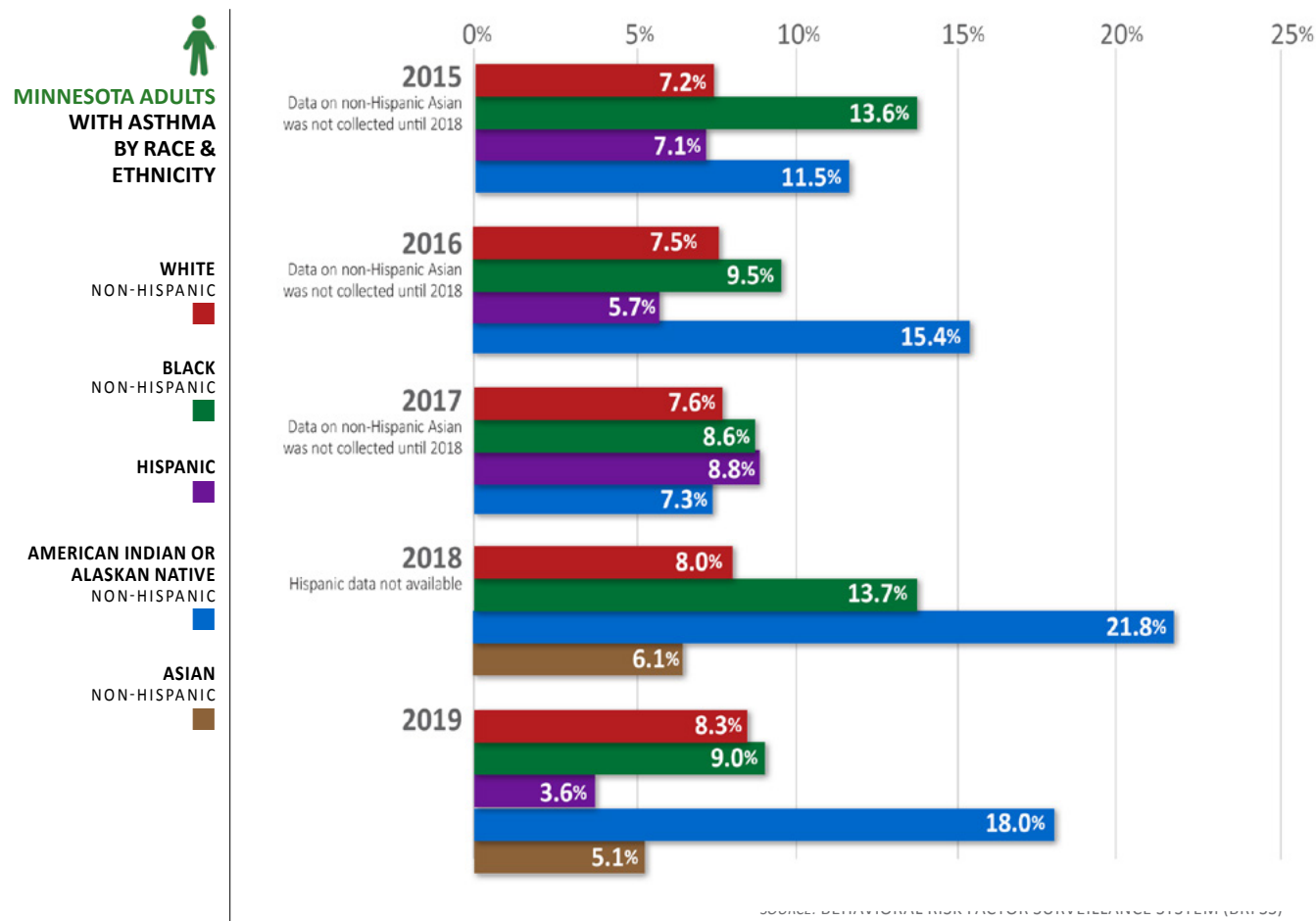




The table above contrasts the rate of asthma-related emergency room visits for children living in metro areas with those living in outstate areas. ■

FACTS | HEALTH EQUITY

MINNESOTA, on average, ranks among the healthiest states in the nation. This holds true for asthma, where Minnesota asthma rates are lower than those of many other states. However, **averages do not tell the whole story.**



Disparities

Historically, Blacks in Minnesota have experienced higher rates of asthma than whites. BRFSS data indicate a general downward trend in prevalence among Minnesota Blacks, with **differences of less than one percent in rates for Blacks and whites in 2017 and 2019**. More granular data from the *2019 Minnesota's Student Survey (MSS)* indicate that some immigrant Black populations have lower prevalence than African Americans; for example, prevalence among Ethiopian students was 12% and prevalence among Somali students was 15%, in contrast to 25% prevalence among African American students. Data that allow a similar analysis of asthma prevalence by country of origin are not available for Minnesota's adult Black population.

**IMMIGRATION
IMPACTS**
ASTHMA PREVALENCE
AMONG BLACK MINNESOTANS

LEARN MORE

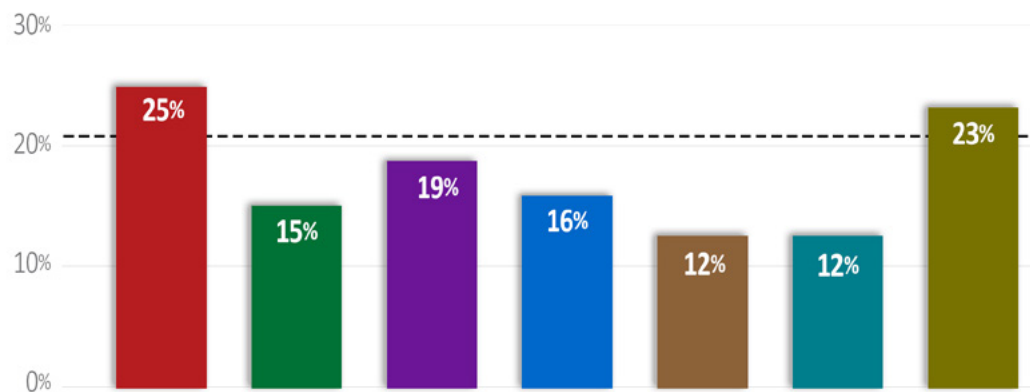
BRFSS
*Behavioral
Risk Factor
Surveillance
System*



**ASTHMA
REPORTED BY
BLACK, AFRICAN &
AFRICAN AMERICAN
STUDENTS**
BY COUNTRY OF ORIGIN

AFRICAN AMERICAN ■
SOMALI ■
NIGERIAN ■
LIBERIAN ■
ETHIOPIAN OROMO ■
ETHIOPIAN OTHER ■
OTHER ■

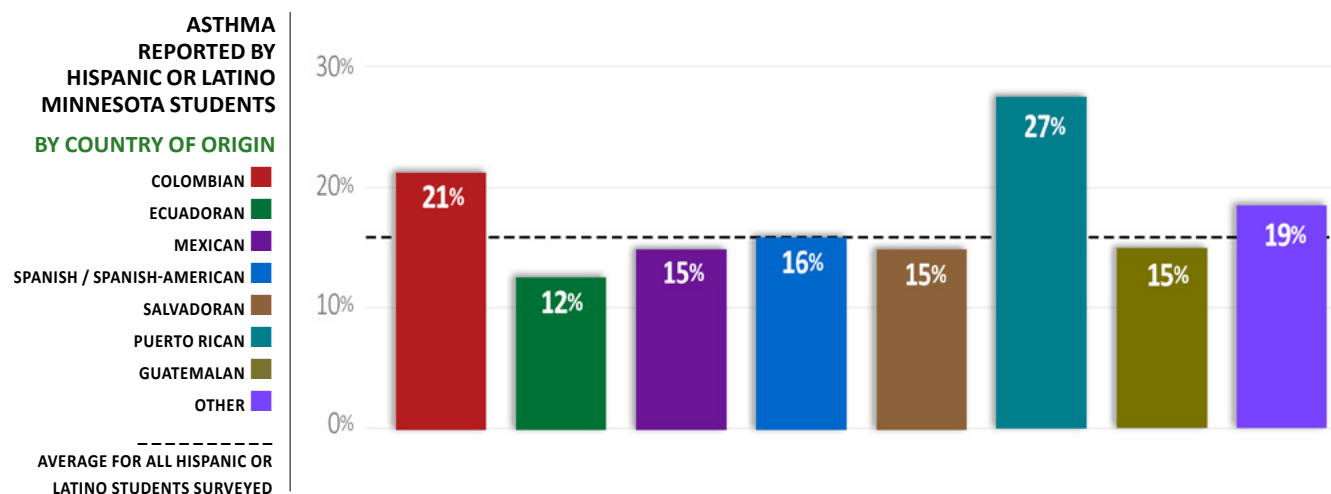
AVERAGE FOR ALL BLACK,
AFRICAN & AFRICAN AMERICAN
STUDENTS SURVEYED



SOURCE: MINNESOTA STUDENT SURVEY (MSS), 2019

Asthma data for American Indians are available only from 2015 onward. [Data on page 11](#) show that, some years, asthma among American Indians was over twice as high as among whites. In 2019, **asthma among American Indians was five times higher** than among Hispanics/Latinos, the group with the lowest asthma rates in Minnesota.

Since 2011, **Minnesota's Hispanic/Latino population has had lower rates of asthma** than Minnesota's other population groups. This is not the case across the country, where asthma among Hispanic/Latino populations varies widely. Again, the 2019 *Minnesota Student Survey* breaks out students by detailed race and ethnicity subgroups, providing possible insight into this difference. However, MSS and BRFSS represent different population age groups, warranting caution when trying to draw inferences from one study to explain the other.

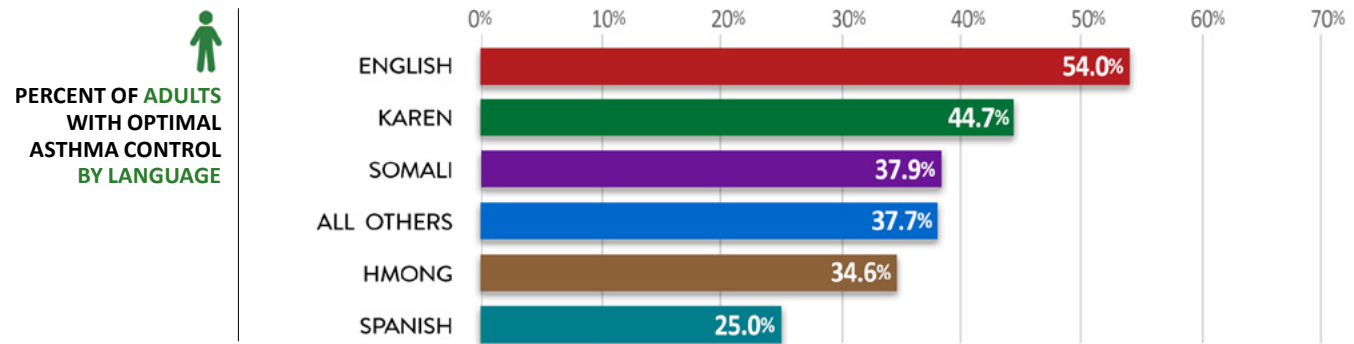


As shown in the table, Minnesota **students identifying as Puerto Rican report high rates of asthma – 27%**. Because relatively few (6%) of Minnesota's Hispanic or Latino/Latina students identify themselves as Puerto Rican, this has little impact on the overall rate for all students of Hispanic/Latino ethnicity. If Puerto Ricans represent a higher percentage of the Hispanic/Latino population in the overall United States, this would explain the difference between state and national asthma rates for this population.

Similarly, the low rates self-reported in Asian populations for 2018 and 2019 surveys (the only years for which data are available for these populations), may not be reliable evidence that asthma is not a concern in our Asian populations.

