

WISCONSIN ASTHMA PLAN

2026-2029



WISCONSIN
ASTHMA
COALITION

★ Children's Health
Alliance of Wisconsin



State of Wisconsin
Department of Health Services

Tony Evers, Governor
Kirsten L. Johnson, Secretary

The Wisconsin Department of Health Services' Asthma Program and Wisconsin Asthma Coalition work to improve the health and quality of life for people living with asthma. Improving asthma control requires a comprehensive and coordinated approach spanning public health, community organizations, and healthcare sectors. Over the last four years, the Wisconsin Asthma Program and Wisconsin Asthma Coalition have implemented strategies in the *Wisconsin Asthma Plan 2021-2025* related to infrastructure, community, home- and school-based interventions, and health systems coordination to ensure all people with asthma have access to guideline-based medical management, pharmacotherapy, and healthy living environments.

Considerable strides have been made during this time. In 2021, we leveraged the success of our asthma home-visiting initiative to obtain sustainable funding to support asthma home-visiting and environmental remediation through a Medicaid State Plan Amendment with the Children's Health Insurance Program and launched our new asthma health services initiative. Our program received the *2023 EPA National Environmental Leadership Award in Asthma Management* for our achievements in providing environmental asthma management. We were also recognized by HUD's *2023 Secretary's Award for Excellence in Healthy Homes*, which highlighted our asthma and lead initiatives that create healthier home environments by addressing housing-related issues.

Advancements have been made toward reducing asthma morbidity and mortality; however, asthma rates remain higher among Black, Indigenous, and Hispanic populations, people with low incomes, and children. Asthma is most prevalent within Wisconsin's urban southeastern counties and within rural counties with high poverty rates and large tribal populations. We have identified several key issues that must be addressed to improve asthma outcomes among these populations. Adherence to guidelines-based care among primary care providers, provision of asthma resources within schools, and coverage of in-home asthma education and environmental services need to be enhanced within our high asthma burden communities.

We seek to achieve these outcomes using CDC's EXHALE framework, a set of six strategies that each contribute to better asthma control. Each EXHALE strategy has been proven to reduce asthma-related hospitalizations, emergency department visits, and healthcare costs. Using the EXHALE strategies together in a community can have the greatest impact. To accomplish these outcomes, we will implement a comprehensive and coordinated approach spanning public health, schools, community organizations, and healthcare.

We are encouraged by and grateful for the continued commitment and passion of the many dedicated statewide partners comprising the Wisconsin Asthma Coalition. We are pleased to endorse the *Wisconsin Asthma Plan 2026-2029* and pledge our enthusiastic support to its implementation.

Kirsten Johnson
Secretary
Wisconsin Department of Health Services

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OVERVIEW

Asthma is a common, chronic lung condition characterized by ongoing airway inflammation associated with increased airway responsiveness to a variety of triggers. Inflammation causes reversible airway obstruction, which results in wheezing, chest tightness, coughing and shortness of breath. Several factors can trigger asthma attacks including allergens (e.g., pet dander, pollen, dust mites, mold), irritants (e.g., chemicals, tobacco smoke, air pollution), viral infections, exercise, cold air and stress.

Asthma is a complex condition that requires a multifaceted approach to effective management at both the individual and population levels. Comprehensive asthma care includes a seamless alignment of the full array of services across the public health and health care continuum. In Wisconsin, approximately 582,000 adults and children are living with asthma. People in Wisconsin with current asthma experience factors such as social isolation, lost employment, food insecurity, unreliable transportation and other stressors that may impact asthma control. To reduce variance in asthma morbidity and eliminate the burden of asthma in Wisconsin, it is critical to ensure all people living with asthma have equal access to guidelines-based medical management, pharmacotherapy and healthy environments. For the segment of the population whose asthma remains poorly controlled, additional steps must be taken to provide them with progressively more individualized services (e.g., intensive self-management education, home environmental assessment, trigger reduction services, environmental management strategies).

An overview of Wisconsin's asthma burden follows, and additional data and discussion surrounding variation in asthma outcomes are provided in the Appendix.