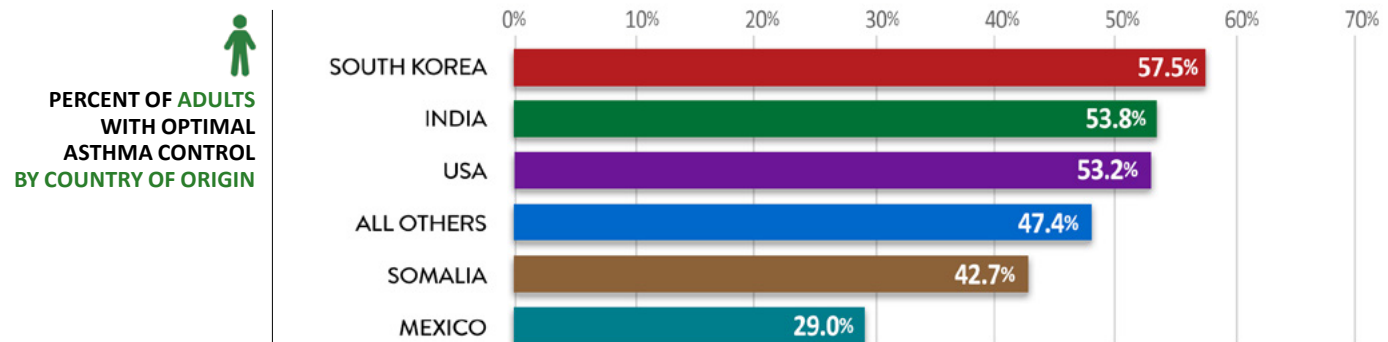
Optimal asthma control is another measure informative about the impact of asthma within a population group. Asthma control among adults of color (Hispanic/Latino, Asian, Black, and American Indian) is lower than among white adults. Languages most commonly spoken by Minnesota adults are English, Hmong, Karen, Somali, or Spanish.

Adult Spanish speakers have the lowest rate of optimal asthma control among adult speakers of English, Karen, Somali, Hmong, and all other languages together.



SOURCE: MN COMMUNITY MEASUREMENT, 2019

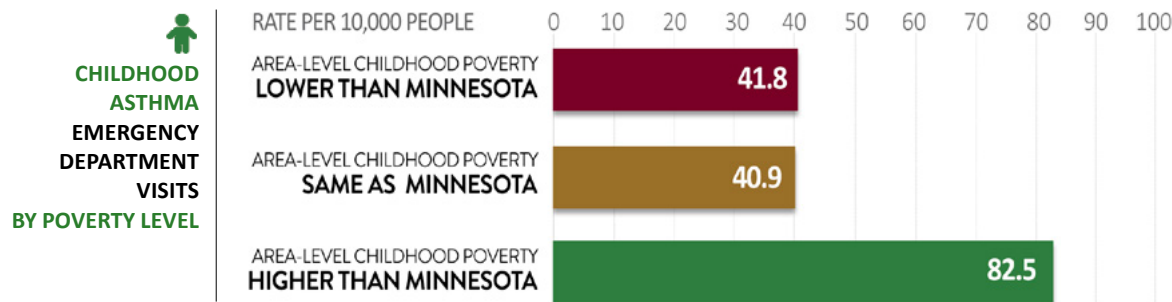
Data on country of origin tell a similar story: Adults born in South Korea have the highest rate of optimal asthma control, followed closely by India and the United States. **Adults born in Mexico have the lowest rate of optimal asthma control.**



SOURCE: MN COMMUNITY MEASUREMENT, 2019

Similarly, for children, optimal asthma control is lower among Black, Hispanic/Latino, and American Indian children than among white children. Of all races and ethnicities reported, **American Indians, both children and adults, are least likely to have optimal asthma control.** Thus, differences in optimal asthma control reveal disparities for all populations of color tracked.

Data on children's emergency department visits for asthma highlight large disparities between income groups.



SOURCE: MN PUBLIC HEALTH DATA ACCESS, Viewed July 23, 2021

In 2017, emergency room visits for asthma related issues were two times higher for Minnesota children living in areas with higher-than-average poverty compared to children living in areas with average or lower- than-average poverty.

The percent of people living in poverty varies dramatically by race. In Minnesota, eight percent of non-Hispanic white children live in poverty. In contrast, 25% of Asian and Hispanic children, 36% of American Indian children, and 37% of Black children in Minnesota live in poverty. These groups also have lower levels of optimal asthma control. (See *Asthma Control Services, Achievement of Guidelines Based Medical Care.*)

The rate of asthma-related emergency department visits per 10,000 children is nearly twice as high in metropolitan areas as in outstate areas.

LEARN MORE

[Data on Health Inequities in Childhood Asthma](#)





MN ASTHMA DEATHS
HIGHER
FOR BLACKS &
AMERICAN INDIANS
VS. WHITES

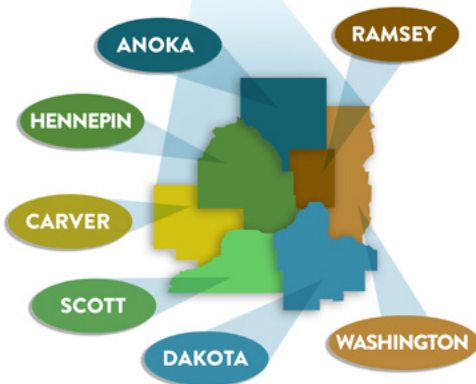
Mortality

Asthma death rates are higher among Black and American Indian Minnesotans than among white Minnesotans.

Since 2010, **rates for Blacks have ranged from 1.3 to three times higher than for whites.** Deaths among Blacks are trending downward, though the trend is not consistent year to year. The small American Indian sample does not allow statements about the magnitude of the difference in death rates.^{9,10}



HIGHEST
AIR POLLUTION



Social Determinants of Health

Reasons for disparities in the burden of asthma are multivariate.¹¹

- Minnesota's nonwhite populations are concentrated in the Minneapolis-St. Paul metropolitan area—the area of the state with the **highest levels of air pollution.**
- Impoverished areas are generally more likely to be **located near industrial areas and major highways.** Thus, air pollution is likely to be even higher in these areas than in other parts of the metropolitan area.
- Impoverished areas are more likely to have **substandard housing**, so residents are subject to more environmental triggers such as mold and pests, such as rodents, in the home.^{12,13} Carpeting, which collects and harbors environmental triggers, is more likely to be old.
- Poorer families in rural areas may be more likely to use a **wood-burning stove** for heat.
- In rental housing, when landlords do not respond to requests for repairs, tenants in low-income rental housing may **lack means to purchase supplies and equipment** for repairs, and other more pressing priorities may prevent effective follow-up to eradicate environmental triggers.

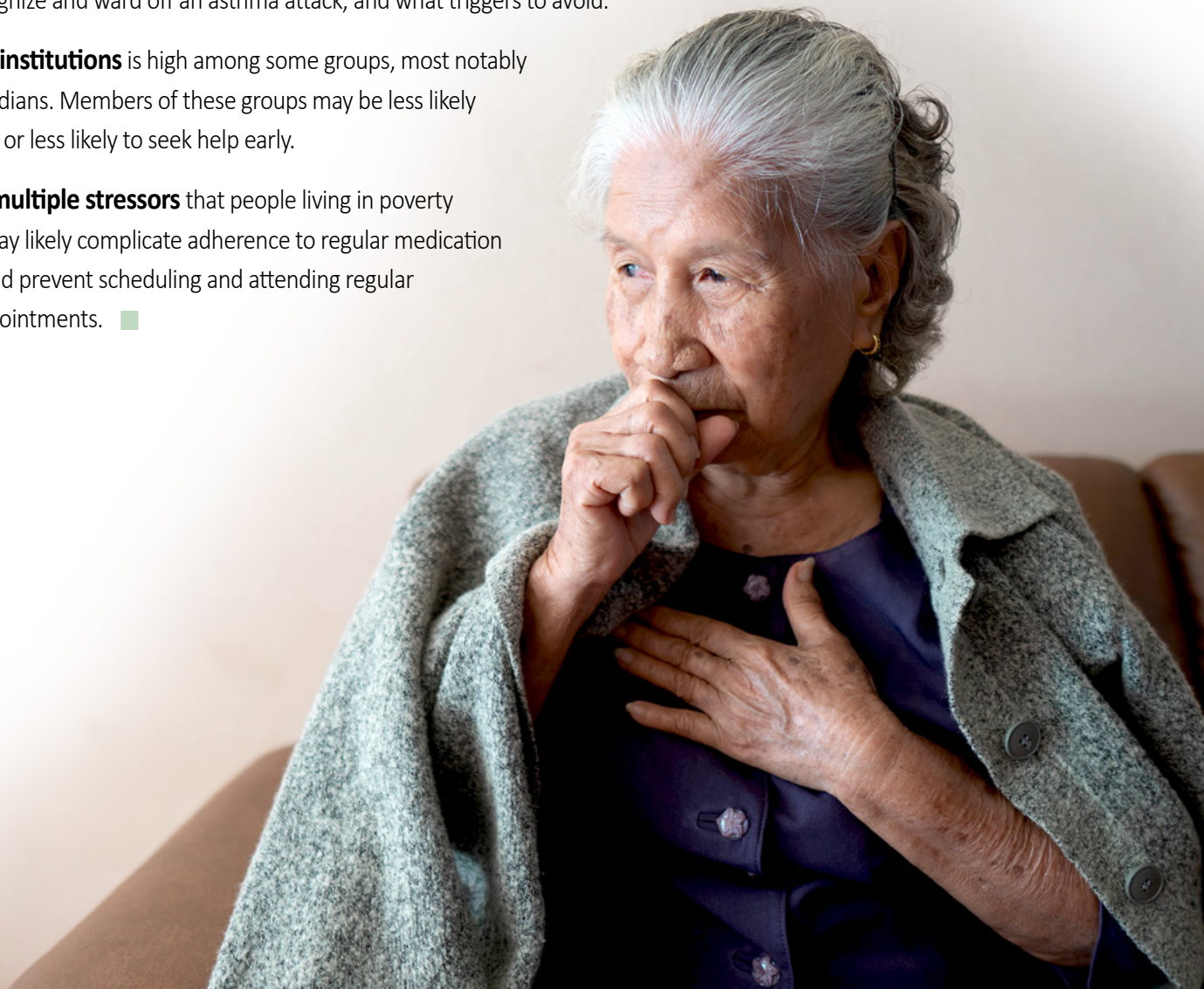


LEARN MORE

*Eliminating
Health
Disparities
Initiative
(EHDI)*



- Immigrants frequently occupy lower rungs on the economic ladder. While they are likely to be publicly insured, they may be less likely to seek medical care due to **language barriers**, or may not fully understand medical directives such as when and how often to take medication, how to use an inhaler, how to recognize and ward off an asthma attack, and what triggers to avoid.
- **Distrust of institutions** is high among some groups, most notably American Indians. Members of these groups may be less likely to seek help or less likely to seek help early.
- Finally, the **multiple stressors** that people living in poverty face every day likely complicate adherence to regular medication protocols and prevent scheduling and attending regular medical appointments. ■



FACTS | THE BURDEN OF UNCONTROLLED ASTHMA

DIRECTLY AFFECTING approximately 422,703 residents, asthma ranks third among diagnosed chronic conditions in Minnesota.



Direct Costs

Direct costs associated with asthma are costs for health care and medical expenses, including emergency department visits, hospitalizations, physician visits, and medications. The Minnesota Department of Health's Health Economics Program estimated, from 2012 data, that the **average annual per-person health care spending on asthma was \$11,700. Total health care spending on asthma was estimated at \$6.7 billion;**¹⁷ however, this is only part of the economic burden of asthma. The true burden of a disease is complex and includes both direct and indirect costs, as well as the decreased quality of life an individual with asthma may experience, especially if their asthma is uncontrolled.



Indirect Costs

Indirect costs associated with asthma are less obvious and harder to assess. Uncontrolled asthma may result in missed work, missed school, or both. In 2014, **asthma cost an estimated \$54.3 million in lost workdays.** Children with poorly controlled asthma miss school more frequently and cause their parents to miss work in order to care for them. **Asthma is a leading cause of school absenteeism** due to chronic illness in the United States.¹⁸

NATIONWIDE, in 2013, asthma accounted for 49% of all school days missed by children ages 5-17.

IN MINNESOTA, in 2017, 33.3% of children with asthma missed one or more days of school due to asthma.¹⁵

Even when a child with asthma is able to attend school, asthma may affect a child's academic performance, resulting in **decreased learning and a lifelong deficit in earning potential.**

Quality of Life

Asthma can be challenging, disruptive and frightening for those who have it, and for family, friends, and caregivers. Without adequate access to medical care and asthma management resources, individuals with asthma experience a decreased quality of life. Although there is currently no cure for asthma, **with proper treatment, people who have asthma can live normal, healthy lives.**

Through collaborative goals and action steps, Minnesota asthma partners are committed to lessening the burden for all Minnesotans with asthma. In 2015, 24.6% of adults with active asthma were unable to work or carry out usual activities due to asthma in the past 12 months. By 2017, this had decreased to 17.4%. ■

[LEARN MORE](#)[Minnesota
Asthma Program](#)

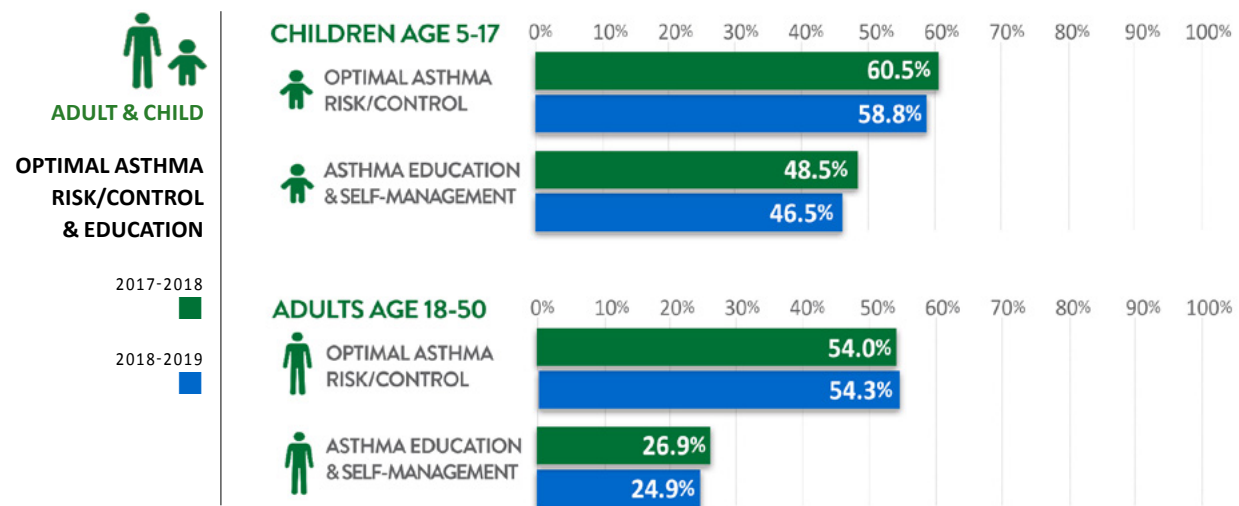
FACTS | **ASTHMA RISK & CONTROL**

MINNESOTA'S *Statewide Quality Reporting and Measurement System (SQRMS)* is a standardized set of quality measures for health care providers across the state. **SQRMS collects data on optimal asthma control**, defined as whether patients' asthma is (i) well-controlled, and (ii) not at elevated risk based on exacerbations in the previous 12-month period. Asthma is well-controlled as defined by a patient's result on the asthma control questionnaire most recently administered during the measurement period.

A patient is not at an elevated risk of asthma exacerbation if they have had less than two emergency department visits and/or hospitalizations due to asthma in the last 12 months.

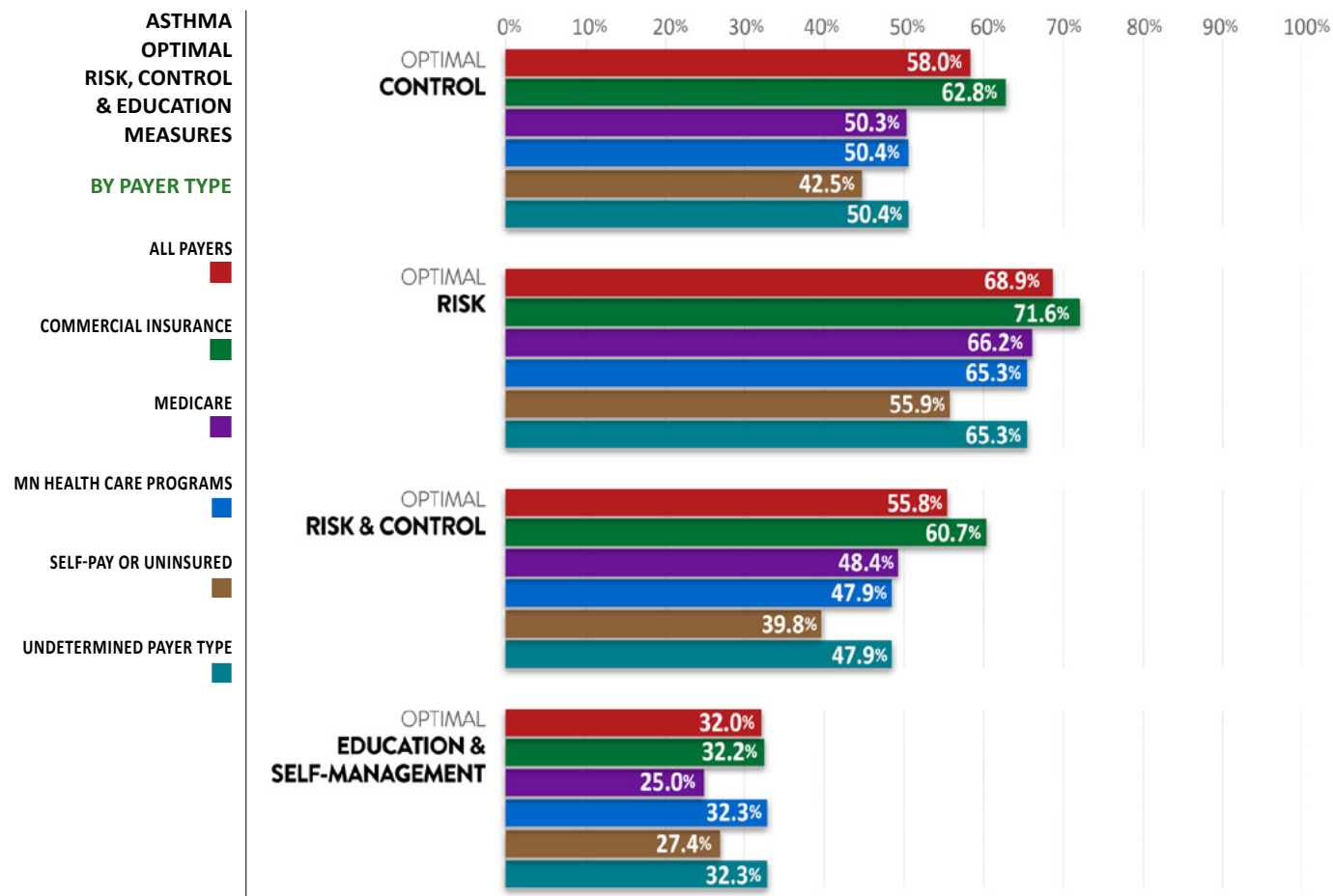
Asthma education and self-management is another quality measure. This is defined as whether a patient (i) has been educated about asthma, and (ii) has a written asthma self-management plan, or *Asthma Action Plan (AAP)*.

The table below shows the percent of Minnesota children and adults with optimal status for both control and risk as defined by *Minnesota Community Measurement* data points.



SOURCE: STATEWIDE QUALITY REPORTING & MEASUREMENT SYSTEM, 2017-2018, 2018-2019

The table below shows optimal control, optimal risk, optimal risk and control, and optimal education for 2018-2019, for all Minnesotans with asthma, and split between their payer types.



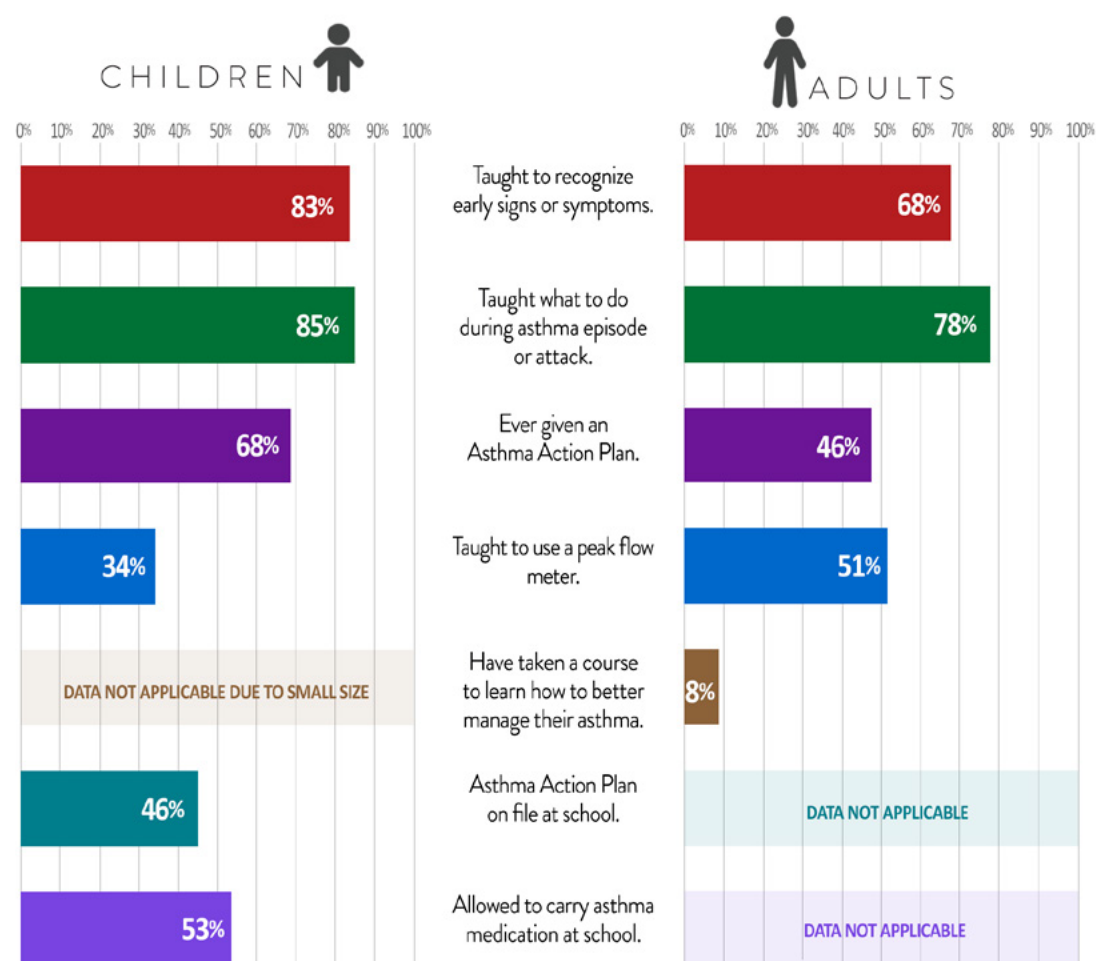
SOURCE: STATEWIDE QUALITY REPORTING & MEASUREMENT SYSTEM (SQRMS)

As shown in the table, **asthma education is lacking for all payer types**, but is worse for patients who are on Medicare, or are self-pay or uninsured.