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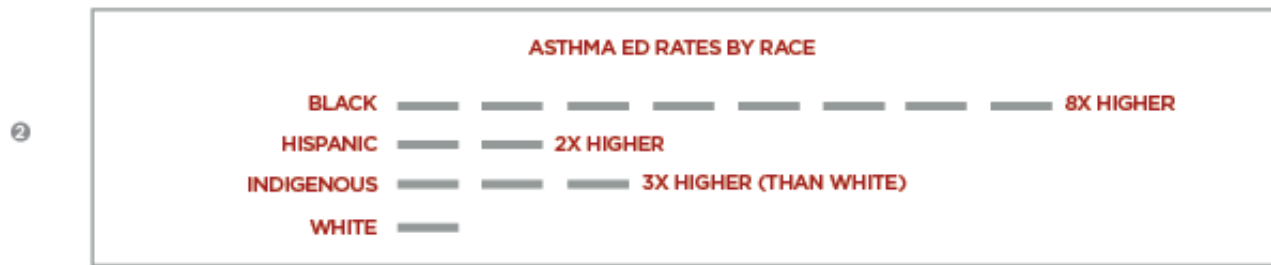
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ASTHMA IS COMMON



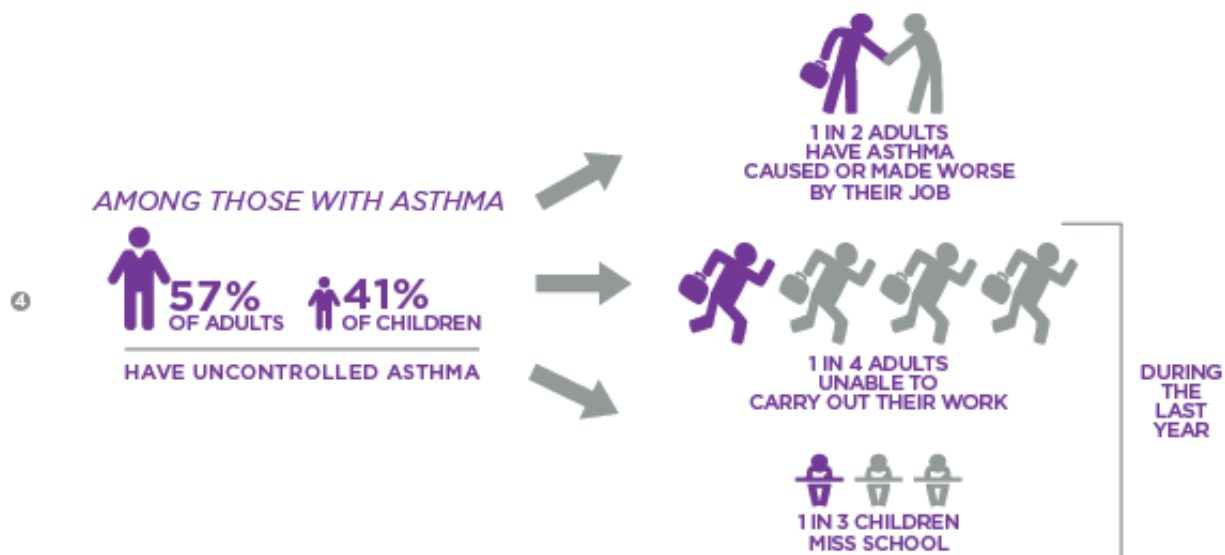
ASTHMA IS DEADLY

② CHILDREN HAVE A 2X HIGHER ASTHMA ED RATE COMPARED TO ADULTS



③ **1 PERSON DIES EVERY 5 DAYS**

ASTHMA IS DISRUPTIVE



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ASTHMA IS COSTLY

2



THE ECONOMIC IMPACT IS HIGH AND
INCLUDES DIRECT (HEALTH CARE)
AND INDIRECT COSTS
(MISSED WORK)



\$5,408.16
ESSENTIAL ASTHMA CARE
AND MEDICATION COST
PER PERSON PER YEAR

ASTHMA CAN BE CONTROLLED

TWO ROUTINE CHECKUPS PER YEAR

NIH asthma guidelines recommend that persons with asthma seek at least two routine checkups per year (5).

Only 21% of adults and 23% of children with current asthma have had at least 2 doctor visits in the last year (4).



Source: 4

FLU VACCINE

A flu vaccine is recommended for all persons with asthma.

Only 37% of people with asthma on Medicaid received their flu vaccine in the 2022-2023 flu season.



Source: 6

ASTHMA MANAGEMENT PLAN

30% of adults and 53% of children were given an asthma management plan by their health care provider.



Source: 4

Sources:

- 1 Wisconsin Department of Health Services, Behavioral Risk Factor Surveillance System (BRFSS), 2023 adults and children.
- 2 Wisconsin Department of Health Services, Inpatient Hospitalization Discharge and Emergency Department Visit Data Files, 2021-2023.
- 3 Wisconsin Department of Health Services, Mortality Files, 2023.
- 4 Wisconsin Department of Health Services, BRFSS Asthma Call-back Survey, adults (2019-2023) and children (2012-2020).
- 5 National Asthma Education and Prevention Program, 2007. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. Bethesda (MD): National Heart, Lung and Blood Institute.
- 6 Wisconsin Department of Health Services, Medicaid and Wisconsin Immunization Record match, 2022-2023.