The data below, from the 2017 *BRFSS Call-Back Survey*, show that, regardless of payer, **there is room to improve patient education.**

ASTHMA
SELF-MANAGEMENT
EDUCATION
2017

CHILDREN & ADULTS



SOURCE: 2017 BRFSS CALL-BACK SURVEY

LEARN MORE

BRFSS
*Behavioral
Risk Factor
Surveillance
System*



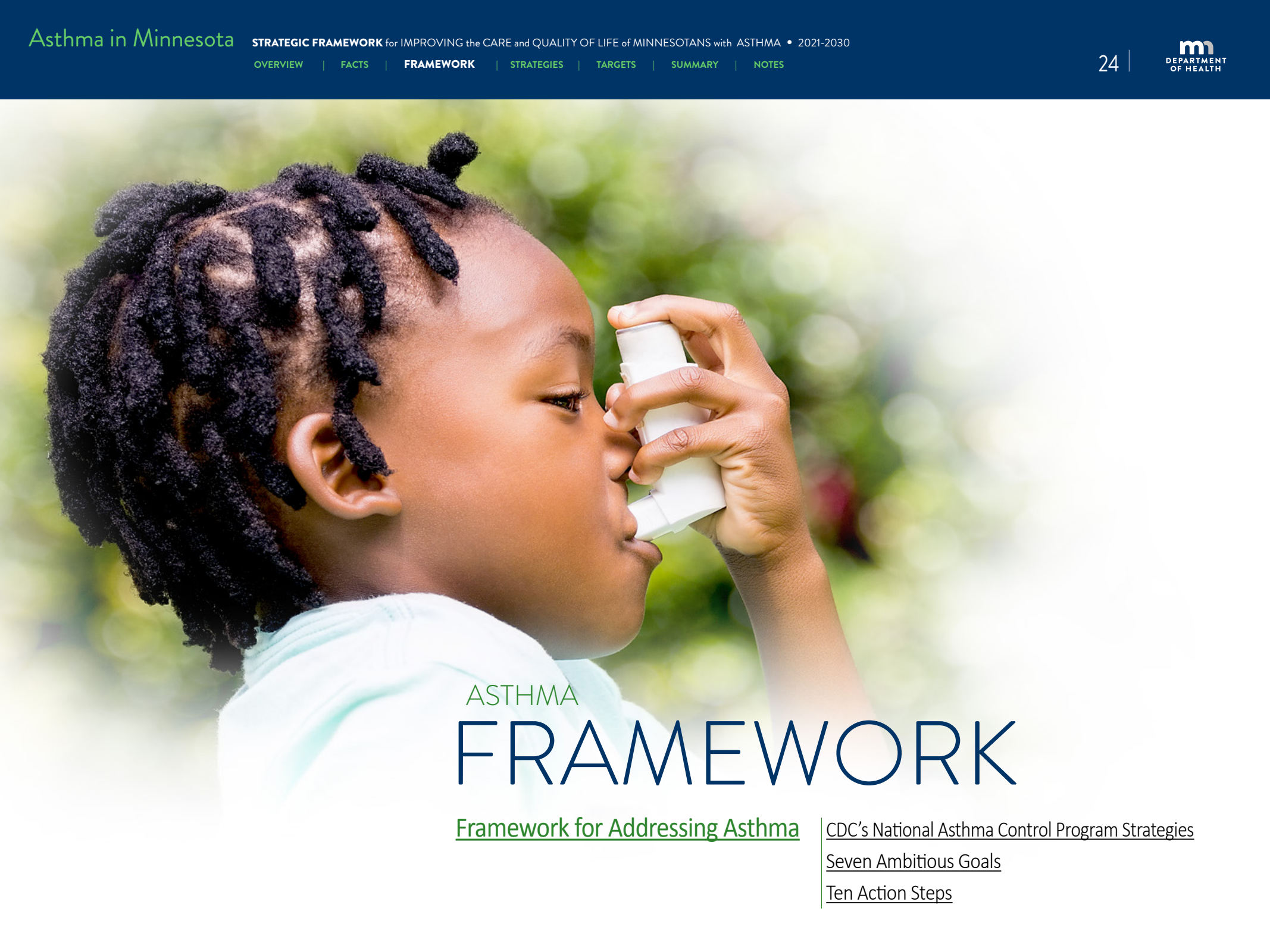
Access to Health Care

Fewer than 5% of asthma patients participating in the 2017 Asthma Call-Back Survey reported not having insurance at the time surveyed, and only 7% reported not having insurance at some point during the past year. **Ten percent of adult asthma patients reported that cost was a barrier to buying asthma medication during the previous year.**^{15,16} ■

ASTHMA COSTS
IMPACT
BUYING ASTHMA
MEDICATIONS

LEARN MORE
[2017 Call-Back
Survey](#)



A young girl with dark skin and braided hair is shown in profile, using a white inhaler. She is wearing a light blue shirt. The background is a soft-focus green, suggesting an outdoor setting. The text 'ASTHMA' is in green and 'FRAMEWORK' is in large blue letters, both positioned over the lower right of the image.

ASTHMA FRAMEWORK

Framework for Addressing Asthma

CDC's National Asthma Control Program Strategies

Seven Ambitious Goals

Ten Action Steps

GOALS • STRATEGIES • ACTION STEPS These are the three fundamental components of Minnesota's Strategic Framework for Addressing Asthma. Multiple surveys and dialogue with the MDH Asthma Advisory Committee members, asthma partners, and stakeholders helped to determine and define the plan's direction.

GOALS The Asthma Program and the MDH Asthma Advisory Committee undertook visioning exercises about the desired future for asthma in Minnesota. Insights from these exercises were used to draft, and then refine, goals for improving asthma care in Minnesota over the next ten years.

STRATEGIES CDC's *National Asthma Control Program* (NACP), and specifically the six actions outlined in CDC's EXHALE Strategies, is the foundation for Minnesota's plan to achieve better control of asthma care and costs.

ACTION STEPS Stakeholder input served as the basis for developing steps that, when implemented, will both advance the mission of improving asthma care and quality of life for all Minnesotans with asthma, and promote EXHALE strategies. Further stakeholder involvement identified ten steps considered most effective and feasible for a wide range of organizations, individuals and communities.

This framework has been developed for all organizations, communities, and individuals involved, in any way—large or small—in the care and support of people with asthma. The success of this plan requires a united coalition of all Minnesotans. ■



ADDRESSING ASTHMA

FRAMEWORK | CDC'S NATIONAL ASTHMA CONTROL PROGRAM STRATEGIES

CDC'S NATIONAL ASTHMA CONTROL PROGRAM (NACP) and its partners help people with asthma achieve better health and improved quality of life. Through the NACP, CDC funds state, territorial, and local health departments to ensure that people with asthma have access to guidelines-based medical management and medications. NACP developed a set of six strategies that each contribute to better asthma control. Together, these strategies comprise the EXHALE technical package.

LEARN MORE



EXHALE can be used by public health professionals, healthcare organizations, schools, people with asthma and their caregivers, as well as the many others listed in the [Asthma Stakeholders](#) section. When implemented together, CDC EXHALE Strategies have also proven to reduce asthma-related hospitalizations, emergency department visits, and healthcare costs. ■

FRAMEWORK | SEVEN AMBITIOUS GOALS

OUR FRAMEWORK aligns with and builds on goals established by the Centers for Disease Control and Prevention's National Asthma Control Program. Through collaborative partnerships across the state, we can achieve these goals and improve the health and quality of life for asthma patients and their families.

[LEARN MORE](#)[Minnesota
Asthma Program](#)



ADVOCACY

Build support for people who have asthma.

Improving the quality of life for Minnesotans who have asthma requires raising asthma awareness, increasing educational outreach, and working together to improve access to asthma care and to supportive community services.

PARTNERSHIPS

Build strong community and statewide ***partnerships to increase linkages to care, education, and community support*** for people living with asthma.



Collaborative partnerships are essential to approach asthma in a holistic manner. Health systems, local public health, schools, businesses, nonprofit organizations, environmental organizations, and communities all have a role in managing asthma and reducing environmental triggers that lead to asthma episodes.

DATA

Collect, analyze, and use data on asthma, populations, and the environment.



Data must form the basis for policy development and should be used to effectively communicate successes and opportunities for improvement. Tracking and evaluating asthma prevalence, emergency visits, hospitalizations, deaths from asthma, and other measures will help identify and define trends to guide strategic action.

HEALTH EQUITY

Work with individuals, communities, and health systems to create healthy communities and ***ensure that all people have the resources needed*** to be healthy.



Similar to many other diseases, asthma disproportionately impacts certain races, ethnicities, and geographical regions in Minnesota. To eliminate these disparities and achieve health equity, we must view strategies through a health equity lens and comprehensively address the social determinants of health.



HEALTHY ENVIRONMENTS

Reduce environmental factors that trigger asthma episodes.

Various factors in both indoor and outdoor environments can lead to asthma attacks or episodes. Individuals, families, policymakers, as well as industry leaders, professional groups, and grass-roots advocacy organizations can take actions that will eliminate, reduce, or simply improve those factors.

ASTHMA MANAGEMENT

Increase the number of ***people who have the information, skills, and tools*** to manage their asthma successfully.



Asthma care is a partnership and a shared responsibility between the patient, the healthcare provider, and the systems supporting them. Asthma can be controlled using the guiding principles of patient-centered care and individualized education in asthma self-management.



SYSTEMS CHANGE

Support ***development and piloting of new systems*** to improve the efficiency and effectiveness of asthma management.

To improve asthma in Minnesota, the complex systems, structures, and policies that affect asthma must first be understood then strategically restructured. By cultivating system changes, we can implement new approaches to improve quality and delivery of asthma care and reduce the impact of asthma. ■

FRAMEWORK | **TEN ACTION STEPS**

ASTHMA PARTNERS and Asthma Advisory Committee members identified ten action steps.