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WORKING WITH OUR PARTNERS, OUR GOALS THROUGH 2029 ARE TO:

REDUCE ASTHMA DEATHS

- From 10.5 deaths per one million in 2023 (74 deaths annually)

REDUCE HOSPITALIZATIONS FOR ASTHMA, FOCUSING ON PRIORITY POPULATIONS

- From the overall rate of 2.3 hospitalizations per 10,000 in 2021-2023, and:
 - 10.2 hospitalizations per 10,000 among Black populations
 - 3.8 hospitalizations per 10,000 among Indigenous populations
 - 2.4 hospitalizations per 10,000 among Hispanic populations

REDUCE EMERGENCY DEPARTMENT (ED) VISITS FOR ASTHMA, FOCUSING ON PRIORITY POPULATIONS

- From the overall rate from 26.7 ED visits per 10,000 in 2021-2023, and:
 - From 132.5 ED visits per 10,000 among Black populations
 - From 48.0 ED visits per 10,000 among Indigenous populations
 - From 34.2 ED visits per 10,000 among Hispanic populations

REDUCE THE PROPORTION OF PERSONS LIVING WITH ASTHMA WHO MISSED SCHOOL OR WORK DAYS

- From 34% of all children living with asthma who missed at least one day of school in the past 12 months due to their asthma (during 2012-2020)
- From 23% of adults living with asthma who reported they were unable to work or carry out usual activities for one or more days due to their asthma in the past year (during 2019-2023)

INCREASE THE PROPORTION OF PERSONS LIVING WITH ASTHMA WHO RECEIVE APPROPRIATE ASTHMA CARE ACCORDING TO THE NATIONAL INSTITUTES OF HEALTH'S ASTHMA GUIDELINES

- From 21% of adults and 23% of children in Wisconsin with a current asthma diagnosis who reported having at least two routine checkups for their asthma in the past 12 months (adults: 2019-2023, children: 2012-2020)
- From 30% of adults and 53% of children in Wisconsin living with asthma who were given an asthma action plan by their health care provider (adults: 2019-2023, children: 2012-2020)

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HOW WE WILL ACCOMPLISH THESE GOALS

All Wisconsinites deserve to live healthy lives no matter where they live, work or play. The Wisconsin Asthma Coalition (WAC) works to reduce the burden of asthma in our state. Our mission is to foster partnerships to improve asthma management, enhance quality of life, reduce variation in asthma outcomes and prevent asthma-related deaths. While the coalition is made up of a diverse group of statewide members, the WAC is unified by the common goal of helping Wisconsin take control of asthma. The WAC will accomplish the goals outlined in this plan with an intentional focus on unequally distributed asthma morbidity. To ensure the voices of our member and the community are heard, this plan draws upon the expertise of the WAC Advisory Committee and the coalition's membership, as well as feedback from numerous community stakeholders.



The Wisconsin Asthma Plan 2026-2029 is divided into six strategy areas aligning with the Centers for Disease Control and Prevention's (CDC) EXHALE strategies. EXHALE represents six evidence-based strategies selected for their potential of having the greatest collective impact on controlling asthma. Each EXHALE strategy has been proven to reduce asthma-related health care costs, ED visits and hospitalizations. Reorganizing the Wisconsin Asthma Plan 2026-2029 to align with the EXHALE strategies allows for a better understanding of the work being done under each strategy area, and allows us to speak the same universal language while achieving better asthma control through EXHALE.

Finally, to bolster the sustainability of the Wisconsin Asthma Program and the WAC, we will use this plan to foster partnerships to implement initiatives, expand services, reduce duplication of efforts and implement EXHALE strategies in our communities of focus. Evaluation data will be used to demonstrate program efficiency and effectiveness, improve implementation, increase accountability, engage partners and contribute to identification of new funding to strengthen organizational capacity and expand EXHALE strategies in high-burden communities. The Wisconsin Asthma Program will partner with Children's Health Alliance of Wisconsin to coordinate and carry out the activities listed in this plan.

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OBJECTIVES AND ACTIVITIES

EXHALE

EDUCATION ON ASTHMA SELF-MANAGEMENT (AS-ME)

- Approach: Expand access to and delivery of AS-ME.
- For more information, view the [CDC's Fact Sheet](#) on this strategy.

Objective	Activities
Objective: Promote and provide asthma education in the community to improve asthma health outcomes and reduce variation in asthma outcomes.	<ul style="list-style-type: none">• Activity 1: Within existing and newly created educational programs, promote the use of guidelines and evidence-based practices• Activity 2: Train partners to deliver asthma education (e.g., pharmacists, school staff, community health teams, social workers)• Activity 3: Promote opportunities for asthma educators to obtain and maintain asthma educator certification• Activity 4: Ensure communication and materials are appropriate for all literacy levels and languages

EXHALE

X-TINGUISHING SMOKING AND EXPOSURE TO SECONDHAND SMOKE

- Approach: Reduce tobacco smoking and exposure to secondhand smoke and aerosol.
- For more information, view the [CDC's Fact Sheet](#) on this strategy.