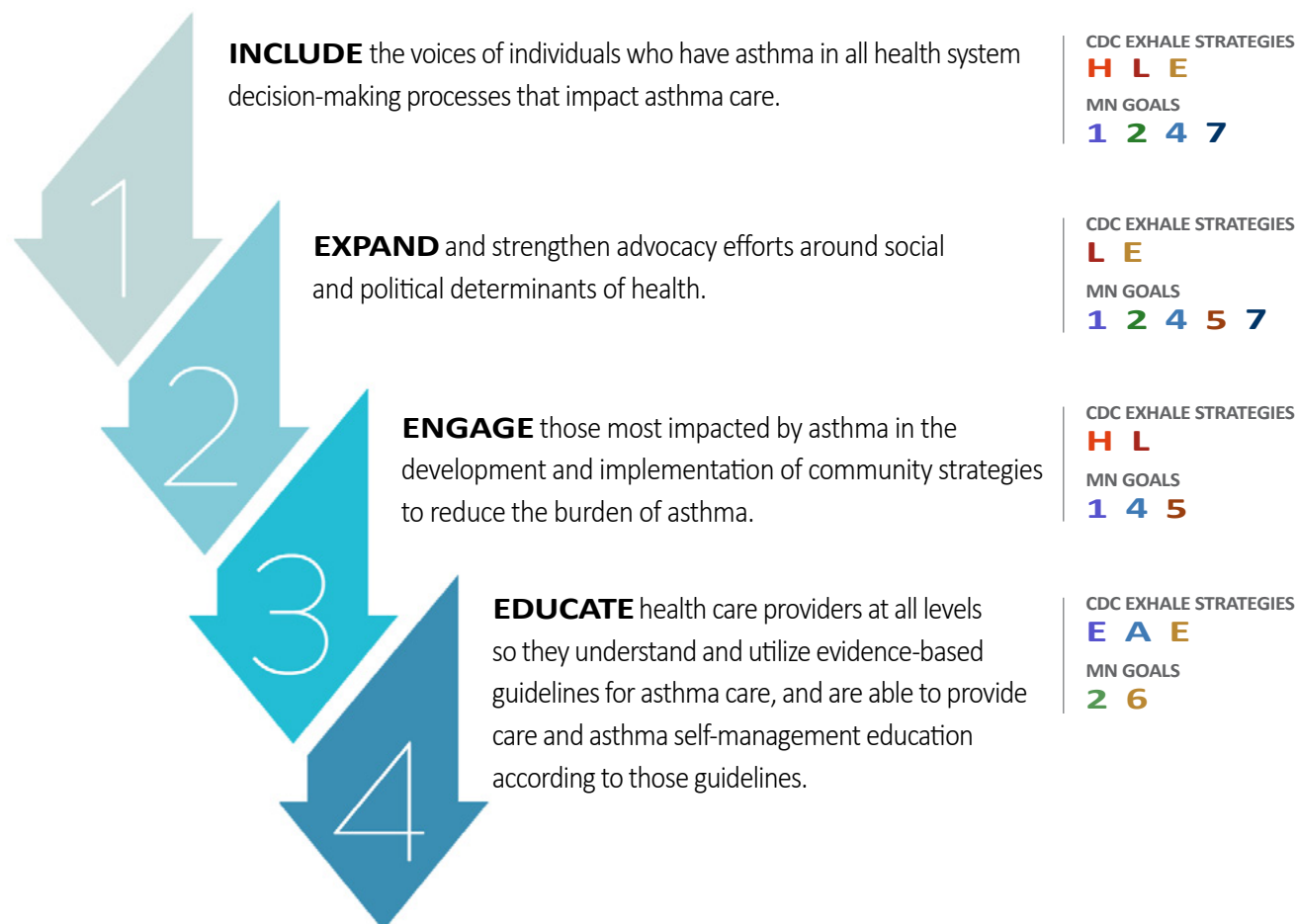
When implemented in concert with CDC's *National Asthma Control Program (NACP)* **CDC EXHALE Strategies**, or other strategies to effect better asthma control, these action steps will increase the impact and reach of those strategies.

CDC EXHALE STRATEGIES

- E** EDUCATION
- X** X-TINGUISHING
- H** HOME
- A** ACHIEVEMENT
- L** LINKAGES
- E** ENVIRONMENTAL

MINNESOTA GOALS

- 1** ADVOCACY
- 2** PARTNERSHIPS
- 3** DATA
- 4** HEALTH EQUITY
- 5** HEALTHY ENVIRONMENTS
- 6** ASTHMA MANAGEMENT
- 7** SYSTEMS CHANGE

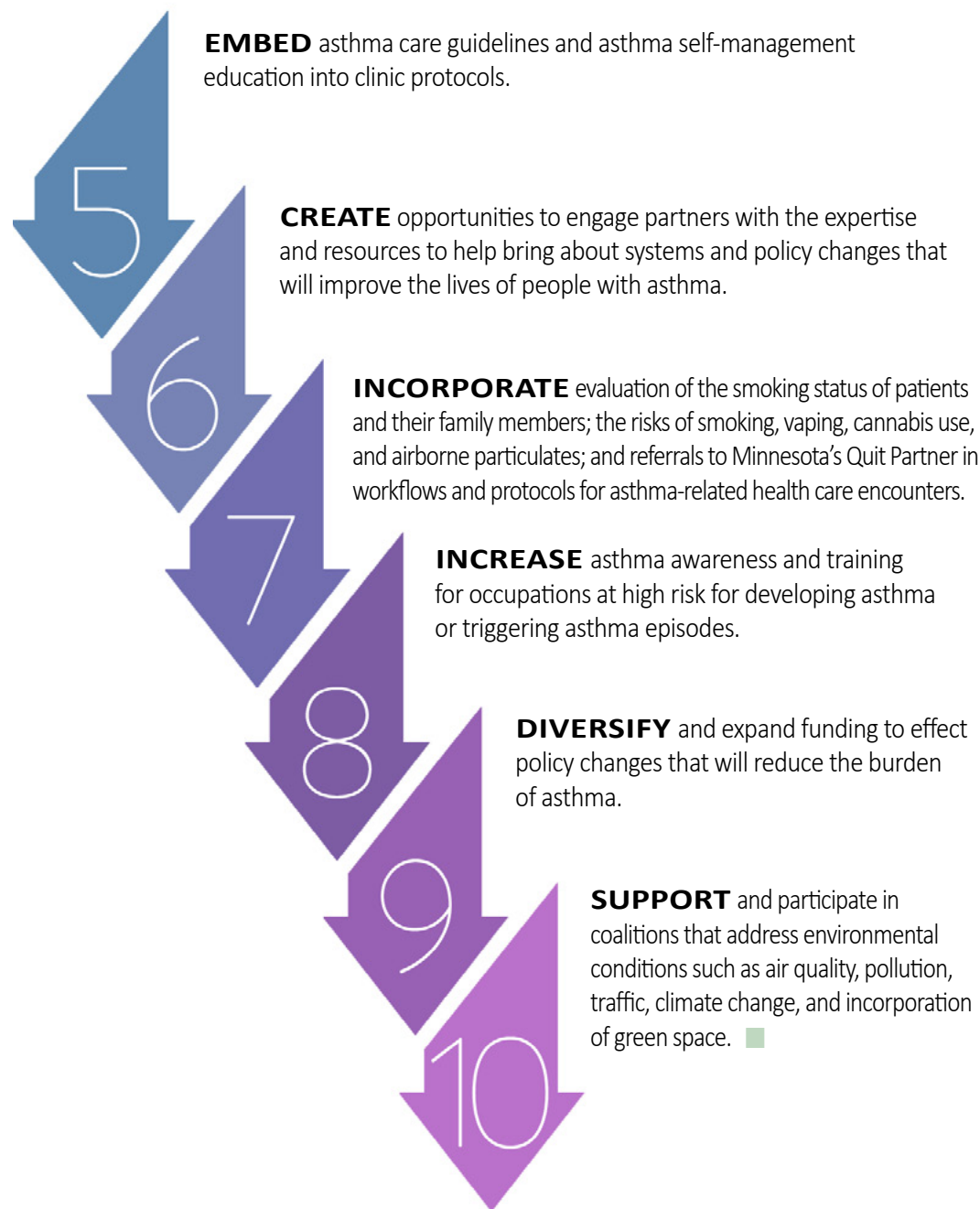


CDC EXHALE STRATEGIES

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MINNESOTA GOALS

- 1** ADVOCACY
- 2** PARTNERSHIPS
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- 4** HEALTH EQUITY
- 5** HEALTHY ENVIRONMENTS
- 6** ASTHMA MANAGEMENT
- 7** SYSTEMS CHANGE



CDC EXHALE STRATEGIES

E A E
MN GOALS
6

CDC EXHALE STRATEGIES

H L E
MN GOALS
1 2 4 7

CDC EXHALE STRATEGIES

X L E
MN GOALS
2 5 6

CDC EXHALE STRATEGIES

E A L E
MN GOALS
4 5 6

CDC EXHALE STRATEGIES

L E
MN GOALS
1 2 4 5 6 7

CDC EXHALE STRATEGIES

H L E
MN GOALS
1 2 4 5 7



ASTHMA STRATEGIES

CDC EXHALE Strategies

Education on Asthma Self-Management

X-tinguishing Smoking & Exposure to Secondhand Smoke

Home Visits

Achievement of Guidelines-based Medical Management

Linkages & Coordination of Care

Environmental Policies or Best Practices

STRATEGIES | **CDC EXHALE STRATEGIES**

CDC EXHALE STRATEGIES contribute to better asthma control. EXHALE can help both children and adults with asthma. Each strategy in EXHALE has been proven to reduce asthma-related:

- Hospitalizations
- Emergency department visits
- Missed days of work or school
- Health care costs

EXHALE is an acronym that summarizes six strategies.

EXHALE can have the greatest impact when multiple strategies are used together in every community.

[LEARN MORE](#)

CDC NACP
*National Asthma
Control Program*

[LEARN MORE](#)

EXHALE
*CDC
EXHALE
Strategies*



EDUCATION on asthma self-management

X-TINGUISHING smoking and exposure to secondhand smoke

HOME visits for trigger reduction and asthma self-management education (ASME)

ACHIEVEMENT of guidelines-based medical management

LINKAGES and coordination of care across settings

ENVIRONMENTAL policies or best practices to reduce indoor and outdoor asthma triggers

CDC EXHALE STRATEGIES



EXHALE can be used by public health professionals, healthcare organizations, schools, people with asthma and their families. ■

STRATEGIES | EXHALE: **EDUCATION** ON ASTHMA SELF-MANAGEMENTEDUCATION
E

Pursuant to Minnesota's 2008 Health Reform Law, health clinics collect and report measures of health care quality. Asthma measures include Optimal Asthma Control and Asthma Education and Self-Management.

Results from the **BRFSS** Call-Back Survey indicate that information on **how to recognize early signs of an asthma attack** was provided to 81.8% of children and 67.6% of adults, while information on **what to do during an asthma attack** was provided to 77.5% of adults.

In contrast, **asthma action plans** were only provided to 58.6% of children and 43.9% of adults.^{15, 16}

MINNESOTA IMPLEMENTS SELF-MANAGEMENT EDUCATION BY:

- E** Actively engaging in a variety of educational endeavors and continuously looking for opportunities to **gain new audiences**.
- E** Supporting and encouraging **health care providers** in the use of guidelines-based testing, diagnosis, and treatment.

LEARN MORE

BRFSS
[Behavioral
Risk factor
Surveillance
System](#)



LEARN MORE

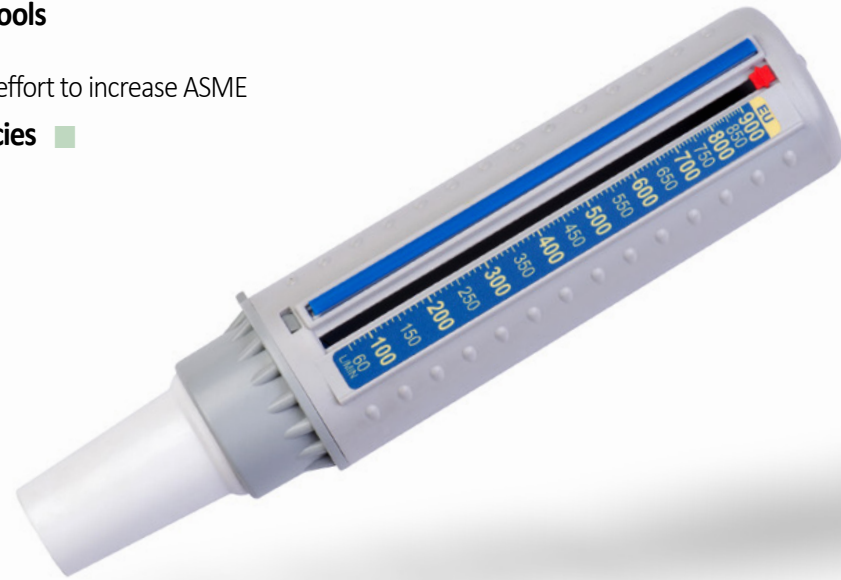
ASME
[Asthma Self
Management
Education](#)



Supporting **educational activities** offered by the American Lung Association (ALA) by regularly offering scholarships to training events.