Objective	Activities
Objective: Support statewide commercial tobacco prevention and treatment efforts.	<ul style="list-style-type: none">• Activity 1: Support and protect policies that eliminate exposure to secondhand smoke and aerosol in public spaces (e.g., inclusion of e-cigarettes in smoke-free air policies; smoke-free multiunit housing, college campuses, parks and casinos)

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- **Activity 2:** Promote options for commercial tobacco and vaping treatment in households and workplaces
- **Activity 3:** Promote asthma risk messaging for tobacco products, vapes and other nicotine delivery systems
- **Activity 4:** Support policies to reduce the availability and accessibility of commercial tobacco and nicotine delivery systems to youth and young adults



HOME VISITS FOR TRIGGER REDUCTION AND AS-ME

- Approach: Expand access to and delivery of home visits for asthma trigger reduction and AS-ME.
- For more information, view the [CDC's Fact Sheet](#) on this strategy.

Objective	Activities
Objective: Promote and provide home environmental programs to improve asthma health outcomes and reduce variation in asthma outcomes.	<ul style="list-style-type: none">• Activity 1: Sustain and refine the Asthma-Safe Homes Program's in-home AS-ME and home environmental assessment efforts using validated tools (e.g. Environmental Protection Agency (EPA) Asthma Home Environment Checklist) and ongoing training• Activity 2: Advocate for local and statewide policies that encourage accessible, asthma-friendly housing• Activity 3: Disseminate resources that support asthma-friendly housing (e.g., no to low-cost community resources, educational tools, etc.)• Activity 4: Connect and collaborate with other organizations working on housing (e.g., Federally Qualified Health Centers, homeownership programs like Housing Resources, Inc., housing authorities, etc.)

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ACHIEVEMENT OF GUIDELINES-BASED MEDICAL MANAGEMENT

- Approach: Strengthen systems supporting guidelines-based care and improve access to, and appropriate usage of, asthma therapies, medications and devices.
- For more information, view the [CDC's Fact Sheet](#) on this strategy.

Objectives	Activities
Objective A: Improve access to and appropriate usage of asthma therapies and medication management.	<ul style="list-style-type: none">• Activity 1: Advocate for the availability and affordability of asthma therapies and devices• Activity 2: Promote evidence-based medication prescribing and usage strategies• Activity 3: Promote the importance of respiratory disease vaccines and allergy testing for asthma management
Objective B: Promote the implementation of guidelines-based health care recommendations.	<ul style="list-style-type: none">• Activity 1: Promote the use of validated tools to assess severity and control (e.g., Asthma Control Test, Test for Respiratory and Asthma Control in Kids, Asthma Control Questionnaire)• Activity 2: Promote the use of asthma action plans that are responsive to the health literacy of asthma patients and caregivers, and embed the plan in the patient's health record• Activity 3: Promote providing a basic home environmental assessment as part of the clinic visit• Activity 4: Promote the use of and training for spirometry testing• Activity 5: Promote providing AS-ME to patients and family in home and clinic settings



LINKAGES AND COORDINATION OF CARE ACROSS SETTINGS

- Approach: Promote coordinated care for people living with asthma.
- For more information, view the [CDC's Fact Sheet](#) on this strategy.

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Objectives	Activities
Objective A: Increase communication and coordination between health care providers, pharmacists and health systems.	<ul style="list-style-type: none"> • Activity 1: Provide asthma plans that include medication name, dose and clear directions, and schedule appropriate follow-up care • Activity 2: Identify and share best practices for acute asthma care in urgent care, ED and hospital settings, and provide training among health systems • Activity 3: Promote patient-centered care coordination within health systems • Activity 4: Encourage enhanced data sharing among all health care partners
Objective B: Increase communication and coordination between health care systems and the community.	<ul style="list-style-type: none"> • Activity 1: Promote systems/resources/guidance that ensures all children living with asthma have an individual asthma action plan in their health record and at school • Activity 2: Promote screenings for occupation-related and environmental triggers among household members and refer to specialists as needed • Activity 3: Increase awareness of community-based asthma partners (e.g., local coalitions, advocacy groups) • Activity 4: Encourage community organizations and community members to participate in asthma-related policy and advocacy efforts to improve asthma health outcomes and reduce variation in asthma outcomes • Activity 5: Share asthma-specific media messages from trusted sources with community members and stakeholders
Objective C: Secure insurance coverage for enhanced asthma services.	<ul style="list-style-type: none"> • Activity 1: Strengthen partnerships with Wisconsin Medicaid and health plans to improve coverage of asthma medications, equipment/devices and services • Activity 2: Partner with statewide organizations and professionals to build support for policies that encourage reimbursement for comprehensive asthma services (e.g., public health, schools, pharmacy associations and others) • Activity 3: Educate policy makers on the benefits of comprehensive asthma management (e.g., AS-ME, home environmental assessment, trigger reduction supplies)