Providing asthma education to schools, local public health professionals and community coaches.
Current projects include:

- Supporting and providing guidance **home-based visits**, consisting of asthma self-management education (ASME) and identification of asthma triggers
- Educating **landlords** and **property owners**, housing agencies, and weatherization workers about asthma triggers
- Promoting ASME in **schools**
- Promoting cooperative effort to increase ASME in community **pharmacies** ■



TRAINING to recognize signs and treatment of asthma symptoms and attacks.

LEARN MORE

ASME
Asthma Self
Management
Education



STRATEGIES | EXHALE: **X-TINGUISHING** SMOKING & EXPOSURE TO SECONDHAND SMOKE

Minnesota has long been a leader in legislation aimed to curtail smoking. However, the number of people using cigarettes and e-cigarettes do not reflect these efforts. With just **over 15% of Minnesotan adults using cigarettes** in 2018, Minnesota has lower cigarette usage than its neighboring states. Nationwide, however, nineteen states had lower rates of cigarette use than Minnesota.

A bright spot in the battle against tobacco use has been the **decrease in cigarette smoking among Minnesota's youth** from 19.6% in 2001 to 3.1% in 2019. This signaled a future where fewer Minnesotans used tobacco and suffered smoking related illnesses.

VAPING
ERASED 15 YEARS
OF PROGRESS



Unfortunately, MDH recently reported that vaping has erased fifteen years of progress in lowering youth tobacco use. In 2019, **one in four 11th grade students** (26.4%) **reported vaping** in the past 30 days, a ~~5~~ increase since 2016.

The *2017 Minnesota Youth Tobacco Survey*¹⁹ found that Minnesota **high school students who have asthma were more likely to vape or smoke** conventional tobacco products than their peers who do not have asthma.

Students with asthma who vape or smoke experienced more frequent asthma symptoms than students with asthma who do not vape or smoke. **Youth with asthma are also more likely to experience secondhand smoke** and secondhand e-cigarette aerosol. Secondhand smoke is a trigger for asthma attacks.

MINNESOTA IMPLEMENTS X-TINGUISHING SMOKING & EXPOSURE TO SECONDHAND SMOKE BY:

- ▲ In response to rising tobacco use among Minnesota's youth, the legislature passed a law known as "*Tobacco 21.*" This law increased from 18 to 21 the age of individuals to whom tobacco may legally be sold. The law became effective on August 1, 2020.
- ▲ MDH and many partners collaborated to **educate legislators** and **the public** about the need for this legislation. The next goal for anti-tobacco groups is to **remove flavored tobacco** from stores.
- ▲ MDH's Tobacco Prevention and Control Program has brought forward a number of **legislative proposals aimed at curbing tobacco use**. MN AP supports these efforts.
- ▲ MDH's Tobacco Prevention and Control Program conducts a very active communications and outreach campaign advocating tobacco cessation, as-well-as publishing regular email bulletins broadcasting tobacco use statistics, trends, and suggestions for actions by parents, communities, and health care professionals. MN AP staff support these efforts by **collaborating on communications**, assisting with **data analysis** evaluations, and co-authoring **data briefs**.

The Asthma Program and many advocates support and collaborate with MDH's Tobacco Prevention and Control Program's efforts to reduce tobacco use. ■



COLLABORATING to reduce tobacco use.

LEARN MORE
TOBACCO

21



STRATEGIES | EXHALE: **HOME VISITS** FOR TRIGGER REDUCTION & ASTHMA SELF-MANAGEMENT EDUCATION

HOME

H

MDH's asthma home-based service projects have repeatedly demonstrated the effectiveness of home-based asthma services that include both asthma self-management education and home environmental assessments for people who have asthma. Our model has demonstrated:

- A **positive return on investment** (ROI) – the ROI ranged from \$5.25 to \$1.61 for every dollar spent
- Improved **asthma control**
- **Fewer** asthma **symptoms**
- **Reduced missed days** from school and work
- **Reduced** use of unscheduled clinic, emergency department and urgent care **visits, and** inpatient **hospitalizations**

HOME-BASED SERVICES
HIGHLY
EFFECTIVE

MINNESOTA IMPLEMENTS HOME VISITS BY:

Working with the *U.S. Housing and Urban Development* (HUD) on a demonstration project to reduce home asthma triggers in Minnesota's communities of color. Our project, *Reducing Environmental Triggers of Asthma* (HUD-RETA), resulted in:

- A **reduction of the number of missed school days** by an average of 2.42 days in the previous three-month period. This is equivalent to **increasing school attendance** by seven days over a nine-month school year.

The number of **parental workdays missed was reduced** by 0.48 days over three months.²⁰

LEARN MORE

RETA
*Reducing
Environmental
Triggers of Asthma*

- Working closely with local public health (LPH) agencies to incorporate **Asthma Home-Based Services (AHBS)** into their routine home visiting programs.
- Offering mentoring services to LPH agencies seeking to start AHBS services. These collaborative partnerships with LPH agencies build capacity to **expand and sustain home asthma services** across the state.
- Weaving information about AHBS training and mentoring opportunities into our *GovDelivery* communications, and working to **recruit schools, clinics, and other community partners as referral sources** to LPH AHBS providers.
- Developing and maintaining **AHBS information and resources on our website**, including a description of our AHBS model, AHBS toolkit, and our online training, RETA Home (*Reducing Environmental Asthma Triggers in the Home*), as well as a list of Minnesota LPH agencies currently offering AHBS services.
- Responding to the challenge of providing home services during the COVID-19 pandemic, some Minnesota LPH agencies offer **virtual home visits**. These virtual services continue to be key in providing asthma education, and to evaluate homes for triggers by using a combination of questions and remote observation. ■

LEARN MORE

AHBS
Asthma
Home-Based
Services

EXPANDING home visits and home services.

STRATEGIES | EXHALE: **ACHIEVEMENT** OF GUIDELINES-BASED MEDICAL MANAGEMENT

Annually, MDH collects statewide data on two measures of the medical management of asthma: “*optimal asthma care*” and whether patients with a diagnosis of asthma have received **asthma self-management education** about their condition and have a **written asthma self-management plan**.

For dates of service in 2019, only 53.3% of adults with asthma and 59.9% of children with asthma meet criteria for optimal asthma care. These percentages, though far below the benchmarks (defined as the lower of the 90th percentile of medical group or the 90th percentile of patients) of 69.0% and 72.4%, respectively, represent statistically significant increases.

A **wide gap exists between low and high scoring clinics**. The lowest scoring medical group(s) reported no patients with optimal asthma care; the highest scoring reported 95.0% and 92.1% for adults and children, respectively.²¹

MINNESOTA IMPLEMENTS ACHIEVEMENT OF SELF-MANAGEMENT GUIDELINES BY:

MN AP educates healthcare professionals, the public, and others about managing asthma. Tools and information needed to diagnose, treat, and teach effective self-management skills to patients and their families are available on the MDH asthma web pages. Materials include, but are not limited to:

-  Information on the **role of medications**
-  An online web page or downloadable posters to **help patients identify their inhalers**



- ▲ Guidance on teaching **proper inhaler technique**
- ▲ **Identification of asthma triggers** and how to reduce exposure to triggers
- ▲ Tailored **approaches to meet the cultural and literacy needs** of the patient and family
- ▲ Tools such as sample **Asthma Action Plans** – for Adults or Children in English or Spanish
- ▲ **Environmental triggers** identification tools – English or Spanish
- ▲ **Links to guidelines** for the diagnosis and management of asthma and resources for asthma education
- ▲ An **Asthma Home-Based Services Toolkit** – provides resources and educational tools to support healthcare professionals providing the services
- ▲ **Asthma friendly schools mini-grants** that encourages schools to develop asthma-related services, policies, and education for both students and staff ■

LEARN MORE

AHBS
Asthma
Home-based
Services

ACHIEVING optimal asthma care & control.

STRATEGIES | EXHALE: **LINKAGES** AND COORDINATION OF CARE

LINKAGES



All Minnesotans can play a role in reducing the burden of asthma in Minnesota. Health professionals in clinics, hospitals, urgent care, communities, schools, pharmacies, and local public health all play a part in improving the quality and consistency of asthma care across our state. Boundary-crossing models of care focus on **developing ties between clinics, social service agencies, community resources, schools, and other venues**. One such example is the CDC's framework *Whole School, Whole Community, Whole Child* (WSCC) model for addressing health in schools. The WSCC model is student-centered and emphasizes the role of the community in supporting the school, the connections between health and academic achievement, and the importance of evidence-based school policies and practices.

Asthma care is a **partnership** and a shared responsibility **between the patient (and family), healthcare providers, and the systems and communities supporting them**. Focusing on system changes aims to create new and improved procedures and policies that, once embedded, provide easy-to-access referrals for asthma services between providers and our community resources.

MINNESOTA IMPLEMENTS LINKAGES BY:

- ▼ Participating in the interagency *School Health and Education Committee (SHEC)* meetings that support strategic **networking and cross-sharing with state agency divisions** and teams that intersect with K-12 schools to support the whole child framework.
- ▼ Endeavoring to link clinics, schools, local public health agencies, community organizations, and pharmacists to provide **asthma services utilizing a team-based care model**.

LEARN MORE



WSCC
*Whole
School, Whole
Community,
Whole Child*



- Through the *Asthma Friendly Schools Mini-Grant Program*, providing **funding for schools to connect** the school health office, environmental health and safety professionals, and school committees with healthcare providers by creating communication pathways to obtain asthma action plans, share pertinent information about students' asthma status, and provide referrals as necessary.
- Through a *Pharmacy Asthma Self-Management Education (ASME) Quality Improvement Project*, encouraging community pharmacists and clinic-based Medication Therapy Management (MTM) pharmacists an opportunity to provide guideline-driven ASME to their patients and caregivers. Through care coordination referrals and team-focused care, ASME sessions are available when patients are picking up prescriptions, following clinic visits or through scheduled sessions. The team created highly adaptable preformatted asthma educational tools and processes that can be integrated into a pharmacy's workflow. Four 30-minute (each) guideline-driven learning modules for pharmacists ensure detailed, accessible, and consistent information. All initiative materials and learning modules will be hosted on the Minnesota Pharmacist Association (MPhA) website. ■

LEARN MORE

[Asthma-Friendly
Schools Mini
Grant Program](#)

LEARN MORE

[Minnesota
Pharmacist
Association](#)

LINKING asthma patients with asthma care partners.

STRATEGIES | EXHALE : **ENVIRONMENTAL** POLICIES & BEST PRACTICES TO REDUCE ASTHMA TRIGGERS

Minnesota Pollution Control Agency (MPCA) 2019 and 2021 reports of statewide air quality²³ determined that **air quality in Minnesota continues to meet federal clean air standards**. However, the **MPCA has found an increasing number of days with smoky skies** in recent years.

Climate change has intensified the wildfire season in the western U.S. The West is experiencing less rain, smaller and shorter snow pack, and warmer temperatures — all of which fuel fires. Analysis by Climate Central found that the region's wildfire season now, compared to the 1970s, is:

3x's
MORE WILDFIRES
OVER 1,000 ACRES

- 105 days longer, burns six times the acreage, and has three times more fires over 1,000 acres in size.
- During the summer of 2020, wildfires burned over two million acres in California. Minnesota is downwind of the Rocky Mountains and smoke and fine particulate from fires in California and other western states often blow to Minnesota.
- **Climate change is also extending the pollen season** as the number of freeze-free days increases. This, in turn, leads to an increase in allergy-induced asthma episodes.

MINNESOTA IMPLEMENTS ENVIRONMENTAL POLICIES & BEST PRACTICES BY:

Minnesota's state agencies collaborate on efforts to achieve cleaner and healthier air. Minnesota individuals and advocacy groups help drive and assist with these efforts. MN AP engages with all these groups, contributing to their efforts when possible, and relies on their data and work to help forward AP's mission to improve asthma care and quality of life for people who have asthma.

 **Minnesota's Pollution Control Agency (MPCA)** tracks ambient air pollutants, including particulate matter and ozone. MPCA and MDH are working to evaluate the public health impacts of air pollution on health, and communicate information about the Air Quality Index (AQI).



 **Minnesota's Indoor Air Quality Program** enforces the Minnesota Clean Indoor Air Act, which regulates smoking in indoor public places, tracks research about the health effects of air pollutants on an ongoing basis, and incorporates new methods and data into health risk assessments and best practices guidelines.

 **Minnesota's Tobacco Prevention and Control Program** works to improve the health of Minnesotans by promoting the reduction of tobacco use.

 **Minnesota's Environmental Public Health Tracking Program (MN Tracking)** uses existing data – gathered by disease surveillance, population surveys, and environmental monitoring programs – to better understand connections between community health and physical, chemical and social environments. MN Tracking conducts ongoing surveillance to identify vulnerable populations and areas, and to provide evidence for public health decision-making, evaluation and planning; responds to emerging environmental health concerns with focused investigations and analyses; and works with partners on health promotion strategies and data utilization.

 **Minnesota's Climate & Health Program** focuses on improving the ability to protect public health and prevent further harms from climate change, educating the public and decision makers to build a culture of health and climate action, conducting research, and capacity building.

 The Asthma Program also works with the **Department of Commerce**, local public health, and nonprofits engaged in weatherization efforts to educate workers, energy auditors, property owners, housing agencies, and tenants about asthma, air quality, ventilation, environmental triggers, and mitigation. ■



ENGAGING with specializing agencies.



ASTHMA TARGETS

Measures & Targets for 2030

Optimal Asthma Control

Asthma Self-Management Education (ASME)

Emergency Department (ED) Visits

Pharmacy

TARGETS | MEASURES & TARGETS FOR 2030

THIS SECTION lists measures and targets that will be **used for evaluating the asthma partners' success** in improving asthma control between now and 2030. Factors considered in selecting measures include:

- Confidence in the **stability of the data set** from which data are drawn
- Confidence in the **measure** (i.e., that it measures what it intends to measure; that it reflects meaningful change)
- Ability of Minnesota asthma partners to **shift the measure**

Optimal Asthma Control

The first measure is "optimal asthma control" from the Minnesota's *Statewide Quality Reporting and Measurement System (SQRMS)*. SQRMS data are submitted by healthcare providers from across the state. SQRMS defines a patient as having "optimal asthma control" when:

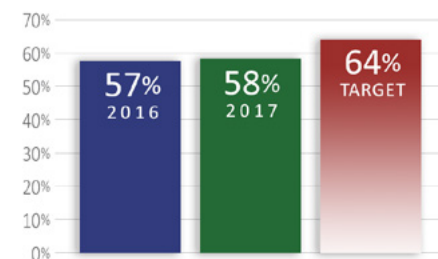
- (1) specified assessment tools demonstrate that the patient's **asthma is well-controlled**, and
- (2) the patient is **not at increased risk of exacerbations**.

TARGET
1

Increase the percentage of child asthma patients in Minnesota whose asthma is well-controlled and who are at low risk of their asthma becoming worse from 58% to 64%.

DATA SOURCE:

Minnesota Statewide Quality Reporting and Measurement System (SQRMS)

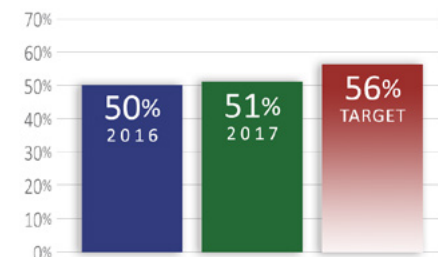


TARGET
2

Increase the percentage of adult asthma patients in Minnesota whose asthma is well-controlled and who are at low risk of their asthma becoming worse from 51% to 56%.

DATA SOURCE:

Minnesota Statewide Quality Reporting and Measurement System (SQRMS)



Asthma Self-Management Education (ASME)

The second measure, also from SQRMS, examines whether asthma patients have the knowledge and information to self-manage their asthma. In order to meet this measure, SQRMS requires that a patient receive both:

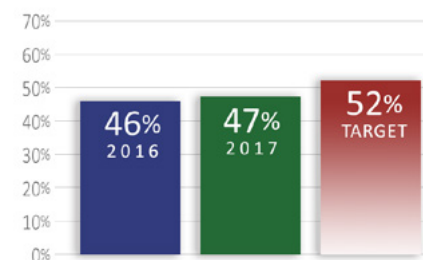
- (1) **individualized education** about their asthma and self-management of their condition, and
- (2) an asthma **self-management plan** (also called Asthma Action Plan).

TARGET 1

Increase the percentage of child asthma patients in Minnesota who receive individualized asthma education and have an asthma self-management plan (also called Asthma Action Plan) from 47% to 52%.

DATA SOURCE:

Minnesota Statewide Quality Reporting and Measurement System (SQRMS)

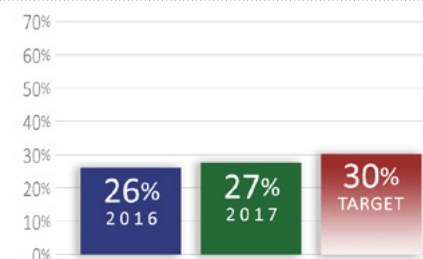


TARGET 2

Increase the percentage of adult asthma patients in Minnesota who receive individualized asthma education and have an asthma self-management plan (also called Asthma Action Plan) from 27% to 30%.

DATA SOURCE:

Minnesota Statewide Quality Reporting and Measurement System (SQRMS)



Emergency Department (ED) Visits

Minnesota's Environmental Public Health Tracking Program gathers data and publishes data on asthma-related emergency department visits and hospitalizations for the general population, and for specific age groupings.

Activities highlighted in this Framework are intended and expected to improve asthma control and outcomes for all age groups. However, when evaluating changes in emergency department visits, only age groups 5-14 and 15-24 will be used as measures for this Framework.

Accurate diagnosis of asthma in children ages 0-4 is difficult due to inability to properly test and confirm asthma for children in this age group, and the presence of typical respiratory symptoms such as wheezing and coughs due to viral infections.

Similarly, chronic obstructive pulmonary disease (COPD) confounds diagnoses in older adults. The age range selected as measures provides a greater level of confidence that the emergency department visit is truly related to asthma rather than symptoms that present like asthma, but are not asthma. Also, asthma-related emergency department visits in Minnesota continue to drop as people age, so we are **focusing on younger age groups to evaluate progress**.

TARGET
1

Decrease the rate of asthma-related emergency department visits for individuals aged 5-14 from 47.6 visits per 10,000 individuals to 42.8 visits per 10,000 individuals.

DATA SOURCE:

Minnesota Public Health Data Access Portal



LEARN MORE

MN Public Health
Data Access

MN
Environmental
Public Health
Tracking



TARGET
2

Decrease the rate of asthma-related emergency department visits for individuals aged 15-24 from 36.8 visits per 10,000 individuals to 33.1 visits per 10,000 individuals.

DATA SOURCE:

Minnesota Public Health Data Access Portal

**TARGET**
3

Decrease the rate of asthma-related emergency department visits for individuals ages 35 to 44 from 32.1 visits per 10,000 individuals to 30.5 visits per 10,000 individuals.

DATA SOURCE:

Minnesota Public Health Data Access Portal [?](#)



Pharmacy

The MDH Asthma Program and pharmacy partners have initiated a quality improvement project to increase the availability of pharmacist provided *Asthma Self-Management Education* (ASME) in community pharmacies and through clinic-based *Medication Therapy Management* (MTM) pharmacists. Implementation in pilot pharmacy locations began fall of 2021.

We are presuming that, at this time, there are no community pharmacies providing ASME to their customers or their families. We set a target of **fully implementing ASME patient services in 24 pharmacies** in consideration of the number of community pharmacies in Minnesota (656), and the distribution of Minnesota pharmacies between chain and non-chain (476 and 180, respectively).

[LEARN MORE](#)

ASME
Asthma Self-Management Education



MEASURE 1 Increase the number of pharmacies in Minnesota providing asthma self-management education (ASME) from 0 to 24.

DATA SOURCE:

Self-report Survey ■



RESOURCES

- *Minnesota Health Care Markets Chartbook. Section 9: Statewide Quality Reporting and Measurement System*
- *Minnesota Public Health Data Access Portal*
- *MDH Health Care Quality Measures*
- *MN Community Measurement*

ASTHMA SUMMARY

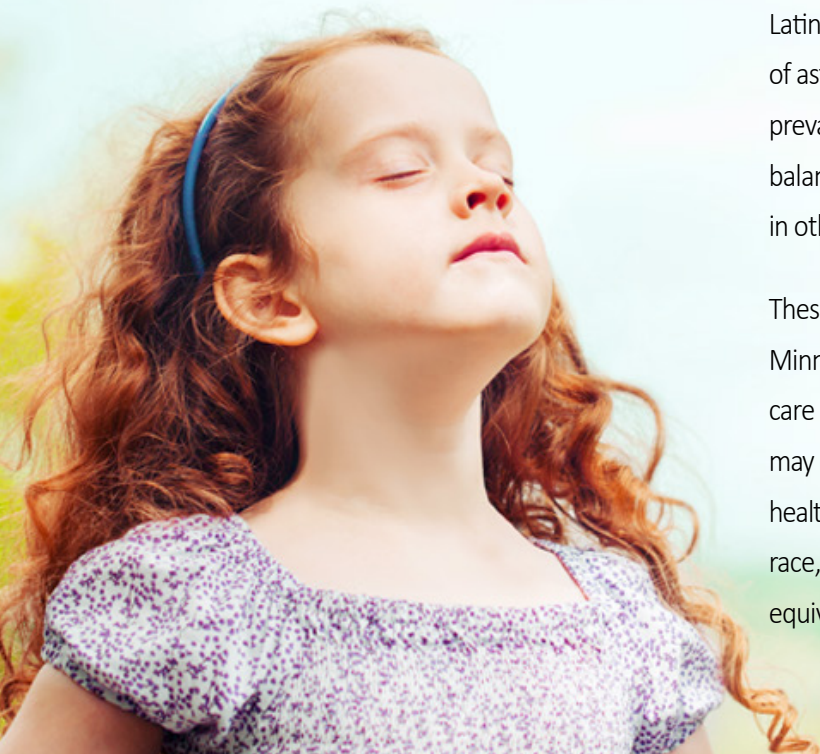
HISTORICALLY, Minnesota has ranked among the country's healthiest states. **We rank 6th from the bottom**

in number of adults with asthma.²³ Minnesota also enjoys many social attributes associated with health, such as low rates of poverty and unemployment.²⁴

However, these benefits do not extend to all Minnesotans. Stratifying data by race, ethnicity, and country of origin reveals deep disparities – generally between white and nonwhite populations. This duality extends to asthma. Emergency room visits for asthma occur more often in areas of poverty, where disproportionate numbers of nonwhites reside. **American Indians report the highest levels of asthma;** up to four times higher than whites in one recent year. And while Hispanic/Latino and Asian Minnesotans report low levels of asthma, those reporting asthma have lower levels of asthma control than whites. A downward trend in asthma prevalence among Black Minnesotans may reflect a shift in the balance between Blacks born in the United States and Blacks born in other countries, rather than a meaningful change in prevalence.