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ENVIRONMENTAL POLICIES OR BEST PRACTICES TO REDUCE ASHTMA TRIGGERS FROM INDOOR, OUTDOOR OR OCCUPATIONAL SOURCES

- Approach: Reduce or eliminate (when possible) exposure to asthma triggers. Promote energy efficiency, green practices, sustainability and clean transportation.
- For more information, view the [CDC's Fact Sheet](#) on this strategy.

Objectives	Activities
Objective A: Reduce exposure to asthma triggers in indoor environments.	<ul style="list-style-type: none"> • Activity 1: Provide basic asthma awareness and education to school personnel • Activity 2: Implement environmental education programs that reinforce knowledge of air quality and its health impacts • Activity 3: Partner with organizations that support school environmental programs
Objective B: Reduce exposure to asthma triggers in outdoor environments.	<ul style="list-style-type: none"> • Activity 1: Promote effective environmental health education programs, tools (e.g., air quality maps, apps) and messaging (e.g., outreach materials, videos) that focus on asthma risks related to climate change and weather factors • Activity 2: Support policies that reduce exposure to poor air quality and promote clean air (e.g., policies that limit exposure to diesel exhaust from school bus idling, transitioning to electric school buses, clean energy, green certification program for businesses, etc.) • Activity 3: Encourage the public to sign up to receive Wisconsin Department of Natural Resource's email or text notifications for air quality alerts • Activity 4: Disseminate guidance to community partners (e.g., businesses and employers, general public, media, nursing homes, schools, coaches) on how to respond to air quality alerts
Objective C: Reduce exposure to occupational asthma triggers.	<ul style="list-style-type: none"> • Activity 1: Educate health care providers, employers and employees about asthma as an occupational health issue and increase awareness of "take-home" asthma triggers

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	<ul style="list-style-type: none">• Activity 2: Encourage asthma-related programs and policies in indoor and outdoor worksite health, safety and wellness programs using existing workplace resources• Activity 3: Promote the use of asthma-friendly green cleaning and sanitation practices (e.g., EPA’s Safer Choice certified products, providing adequate ventilation)
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APPENDIX

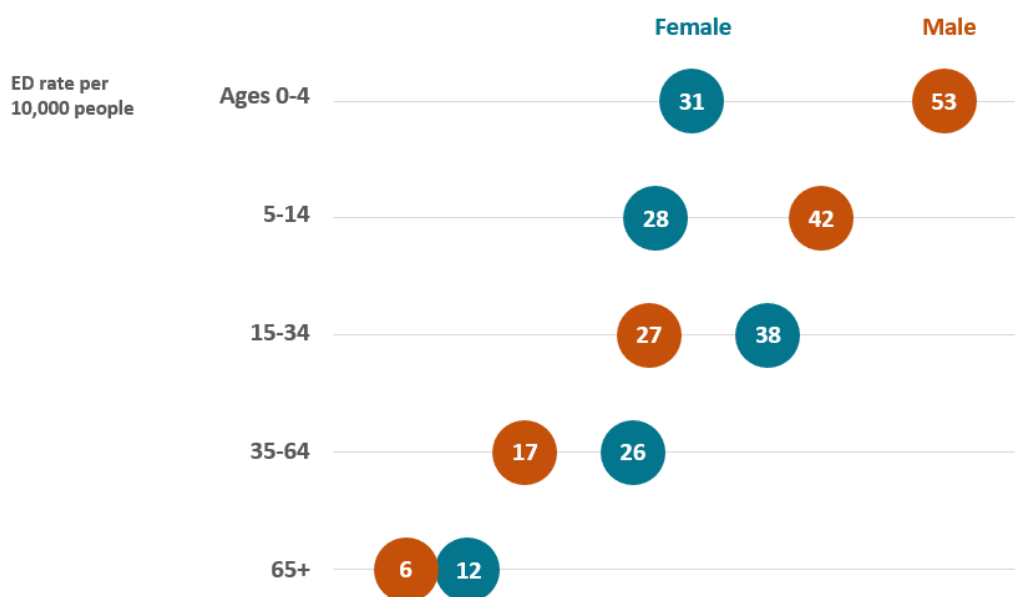
VARIATION IN ASTHMA OUTCOMES IN WISCONSIN

In Wisconsin, certain populations have higher than average asthma morbidity, including certain age groups, genders, racial and ethnic minorities, geographic regions and socio-economic groups. As mentioned in the introduction, factors such as social isolation, lost employment, food insecurity, unreliable transportation and other stressors that may impact asthma control create a higher asthma burden in populations of color compared to white populations. Recent data shows significant variation in asthma burden among Black, Indigenous and Hispanic populations, and among children younger than age 5.

Age and gender

Across age categories, Wisconsin children younger than age 5 have the highest hospitalization rate (7.5 per 10,000, 2021-2023) and ED visit rate (42.1 per 10,000, 2021-2023). By gender, females have higher asthma prevalence and rates of health care utilization after puberty, while males are more severely impacted by asthma during childhood (Figure 3). A higher asthma burden among females versus males is reflected in current asthma prevalence (14% vs. 8%, 2021-2023), ED visits (28.9 vs. 25.1 per 10,000, 2021-2023) and inpatient hospitalizations (2.7 vs. 2.0 per 10,000, 2021-2023).

Figure 3. Asthma ED visit rates by age and gender, 2021-2023



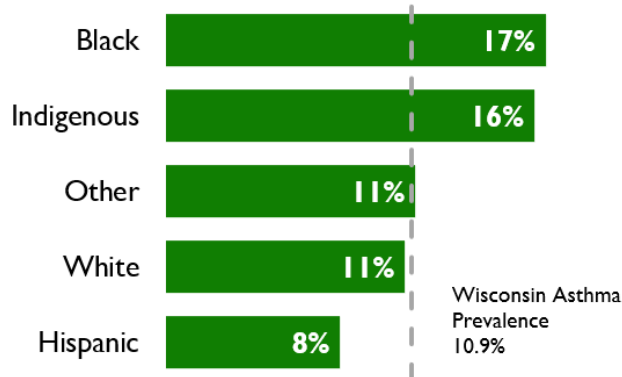
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Race and ethnicity

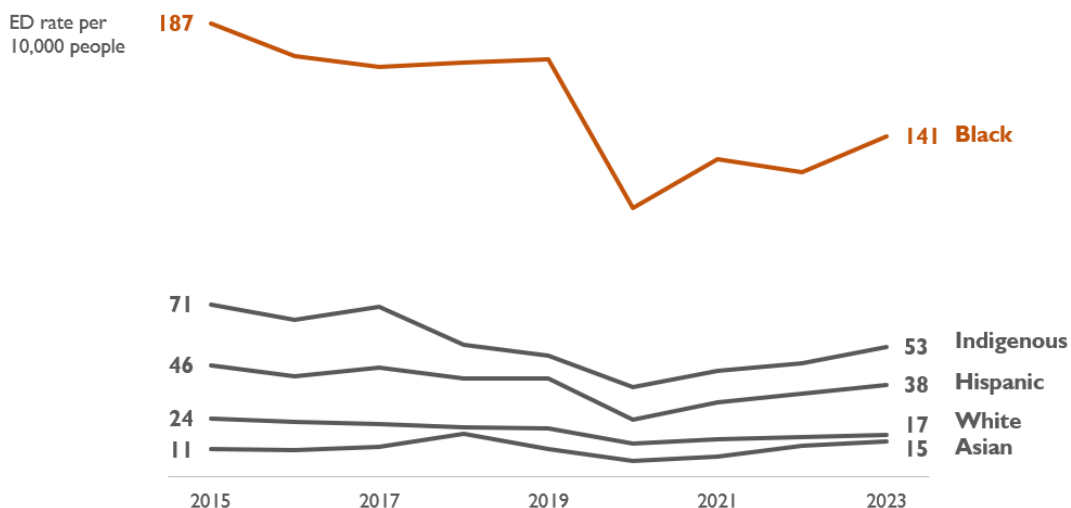
At both state and national levels, asthma-related adverse health outcomes continue to vary in Hispanic, Black and Indigenous populations. Adult asthma prevalence by race and ethnicity is: 17% Black, 16% Indigenous, 11% white and 8% Hispanic (Figure 4, 2021-2023). Child asthma prevalence by race and ethnicity is: 12% Black, 8% Hispanic and 5% white (2021-2023).

Figure 4. Variation in asthma outcomes by race and ethnicity, 2021-2023



Large variations in asthma outcomes are seen for ED visits by race and ethnicity, and have increased for Black populations during the period from 2015–2023 (Figure 5). Compared to white populations, the 2023 ED rate is eight times higher for Black populations, three times higher for Indigenous populations and two times higher for Hispanic populations. We see similar variation among hospitalization rates (per 10,000 people, 2021-2023): 10.2 Black, 3.8 Indigenous, 2.4 Hispanic, 1.6 Asian and 1.5 white. Compared to white populations, hospitalization rates are seven times higher for Black populations, 2.5 times higher for Indigenous populations and 1.6 times higher for Hispanic populations.

Figure 5. Asthma ED visit rates by race and ethnicity, 2015-2023

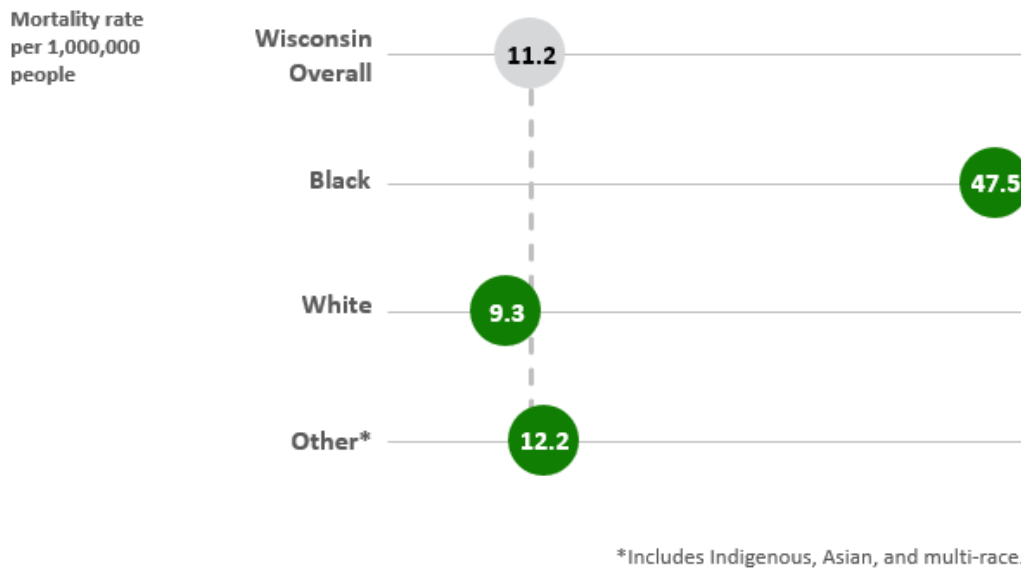


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The asthma mortality rate is five times higher for Black populations compared to white populations (Figure 6).

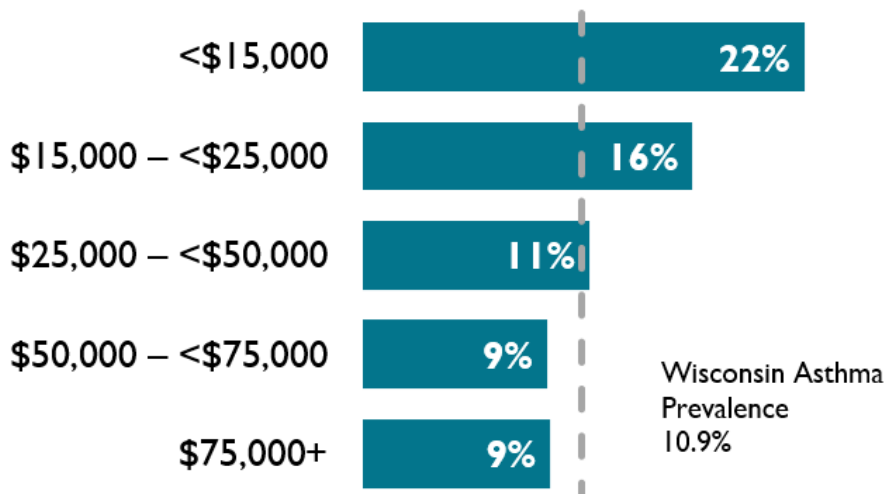
Figure 6. Asthma mortality rates by race and ethnicity, 2020-2023



Socioeconomic status

Asthma prevalence in adults appears to be inversely associated with income level. Adults with the lowest annual household income in 2020-2023 (less than \$15,000) reported the highest asthma prevalence (22%), while households earning more than \$75,000 annually reported the lowest asthma prevalence (9%) (Figure 7). Overall, trends show a decrease in current asthma prevalence with an increase in income. Furthermore, households with the lowest incomes also report higher rates of poorly controlled asthma (Figure 8).

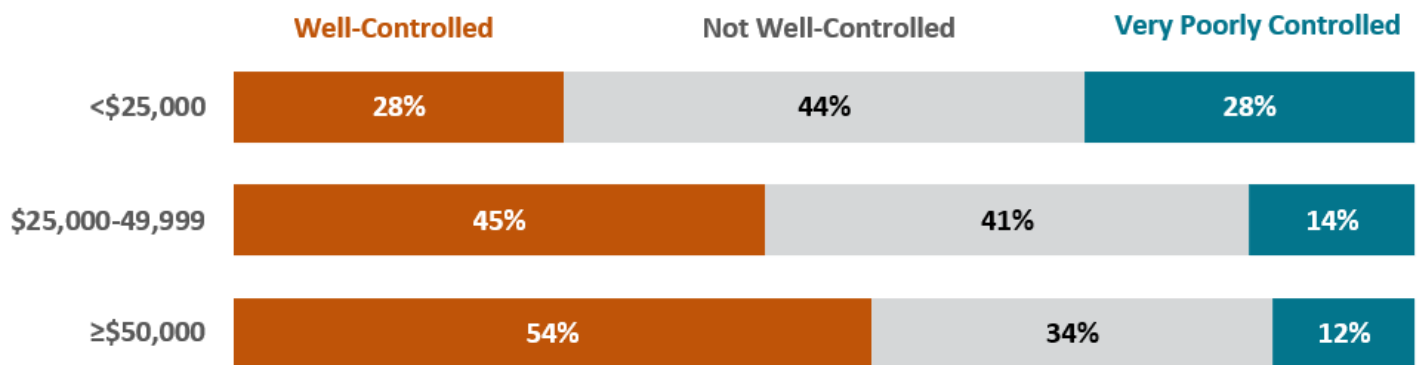
Figure 7. Variation in asthma outcomes by income, 2021-2023



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Figure 8. Asthma control by income, 2019-2023

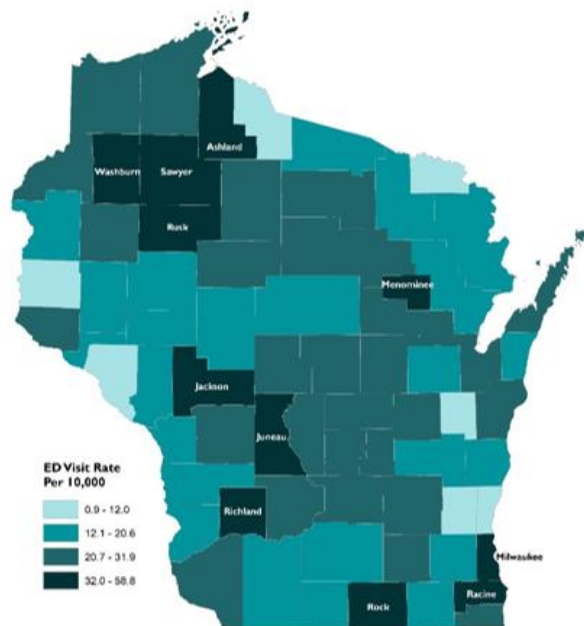


Geographic regions

Geographically, the areas in Wisconsin that have the highest ED and hospitalization rates are in Southeast Wisconsin (Kenosha, Milwaukee and Racine counties), Southern Wisconsin (Rock County), Northeast Wisconsin (Brown County), as well as some rural counties (Ashland, Juneau, Lincoln, Menominee, Rusk and Waupaca counties). Within Milwaukee, we found ED visit rates by zip code tabulation area (ZCTA) as high as 86 per 10,000 and as low as 4.2 per 10,000. (See Figure 9 for a map of ED visit rates by county.)

Figure 9. Asthma ED visit rates by county, 2021-2023

The counties with the highest rates in Wisconsin are: Menominee (58.8), Milwaukee (57.0), Racine (45.4), Washburn (40.6), Rusk (39.3), Richland (39.3) and Ashland (35.8).



For more Wisconsin asthma data, see the [Wisconsin Asthma Program's Statistics webpage](#).

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WISCONSIN ASTHMA PLAN TIMELINE HIGHLIGHTS

2003-2008

2003: The Wisconsin Asthma Coalition (developed in 2001) released the first Wisconsin Asthma Plan

2004: Funding was provided to local asthma coalitions around the state (lasted through 2013)

2006: Asthma inhaler law expansion - students with asthma can carry inhalers in all Wisconsin schools



2009-2014

2010: Smoke-Free Wisconsin - smoking was banned in all enclosed workplaces in Wisconsin, including bars, restaurants, lodging, and private clubs

2010: Medicaid granted the request for coverage of spacers and valved holding chambers

2011: School Walkthrough Program was created

2015-2020

2015: The Asthma Care Program began, providing in-home asthma education and environmental assessments

2015: School-Based Asthma Management Program (SAMPRO) was founded

2015: Asthma action plans were incorporated into Epic



2021-2025

2021: The Asthma-Safe Homes Program was created with federal approval under the Children's Health Insurance Program (CHIP)

2023: Wisconsin was awarded the Environmental Protection Agency's (EPA) National Environmental Leadership Award in Asthma Management

2024: Stock albuterol legislation passed – Wisconsin schools may stock albuterol for emergency use