THE COST OF ASTHMA
IS ESTIMATED AT
BILLIONS
ANNUALLY IN MN

These **disparities are sobering**, and without immediate strategic action, they are likely to get worse. Minnesota has been a popular destination for immigrants in recent years. Barriers to regular health care typically experienced by immigrants, as-well-as living conditions associated with low income, may result in increasing asthma among these groups. As the agency charged with protecting public health, we need to **find effective ways to gain the trust of all community groups** regardless of race, ethnicity, and country of origin, and to work with them to ensure that they have asthma care equivalent to other Minnesotans.



Even within our majority population, data reveal room for improvement. **Cost should not be a barrier to accessing appropriate asthma medication and care.** All asthma patients should receive asthma self-management education so they know what can trigger asthma, how to use their inhaler, what symptoms may indicate an asthma attack, and how to recognize and treat those symptoms. All children and adults with asthma should receive an individualized written Asthma Action Plan developed in collaboration with their health care provider.

Both efforts, improving care for asthma patients and extending high levels of asthma care to all Minnesotans, will **require strong partnerships** – with clinics, health care providers, schools, local public health, and communities disproportionately affected by asthma. These goals warrant high priority from policy makers and the public. Despite generally favorable rankings with respect to asthma, the cost of asthma in Minnesota is estimated at billions of dollars per year, and the burden of asthma is disproportionately distributed across our population. Minnesota prides itself as being recognized as a great place to live and a great place to raise a family. All Minnesotans must have access to the resources they need to be healthy and to live well so that Minnesota will continue to be a good place to live and raise a family for all people. ■

EXTENDING HIGH LEVELS OF
ASTHMA CARE
TO ALL MINNESOTANS REQUIRES
STRONG PARTNERSHIPS





ASTHMA NOTES

[Acknowledgments](#)

[References](#)

[Glossary](#)

[Info & Input](#)

[Contact](#)

ACKNOWLEDGMENTS

This Strategic Framework for Addressing Asthma in Minnesota would not have been possible without the contributions and ongoing input from members of the *Minnesota Department of Health's* (MDH) *Asthma Advisory Committee* (AAC), asthma partners, and community stakeholders. The AAC serves as an external body to provide insight and guidance to the Program as we plan and implement activities to address asthma in Minnesota.

Thank you to our AAC members, our statewide partners, and their respective organizations.

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THANK YOU

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GLOSSARY

Allergens: Substances that set off an immune response in which the body's immune system fights off a perceived threat that would otherwise be harmless. Common allergens include pollen, dust mites, animal dander, and some medications.

Asthma Action Plan (AAP): A document (usually written) that provides patient-specific directions of how to effectively control asthma through self-management steps. AAPs are developed in consultation with the health care provider, patients and family members/caregivers. AAP's include information on medication doses and purposes of these medications, how to recognize symptoms, what to do when having an asthma episode and information on the patient's triggers.

Asthma attack: Also referred to as an asthma exacerbation or episode, a sudden worsening of asthma symptoms caused by a constriction of the muscles that surround the airways due to exposure to asthma triggers. During an asthma attack, the lining of the airways becomes inflamed and thicker mucus is produced. Typical symptoms of an asthma attack include difficulty breathing, wheezing, coughing, shortness of breath, and difficulty performing normal daily activities.

Asthma trigger: A substance or event that can cause asthma symptoms or an asthma episode. Some of the most common triggers include allergens such as pollen, pests, and animal dander; irritants such as chemicals, cigarette or other smoke; dust and other particulates; cold air; exercise; viral infections and some medications.

Behavioral Risk Factor Surveillance System (BRFSS): A system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services.

Evidence-based: A program or practice that closely replicates a specific intervention that has been tested through randomly controlled experiments with results published in peer-reviewed journals.

Health disparity: A population-based difference in health outcomes.

Health equity: Achieving the conditions in which all people have the opportunity to attain their highest possible level of health.

Health inequity: A health disparity based in inequitable, socially determined circumstances.

Health plan: Health maintenance organizations, preferred provider organizations, community integrated service networks, insured plans and other plans that cover health care services.

Irritants: Inhaled substances in the environment such as diesel exhaust, perfume and tobacco smoke that may cause an asthma exacerbation (attack).

Minnesota Asthma Program (MNAP): The MDH Asthma Program works with partners across the state from healthcare systems, local public health, schools, businesses, nonprofit organizations and communities with the goal to improve outcomes and quality of life for people who have asthma in Minnesota.

Minnesota Community Measurement (MNCM): nonprofit organization working with partners statewide and nationally to increase quality and value in health care. MNCM creates and refines measures and collects and reports health care data used to drive improvement in health care.

Minnesota Pollution Control Agency (MPCA): A state agency that monitors environmental quality and offers technical and financial assistance related to environmental quality, enforces environmental regulations, develops statewide policy, and supports environmental education.

Morbidity: The incidence or rate of disease.

Mortality: The incidence or rate of death, usually from a specific disease such as asthma.

Patient-centered care: Health care that establishes a partnership among practitioners, patients, and their families to ensure that decisions respect patients' wants, needs, and preferences, and that patients receive the education and support they need to make decisions and participate in their own care.

Optimal asthma care: The percentage of adults (18- 50 years of age) and percentage of children (5-17 years of age) who had a diagnosis of asthma and whose asthma was optimally controlled as defined by achieving the following: (a) Asthma well-controlled as defined by the most recent asthma control tool result (b) Patient not at risk of exacerbation (i.e., fewer than two emergency department visits and/or hospitalizations due to asthma in the last 12 months).

Prevalence: The proportion of individuals in a population who have the condition of interest.

Reducing Environmental Triggers of Asthma (RETA), Communities Reducing Environmental Triggers of Asthma (CRETA) and Housing and Urban Development (HUD-RETA): Minnesota-based demonstration projects providing home interventions for children diagnosed with asthma. Home visits included education on medical self-management of asthma as well as identification of low cost environmental interventions in the home.

RETA-Home: Reducing Environmental Triggers of Asthma in the home is a free online training video developed by the MDH Asthma Program.

Secondhand smoke (SHS): Also known as environmental tobacco smoke (ETS), it is a mixture of smoke from the burning end of a cigarette, pipe, or cigar and smoke exhaled by the smoker.

Self-Management: Related to health, it is the decisions and behaviors that individuals engage in on a day-to-day basis that affect their health. It includes three self-management tasks—medical management, role management, and emotional management, and six self-management skills—problem solving, decision making, resource utilization, the formation of a patient-provider partnership, action planning, and self-tailoring. For people who have asthma, their medical self-management includes the ability to assess and appropriately react to changes in their asthma symptoms, including when to seek help from their health care provider or emergency care.

Statewide Quality Reporting and Measurement System (SQRMS): The system of standardized quality measures reported by health care providers to the state to support Minnesota’s health care reform efforts.

Surveillance: The discipline of continuously gathering, analyzing, and interpreting data about asthma or other diseases, and disseminating conclusions of the analyses to relevant organizations.

Trigger: A substance, factor, or environmental condition that causes asthma symptoms or allergy symptoms to appear or worsen. ■

INFO & INPUT



mn DEPARTMENT OF HEALTH

The Minnesota Asthma Program

MAY IS ASTHMA AWARENESS MONTH
Take control of your asthma.

Did you know? Test your asthma knowledge with these quick facts.

Asthma is the leading cause of school absenteeism due to chronic illness in the USA. When kids miss school, their parents miss work due to care for their children at home.

Asthma can't be cured, but it can be controlled by taking medications, avoiding triggers & seeing your health care provider.

It's important to have an Asthma Action Plan. Work with your health care provider to create a plan that works for you to manage your asthma.

Furry pets are a common asthma trigger, and don't go with them to a high allergen dog or cat show.

Asthma symptoms are triggered by animal dander, urine, and hair follicles, not just their hair or fur.

Schools can help people with asthma by adopting policies that reduce triggers in the classroom. Encourage your school to adopt policies that don't allow worn-out shoes, animal dander, or cleaning products and fragrances.

Are you a community coach and interested in learning how you can support athletes with asthma?

Are you a coach and interested in learning how you can support athletes with asthma?

Debunking Myths: Do you know the difference between asthma fact and myth?

Asthma is an acute condition and only occurs when someone has trouble breathing.

☒ This is a myth. Asthma is a chronic condition. Even when someone with asthma feels well, their airways are inflamed. Asthma does not go away when symptoms are gone.

Asthma symptoms are different for everyone.

☒ This is a fact. Asthma can affect each person differently. One person may have mild symptoms, such as wheezing, chest tightness, and fatigue, while another may have severe symptoms.

Asthma symptoms in children can improve with age.

☒ This is a fact. While asthma is a life-long disease, when children's lungs grow, the airways expand. This sometimes causes asthma symptoms to decrease, but symptoms can return without warning.

The steroids used to treat asthma are the same as the steroids used by athletes to gain muscle and improve performance.

☒ This is a myth. Inhaled corticosteroids, the gold standard to treat asthma, are not the same as anabolic steroids and have no significant, positive effects on athletic performance.

People with asthma should not play sports or exercise.

☒ This is a myth. All people need to exercise in order to stay healthy. It is important that a person's asthma is under control and that they follow the treatment plan agreed upon with their health care provider. They should also have a current asthma action plan (AAP).

Impact of Asthma on Children in MN: A Snapshot

Of children who have asthma in MN:

- 40.6% had symptoms within the past 30 days
- 50.5% had an attack or episode within the past 12 months
- 59.3% used a rescue inhaler in the past three months
- 52.5% had to limit their activities due to asthma within the past 30 days
- 55.6% missed one or more school days because of asthma within the past 12 months

1 in 13 children aged 5-17 have asthma

Find more Asthma Quick Facts on our website or visit the Minnesota Public Health Data Access Asthma page.

A Look Into Asthma Disparities

The burden of asthma continues to disproportionately impact certain groups of Minnesotans. Disparities are shown by geographic factors including poverty rates, socioeconomic status, environmental factors, and access to health care. Asthma is a quick look at select these disparities, but the data is more complex.

- Asthma hospitalization rates for children living in the Twin Cities metropolitan area are 67% higher than for children living in Greater Minneapolis.
- Asthma hospitalization rates for children living in the Twin Cities metro area are nearly twice as high as for children living in Greater Minnesota.
- In certain ZIP codes in the state of Minnesota, hospitalization rates for asthma among children are 4 times higher than the statewide rate.
- Death rates are four times higher among African Americans and three times higher among American Indians than among whites.

Learn more about Asthma Disparities in Asthma through the Asthma and Allergy Foundation of America (AAFA). More information on health equity at AAFA can be found through the Center for Health Equity.

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RECEIVE UPDATES

For everything current regarding the MDH Asthma Program initiatives, training opportunities, research, and other activities addressing asthma at the state and national level.

SIGN UP

HAVE QUESTIONS

For additional information or answers to questions about asthma program and care, Visit our:

WEBSITE

CONTACT US

GIVE US YOUR FEEDBACK

Please send your questions or comments about the *Strategic Framework for Addressing Asthma in Minnesota 2021-2030* to the MDH Asthma Program. Please use this email address **health.asthma@state.mn.us** and include **"State Plan 2021-2030 Comments"** in the Subject area.

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The Minnesota Department of Health's Asthma Program (MN AP) receives funding and technical support from the Centers for Disease Control and Prevention's National Asthma Control Program (NACP). The NACP aims to "improve the reach, quality, effectiveness, and sustainability of asthma control services and to reduce asthma morbidity, mortality and disparities by implementing evidence-based strategies."

This *Strategic Framework for Addressing Asthma in Minnesota* represents a collaboration between the Minnesota Department of Health, its Asthma Advisory Committee, and asthma partners and stakeholders across the state.

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Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording.