

Top Five Things to Know About Disparities

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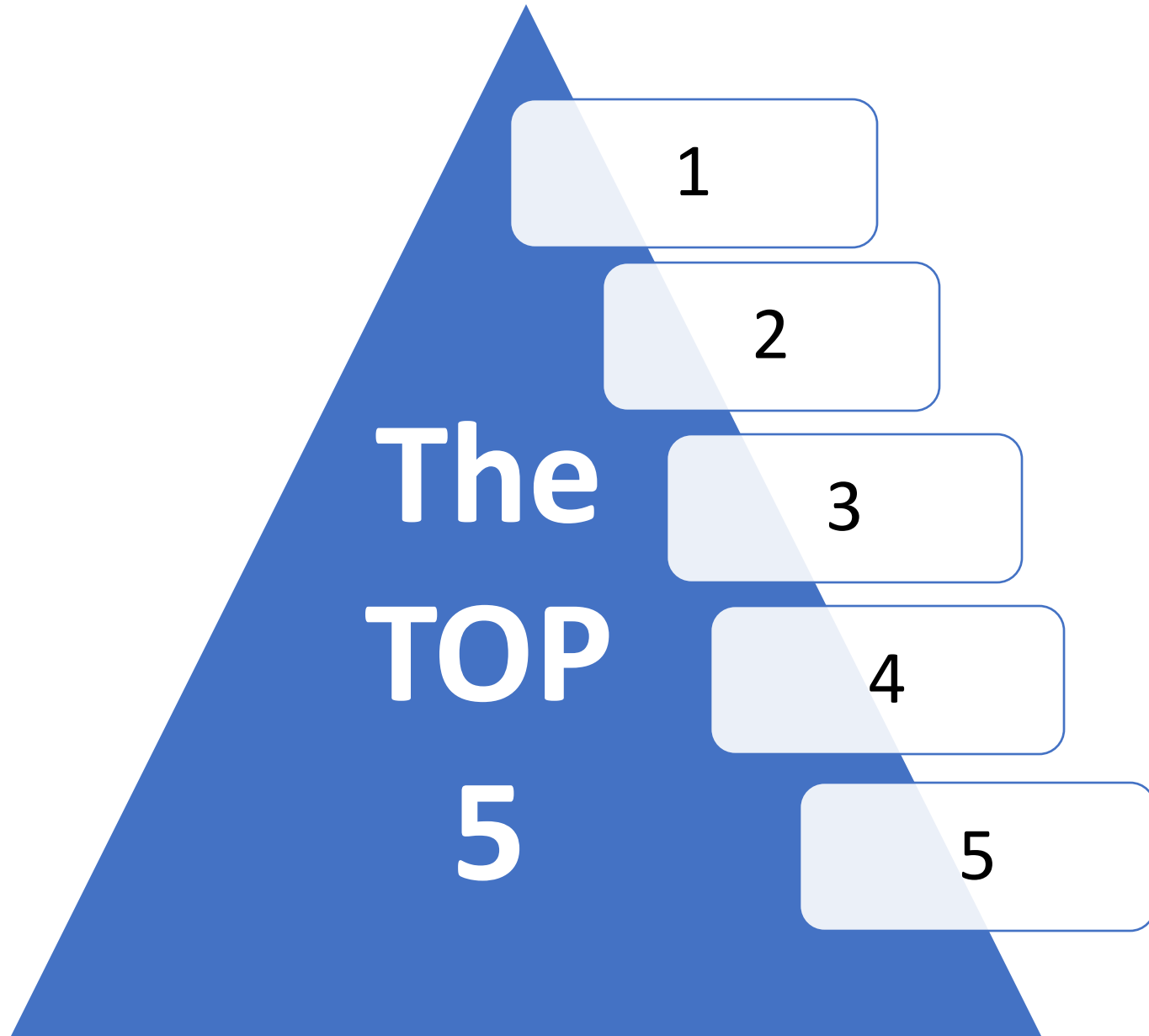
Howard University

Washington, DC

AAAAI FIT Top 4 Talk

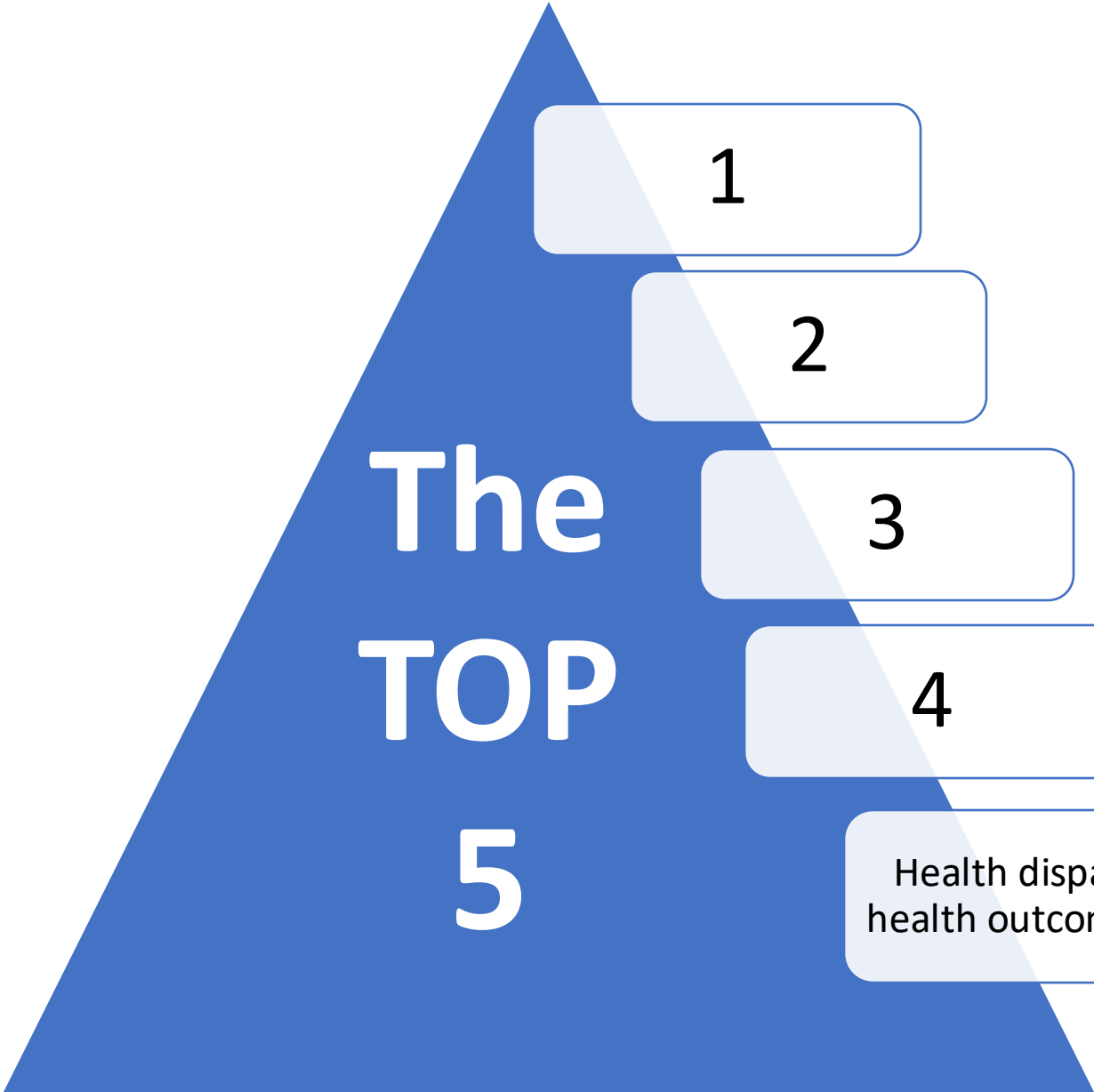
August 27, 2025







Davis CM..... Perry TT. Health disparities in allergic and immunologic conditions in racial and ethnic underserved populations: A Work Group Report of the AAAAI Committee on the Underserved. J Allergy Clin Immunol. 2021 May;147(5):1579-1593.



The TOP 5

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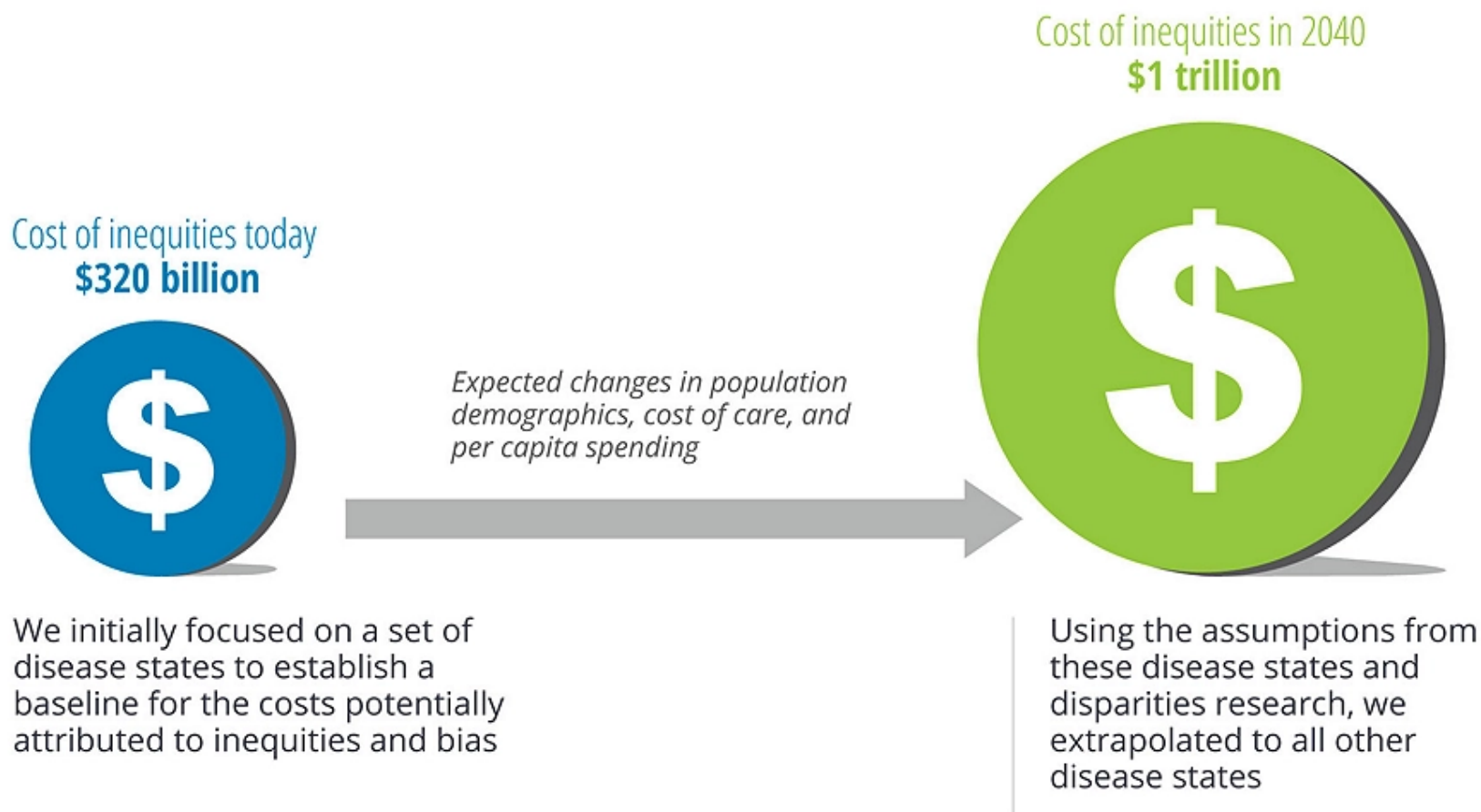
Health disparities are real and lead to worse health outcomes and higher cost of healthcare.



Economic Burden of Healthcare Disparities

- Analysis was performed of 2016-2019 data from the Medical Expenditure Panel Survey (MEPS) and state-level Behavioral Risk Factor Surveillance System (BRFSS) and 2016-2018 mortality data from the National Vital Statistics System and 2018 IPUMS American Community Survey.
- Economic burden of inequities was assessed in 87, 855 MEPS survey respondents, 1, 792, 023 BRFSS survey respondents to the, and 8, 416, 203 death records.
- in 2018, racial and ethnic health disparities cost the U.S. economy **\$451 billion**, a 41% increase from the previous estimate of \$320 billion in 2014.
- The study also finds that the total burden of education-related health disparities for persons with less than a college degree in 2018 reached **\$978 billion**, about two times greater than the annual growth rate of the U.S. economy in 2018.

Modeling the cost of health inequities in 2040

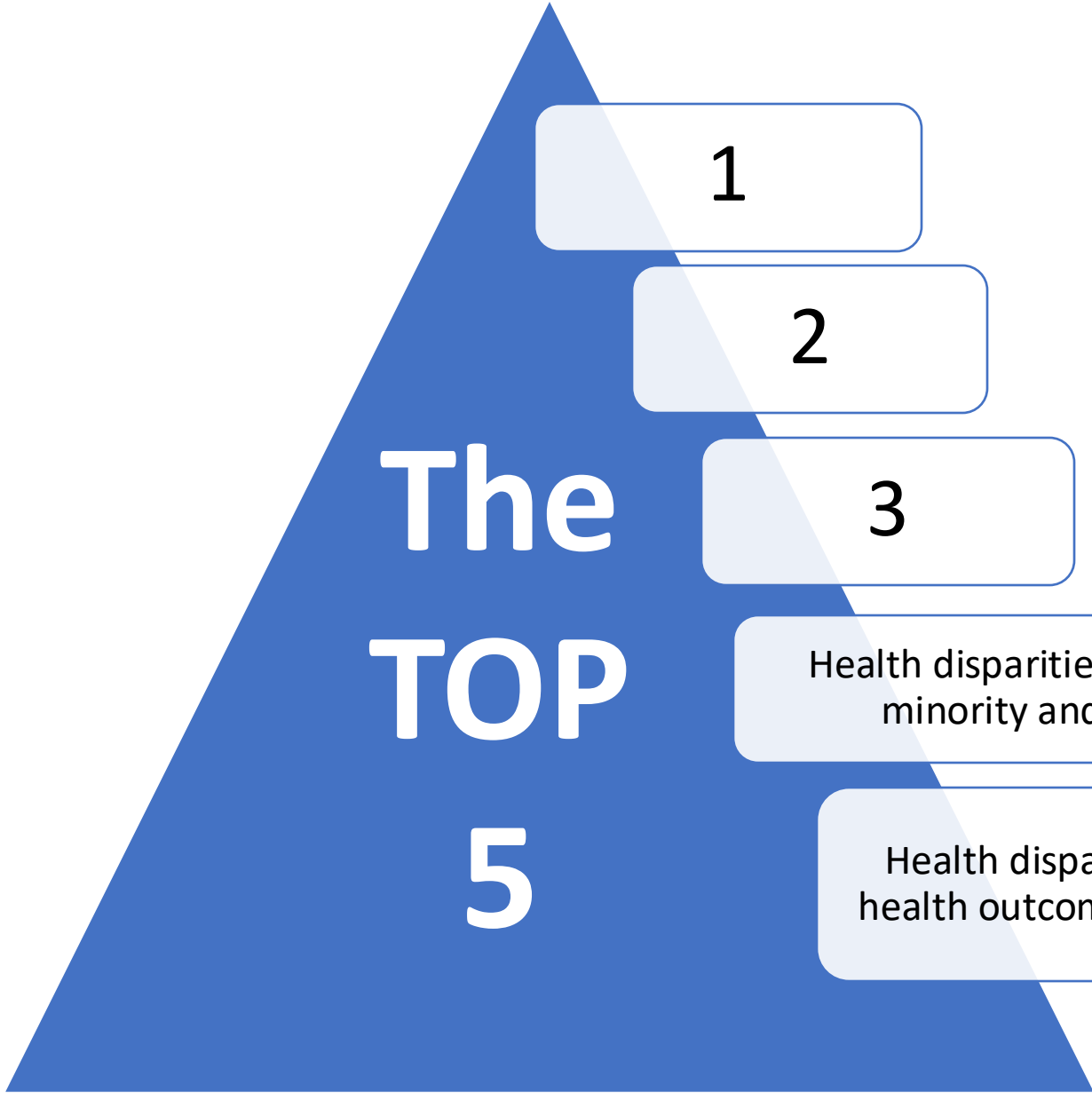


Note: All values are in US dollars.

Sources: Deloitte analysis.

Deloitte Insights | deloitte.com/insights

<https://www.deloitte.com/us/en/insights/industry/health-care/economic-cost-of-health-disparities.html>, Accessed Aug 25, 2025



The TOP 5

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Health disparities disproportionately impact minority and marginalized groups.

Health disparities are real and lead to worse health outcomes and higher cost of healthcare.



Outcomes of Allergic Rhinitis in Minoritized Populations

- Undertreated in urban school children¹
- Poorly controlled AR → poorer asthma control¹ and increases healthcare utilization²
- Negatively impacts child quality of life³
 - Sleep disturbances due to nighttime rhinitis symptoms → poor daytime functioning⁴
 - Limitations in outdoor or group activities → social isolation
- African American and Latino children experience lower QOL due to rhinitis³
- Payer status is predictive of missed doses of AIT (Medicaid>Medicare>Commercial)

¹Esteban et al Pediatr Allergy Immunol Pulmonol 2014; 27 (2): 75-81.

²de Groot EP, Nijkamp A, Duiverman EJ, Brand PL Thorax. 2012; 67:582–587.

³Adams RJ, Fuhlbrigge AL, Finkelstein JA, ²Weiss ST. J Allergy Clin Immunol. 2002; 109:636–642

⁴Meltzer EO, Blaiss MS, Derebery MJ, et al. J Allergy Clin Immunol. 2009; 124:S43–S70.

⁴Janson C, De Backer W, Gislason T, et al. Eur Respir J. 1996; 9:2132–2138.

Food Allergy Physician Documentation, Testing, Anticipatory Guidance and Food Access is Lower in Minoritized Pts

- Black and Hispanic children have higher rates of FA-related anaphylaxis and emergency department visits ($p < .01$).
- In low income, urban minority patients with a physician-documented food allergy, fewer than half had confirmatory testing or evaluation by an allergy specialist.
- Although most had epinephrine autoinjectors prescribed, most were not given food allergy action plans.
- One-fifth to 70% of food allergic children are food insecure, compared to one-tenth in the US population.

Taylor-Black S et al. Ann Allergy Asthma Immunol. 2012;109(6):431-7

Bilaver LA et al. Pediatrics. 2016;137(5)

Mahdavinia M et al. JACI in Practice, 2017;5(2):352-357.e1.

Dilley MA et al. Pediatr Allergy Immunol. 2019 May;30(3):363-369.

ASTHMA HEALTH DISPARITIES

Asthma affects all racial, ethnic and socioeconomic groups. Asthma rates are higher among African-American, Hispanic/Latino and Native American populations.

Rate of Asthma-Related Hospital/ER Visits and Deaths Compared to non-Hispanic Whites

	Hospital/ER	Deaths
African-American children	4.5X HIGHER	7.6X HIGHER
African-American adults	2.8X HIGHER	3X HIGHER
Hispanic/Latino children	2.1X HIGHER	2X HIGHER

INCOME LEVEL AND EDUCATION PLAY A SIGNIFICANT ROLE IN ASTHMA

Adults with an annual income of **<\$75,000** are more likely to have asthma.

People who earn **<\$50,000** per year are more likely to have worse asthma outcomes.



Adults who did not finish high school are

more likely
to have asthma.



Adults who cannot afford their asthma medication:

1 in 4

African Americans



1 in 5

Hispanic/Latinos

<https://allergyasthma.network.org/health-equity/>

Accessed Aug 25, 2025



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Disparities in Pediatric EoE

- 2,117 children with EoE were evaluated.
- Children with higher state Area Deprivation Index (ADI) scores (greater neighborhood disadvantage) had
 - Less radiographic evaluation of their disease ($P = .0002$)
 - Esophageal dilations at younger ages ($r = -0.24$; $P = .007$).



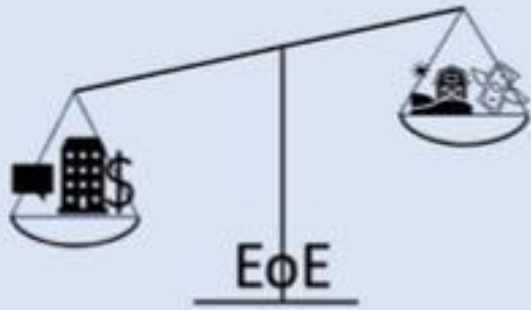
Mehta P et al. J Allergy Clin Immunol Pract. 2023 Sep;11(9):2855-2859.

Examining Disparities in Pediatric EoE

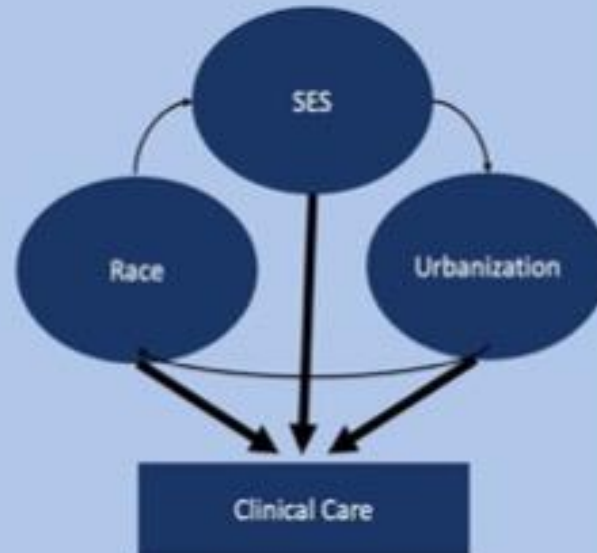
- Black children compared with White children were younger at diagnosis (8.3 y vs 10.0 y; $P = .002$).
- Children from rural areas were seen less by feeding therapy (3.9% vs 9.9%; $P = .02$), but were younger at their visits (2.3 y vs 4.3 y; $P < .001$).
- The authors speculate that differences in EoE presentation and care are due to structural factors and health inequities that affect historically marginalized communities.

Mehta P et al. J Allergy Clin Immunol Pract. 2023 Sep;11(9):2855-2859.

Social Determinants of Health Impact Pediatric EoE Clinical Diagnosis and Treatment



Children diagnosed with eosinophilic esophagitis are more likely to be White, non-Hispanic, English-speaking, and from socioeconomically advantaged neighborhoods



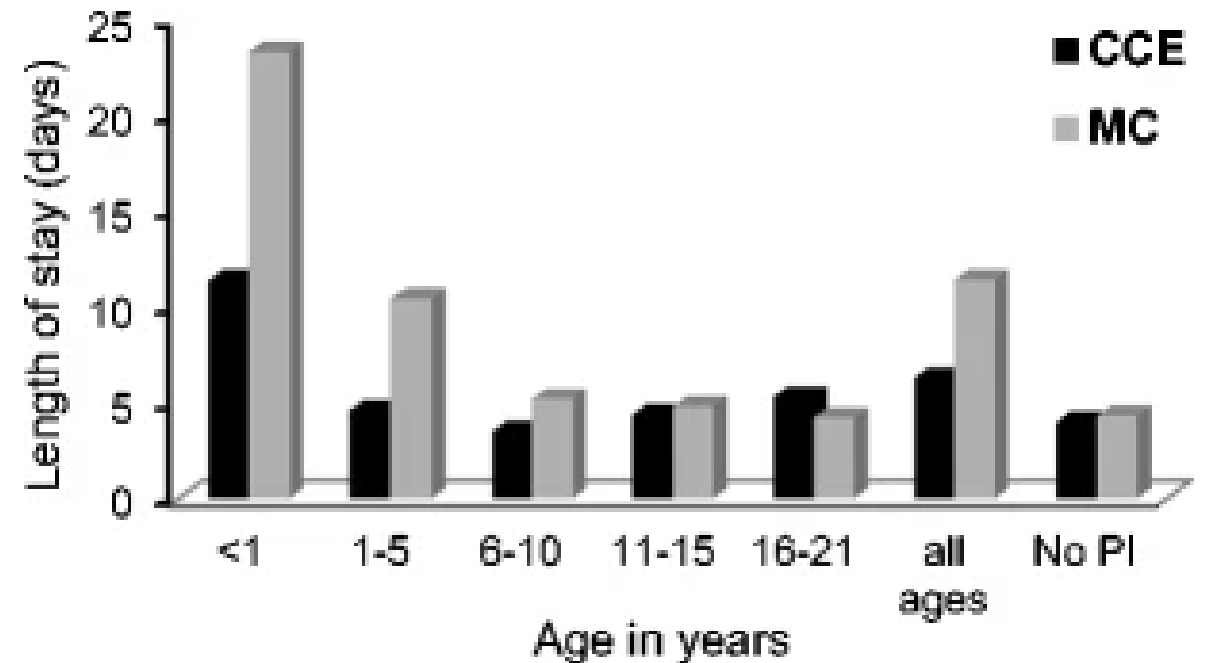
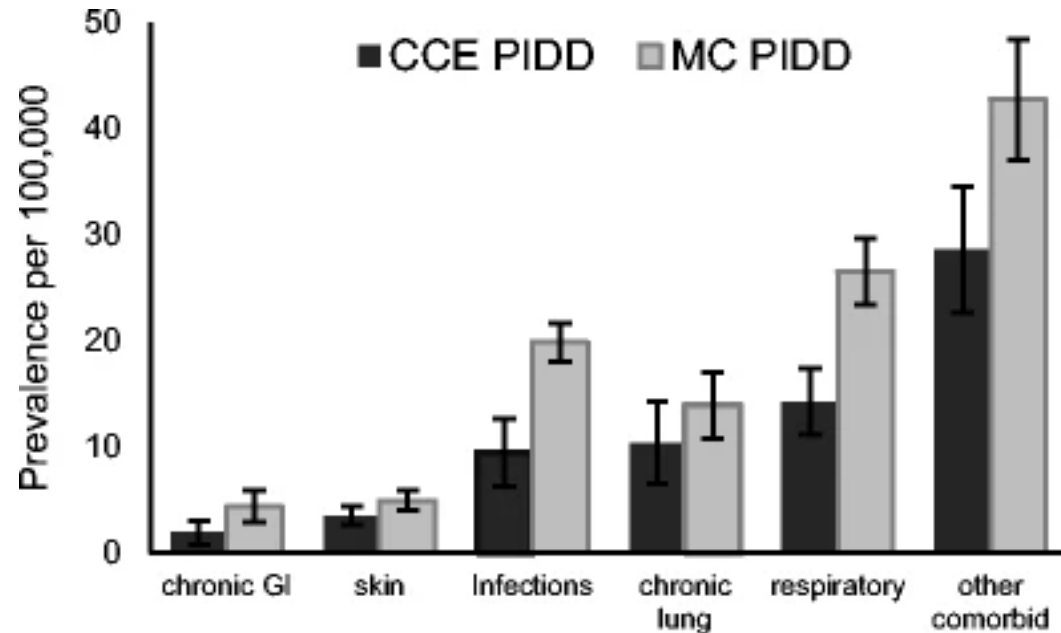
Race and social determinants of health impact the presentation and care of children with EoE



Health policies should promote equity in EoE

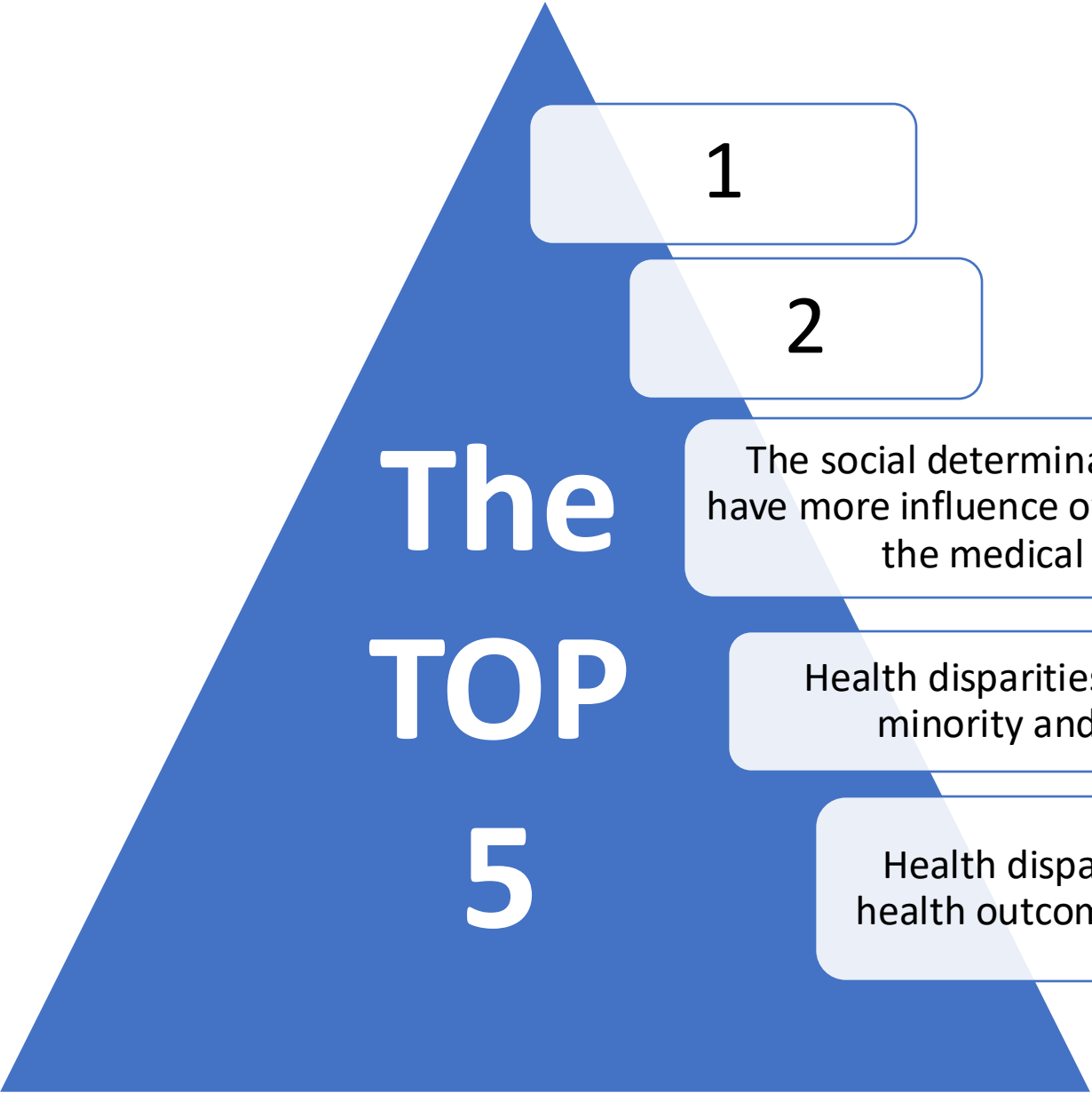
Mehta P et al. J Allergy Clin Immunol Pract. 2023 Sep;11(9):2855-2859.

Disparities in Primary Immunodeficiency



Commercial Claims and Encounters (CCE) vs. Medicaid (MC)

Kobrynski, L et al. Prevalence and Morbidity of Primary Immunodeficiency Diseases, United States 2001–2007. *J Clin Immunol* **34**, 954–961 (2014).



The TOP 5

1

2

The social determinants of health for patients have more influence over their overall health than the medical care they receive.

Health disparities disproportionately impact minority and marginalized groups.

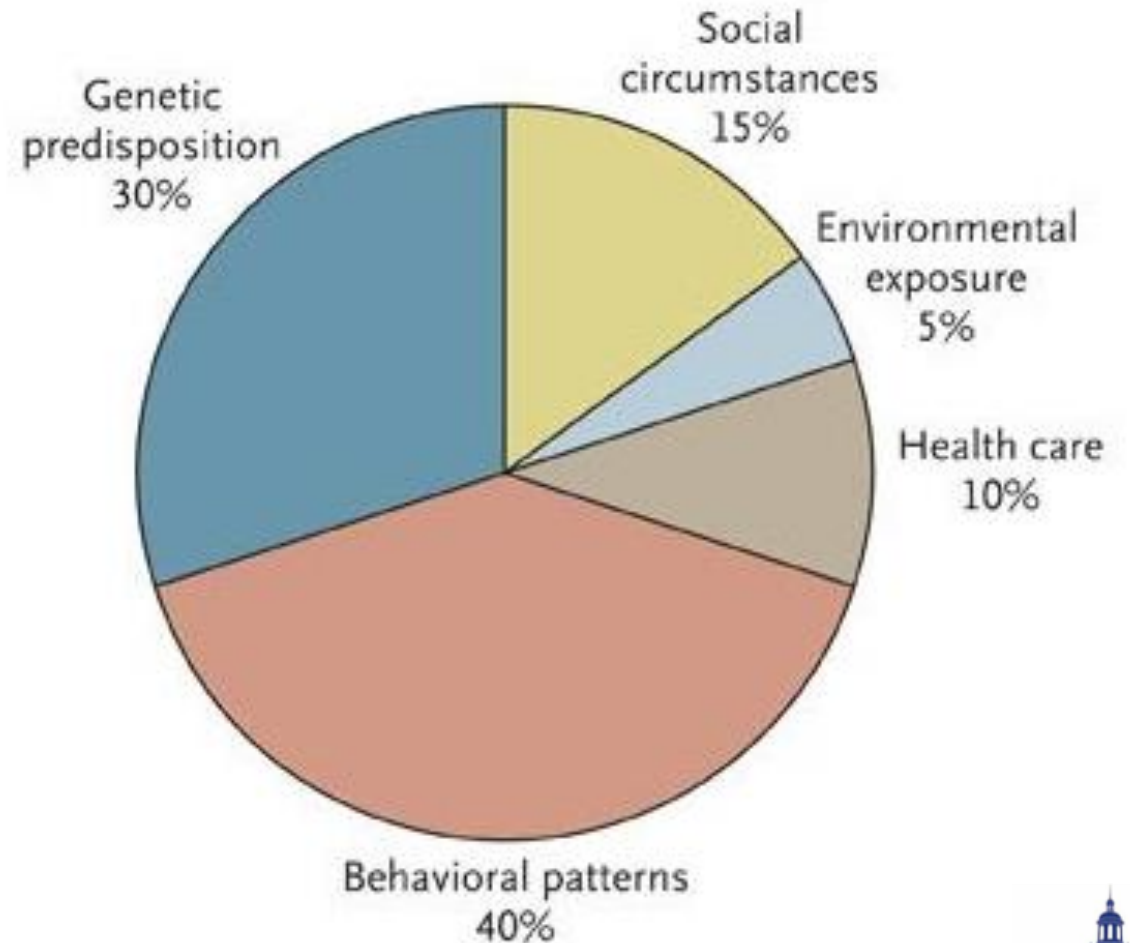
Health disparities are real and lead to worse health outcomes and higher cost of healthcare.



Determinants of Overall Health

Health care and genetics are only 40% of the determinant of overall health.

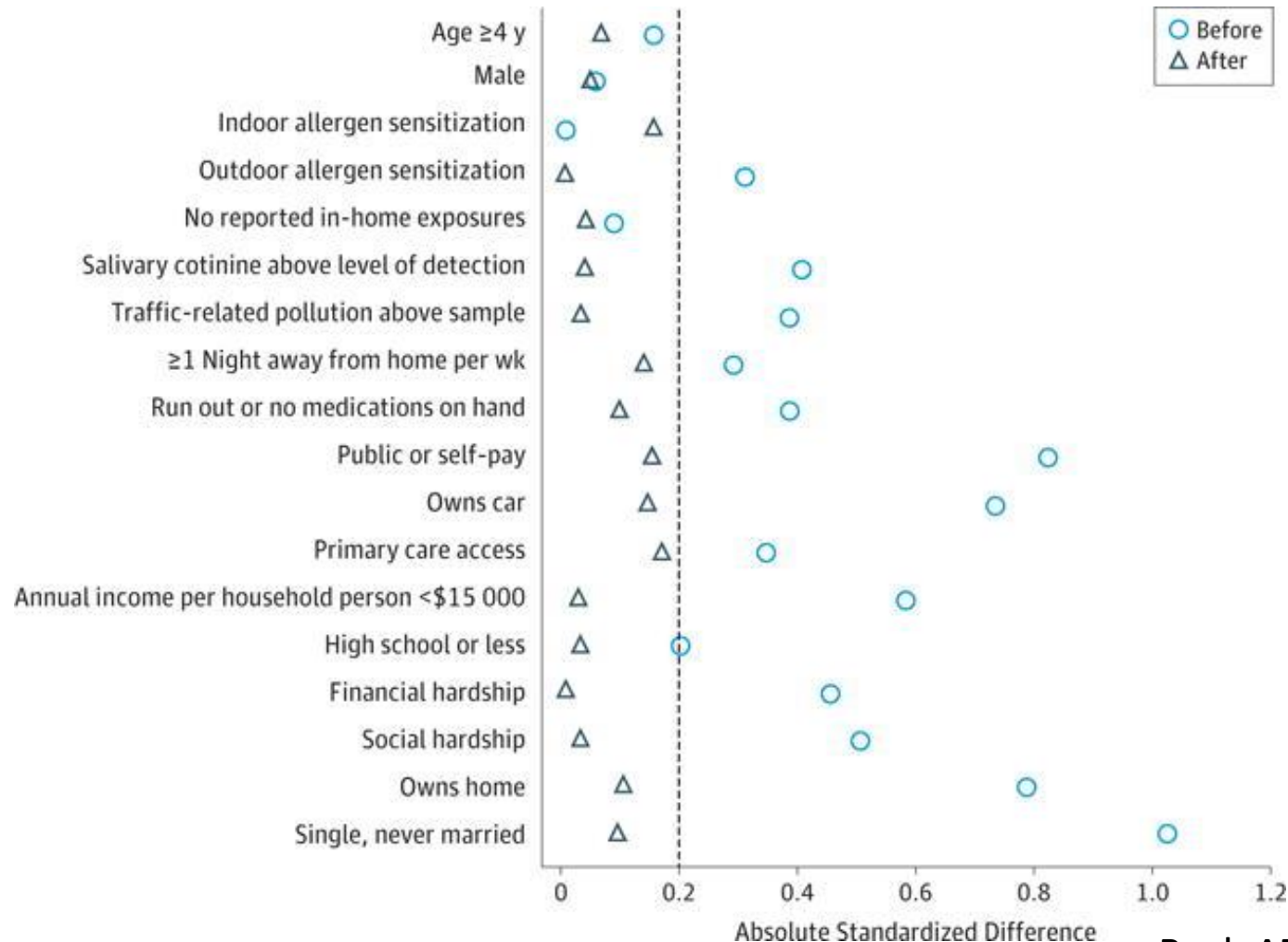
Behavioral patterns, social circumstances and environmental exposure make up the majority of a person's health.





Davis CM..... Perry TT. Health disparities in allergic and immunologic conditions in racial and ethnic underserved populations: A Work Group Report of the AAAAI Committee on the Underserved. J Allergy Clin Immunol. 2021 May;147(5):1579-1593.

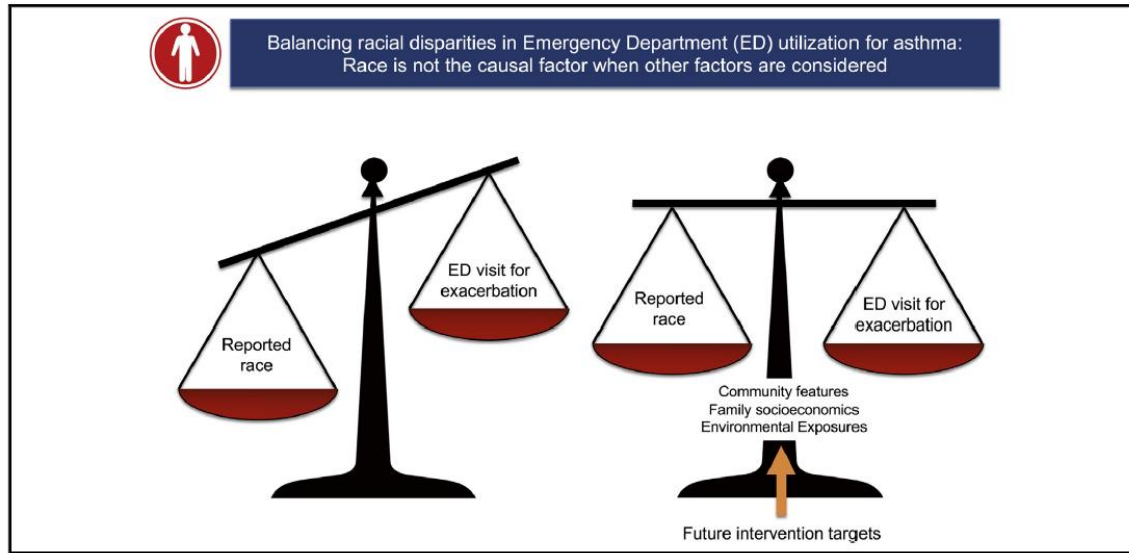
Asthma readmission disparity could be explained after statistically balancing variables



695 children, aged 1 to 16 years, admitted for asthma or wheezing who identified as African American (n = 441) or white (n = 254) in an inpatient setting of an urban, tertiary care children's hospital.

Socioeconomic hardship variables explained 53% of the observed disparity

Family, Community and Environmental Exposure Variables Associated with Asthma Exacerbations



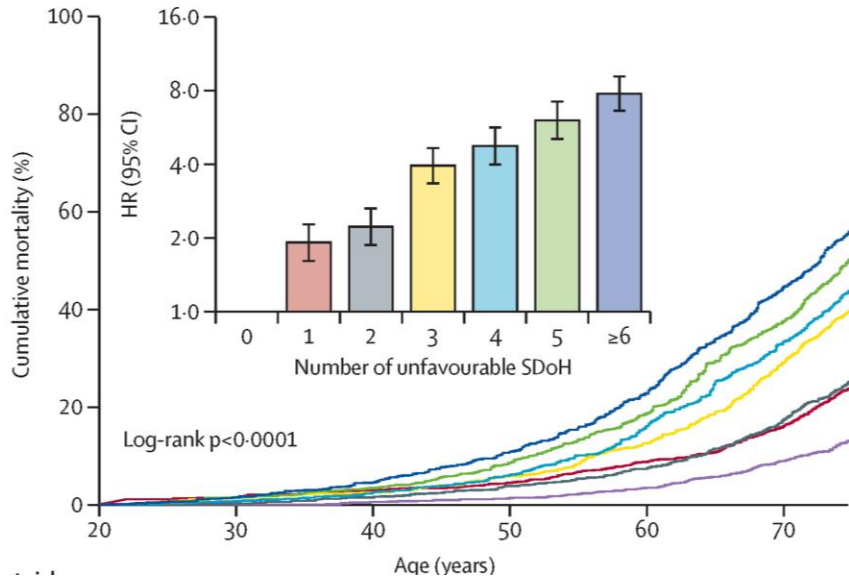
- Family and Community Variables

- highest household education
- yearly household income
- number of persons in the home
- community percentage of unemployment

- Environmental Factors

- years in current home
- tobacco smoke exposure
- cats or dogs in the home
- visible cockroaches in the home
- visible rodents in the home
- home water damage in the past 12 months
- bedding encased
- carpet or rug in the bedroom

Social Determinants of Health Cause Premature Death



- A nationally representative sample of individuals aged 20-74 years who participated in the US National Health and Nutrition Examination Survey (NHANES) between 1999 and 2018 were included.
- Deaths were ascertained from linkage to the National Death Index with follow-up until 2019.
- After adjusting for SDoH, hazard ratios for premature all-cause mortality for Black adults compared with White adults decreased from 1.59 (1.44-1.76) to 1.00 (0.91-1.10), suggesting complete mediation of this racial difference in mortality.

The TOP 5

1

Every physician can have an impact on the influencers of health disparities through office policies and personal behavior.

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Framework for Understanding How Allergists Can Impact Health Disparities



Ogbogu PU, Capers Q 4th, Apter AJ.
Disparities in Asthma and Allergy Care:
What Can We Do? J Allergy Clin Immunol
Pract. 2021 Feb;9(2):663-669.

How Good Are We at Shared Decision Making?

Physician perspective

- Accurate diagnosis
- Disease state
- Outcomes and prognosis
- Risks and benefits
- Treatment spectrum
- Social perception
- Prior patient treatment experience
- Bias

Balanced adaptive
medical management

Patient perspective

- Diagnostic path
- Ongoing symptoms
- Outcome preferences
- Risk perception
- Independent research and knowledge
- Social circumstances
- Prior personal treatment experience
- Bias

Recent data from an asthma survey suggest that although allergist respondents reported using SDM 78% of the time, patients reported that SDM was used only 25% of the time, and that 70% of patients wished for more SDM in future encounters.

Shared Decision Making is Critical

Disparity exists between clinicians' self-reported adherence to **Shared Decision Making (SDM)** principles and patients' perceptions of its implementation during clinical encounters.

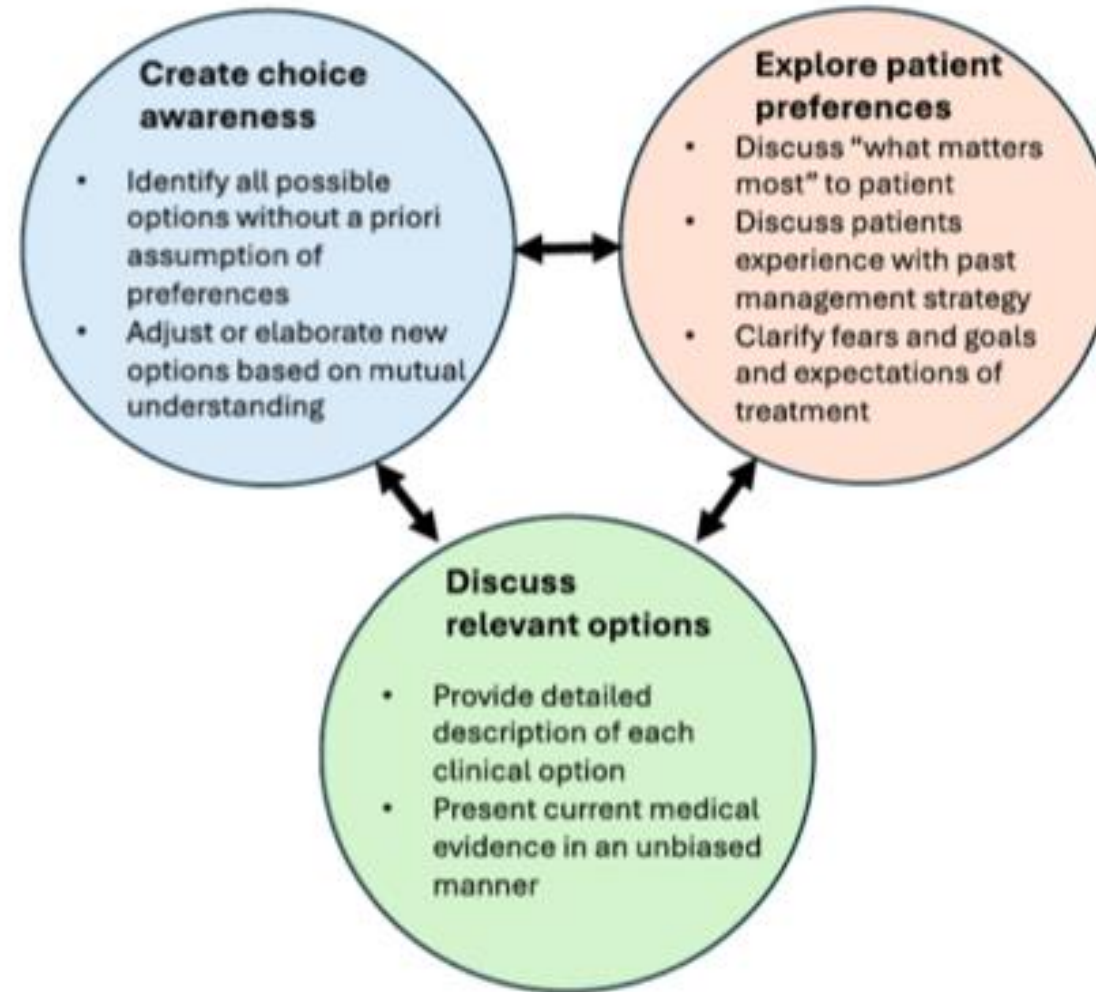


FIGURE 2. A model of the ongoing shared decision-making process. Adapted from Graham et al.⁶

The **SHARE** approach to Shared Decision-Making

<i>Seek</i> participation	Communicate that a choice exists and invite your patient to be involved in decisions
<i>Help</i> explore options	Discuss the benefits and harms of each option
<i>Assess</i> values and preferences	Take into account what matters most to your patient
<i>Reach</i> a decision together	Decide together on the best option and arrange for follow-up
<i>Evaluate</i> your patient's decision	Support your patient so the treatment decision has a positive impact on health outcomes



Tools for Shared Decision Making

Disease	Reference
Eczema, Asthma, Anaphylaxis and Treatments (Biologics, OIT, AIT)	Practice management center. American College of Allergy, Asthma, & Immunology. Available at: https://college.acaai.org/practice-management/?toolkit_categories%2Fclinical-tools .
AIT	Leonard SE et al. Environmental allergies: should my child get allergy shots? Nemours' Center for Healthcare Delivery Science. Available at: https://www.nemours.org/content/dam/nemours/wwwv2/filebox/research/Environmental%20Allergies%20Decision%20Aid.pdf .
Asthma	What is the best treatment option for my severe asthma? CHEST, ACAAI, Allergy & Asthma Network. Available at: http://severeasthmatrements.chestnet.org/ .
	Gagne ME, Legare F, Moisan J, Boulet LP. Development of a patient decision aid on inhaled corticosteroids use for adults with asthma. J Asthma. 2016;53:964–974.
Urticaria	Urticaria shared decision making aid. Global Allergy & Airways Patient Platform. Available at: https://gaapp.org/urticariashared-decision-making/ .
Environmental Allergy	Allergies: Should I take allergy shots? Healthwise, Inc. Available at: https://www.healthwise.net/ohridecisionaid/Content/StdDocument.aspx?DOCHWID%2Faa69795 .
Insect Allergy	Allergies: Should I take shots for insect sting allergies? Healthwise, Inc. Available at: https://www.healthwise.net/ohridecisionaid/Content/StdDocument.aspx?DOCHWID%2Frt1299 .
Food allergy OIT	Anagnostou A et al. Development and acceptability of a decision-aid for food allergy oral immunotherapy in children. Allergy. 2025 Jan;80(1):205-214.

Identify Resources to Mitigate SDOH Effects

Figure 1

Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education		Stress	
Support	Walkability				
	Zip code / geography				
Health Outcomes Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations					

www.findhelp.org

← → ↻ findhelp.org



One Identity Pass...

New Cases of CO...

Suggested Auditio...

ABAI Portal - American...

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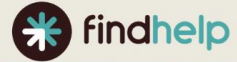
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ZIP

20910

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in the Silver Spring, MD 20910 area

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ZIP or keyword or program name



Search and connect to support. Financial assistance, food pantries, medical care, and other free or reduced-cost help starts here:

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FOOD



HOUSING



GOODS



TRANSIT



HEALTH



MONEY



CARE



EDUCATION



WORK



LEGAL

Community Gardens

Community Gardens - All (2)

Emergency Food

Food Delivery

Food Pantry

Help Pay For Food



Meals

Nutrition Education

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Select Language English



FOOD

HOUSING

GOODS

TRANSIT

HEALTH

MONEY

CARE

EDUCATION

WORK

LEGAL

silver spring, md (20910) / food / government food benefits (7)

Sort by **RELEVANCE** CLOSEST

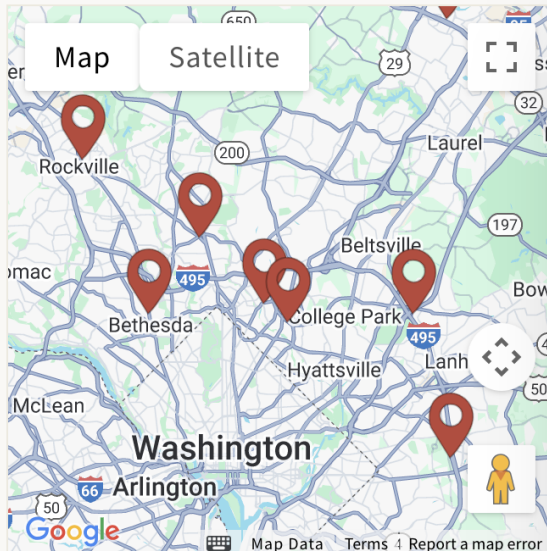
Personal Filters



Program Filters



Income Eligibility



WIC Centers

by CCI Health Services

Reviewed on: 12/13/2024

Women, Infant and Children Supplemental Food Program is a nutrition program that provides health education, healthy foods, breastfeeding support, and other services free of charge to pregnant and...

Main Services: help pay for food , government food benefits , nutrition education , parenting education

Serving: all ages, female, pregnant, benefit recipients, low-income, caregivers

Next Steps:

Call 301-762-9426 or go to the [program's website](#).

2.72 miles (serves your local area)

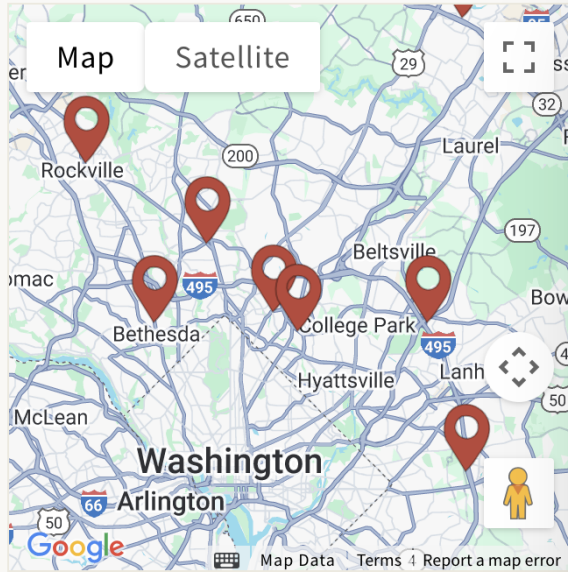
2730 University Boulevard West, Wheaton-Glenmont, MD 20902

Closed Today See open hours

MORE INFO



SEE NEXT STEPS



Notice out-of-date information or see a program you work for? Click **Suggest** to share an update or claim your program listing to get access to free tools and data.



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Serving: [all ages](#) , [female](#) , [pregnant](#) , [benefit recipients](#) , [low-income](#) , [caregivers](#)

MORE INFO



SAVE



SHARE



NOTES



SUGGEST

SEE NEXT STEPS



Next Steps:

Call [301-762-9426](#) or go to the [program's website](#).

2.72 miles (serves your local area)

2730 University Boulevard West, Wheaton-Glenmont, MD 20902

Closed Today See open hours



Supplemental Nutrition Assistance Program (SNAP) Outreach

by Montgomery County Food Council

Reviewed on: 12/18/2024

Montgomery County Food Council provides an outreach team to help individuals prescreen for SNAP eligibility and assist with the SNAP application process. This program provides: - Assistance...

Main Services: [help pay for food](#) , [government food benefits](#) , [navigating the system](#) , [help fill out forms](#)

Serving: [adults](#) , [young adults](#) , [teens](#) , [children](#) , [seniors](#) , [refugees](#) , [all disabilities](#) , [students](#) , [individuals](#) , [families](#) , [more >](#)

Next Steps:

Apply on their [website](#) or call [301-818-3614](#).

3.41 miles (serves your local area)

4825 Cordell Avenue, Bethesda, MD 20814





ZIP or keyword or program name



Search and connect to support. Financial assistance, food pantries, medical care, and other free or reduced-cost help starts here:



FOOD



HOUSING



GOODS



TRANSIT



HEALTH



MONEY



CARE



EDUCATION



WORK



LEGAL

Financial Assistance



Financial Assistance - All (745)

Financial Education



Government Benefits



Insurance



Loans



Tax Preparation

help pay for childcare (18)

help pay for food (39)

government food benefits (7)

help pay for healthcare (365)

disability benefits (21)

discounted healthcare (5)

health insurance (14)

medical supplies (144)

prescription assistance (117)

transportation for healthcare (27)

help pay for housing (117)

help pay for internet (7)

help pay for phone (21)

help pay for utilities (57)

help pay for school (120)

books (16)

clothes for school (1)

financial aid & loans (49)

supplies for school (6)

help pay for transit (71)

bus passes (3)

help pay for gas (15)

help pay for work expenses (13)

Challenges Due to Language Barriers and Low Health Literacy

1. Difficulty Explaining Symptoms: Patients can struggle to describe the severity and triggers of her asthma exacerbation.
2. Medication Misuse: Patients can confuse rescue and maintenance inhalers, leading to underuse of daily controller medications.
3. Limited Health Literacy: Patients may not fully understand when to seek medical help or how to properly use a peak flow meter.
4. Access to Care: They may miss follow-up appointments due to scheduling misunderstandings and fear of communication difficulties.

The TOP 5

Solutions require system-wide change through advocacy and policies.

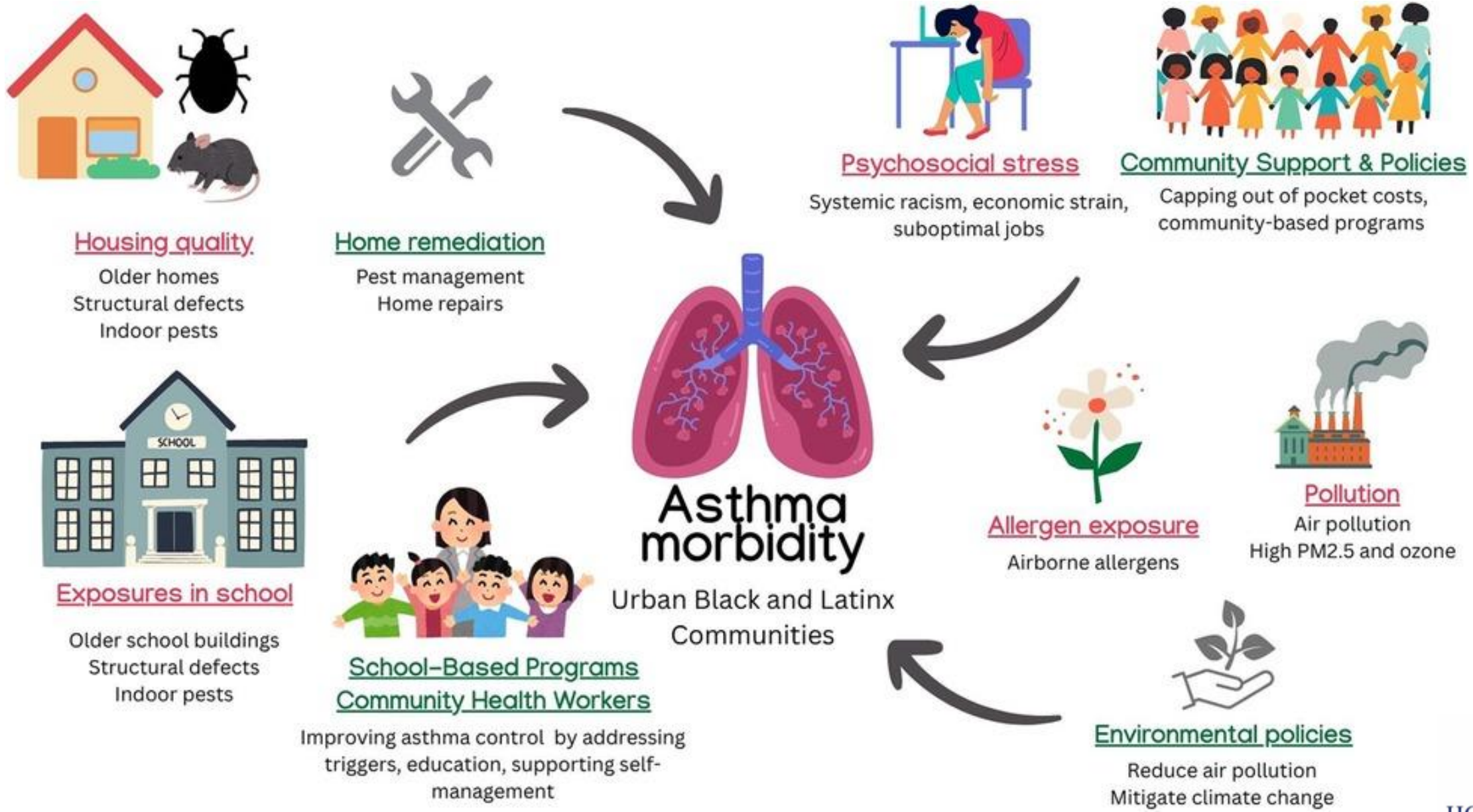
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Health disparities are real and lead to worse health outcomes and higher cost of healthcare.





What are the EXHALE strategies?



E
X
H
A
L
E

Education

on asthma self-management

X-tinguishing

smoking and exposure to secondhand smoke

Home

visits for trigger reduction and asthma self-management education

Achievement

of guidelines-based medical management

Linkages

and coordination of care across settings

Environmental

policies or best practices to reduce asthma triggers from indoor, outdoor, or occupational sources

**You can use EXHALE
to control asthma**

Research has shown that each EXHALE strategy can reduce:

- Asthma symptoms;
- Asthma attacks;
- Asthma-related hospitalizations and emergency department (ED) visits;
- The number of days missed from work and school because of asthma; and
- Limitations on activities because of asthma.

The CDC's National Asthma Control Program (NACP) used the multi-strategy EXHALE framework to reduce ED visits and address health inequities.

Expanding patient-centered medical homes, environmental policies, and CHW outreach constituted part of a broader public health push

<https://www.cdc.gov/national-asthma-control-program/php/exhale/pdfs/EXHALE-Healthcare-Professionals-Guide-508.pdf>

Improve access

Telehealth programs,
educating other providers
on appropriate referrals



Low access to specialists

Poor access to allergists, GI; referral
bias, low awareness of effective
strategies, e.g. OIT



Poor knowledge of disease & management

Language barriers

Community Health Workers

education, supporting self-
management, educating caregivers



Psychosocial stress

food deserts, high healthcare
costs, costly allergen-free foods



Food allergy & eosinophilic esophagitis

Urban Black and Latinx
Communities

Community Support & Policies

community-based programs, such
as food prescription programs



Low epinephrine access

High cost, underuse

Policies and Legislation

School-Based Programs

Mandated allergen labeling,
education, stocking epinephrine



Limited allergen policies

Increased accidental exposures,
lower rates of epinephrine use

Framework for Understanding How Allergists Can Impact Health Disparities.....Advocacy!



Successful system-wide interventions include community health worker-led outreach, school-based programs, housing modifications, and policy reforms.

Mendez P, Akenroye A, Nyenhuis SM, Cardet JC. Advancing equity in allergy and immunology: progress, pitfalls, and the path forward. *Front Allergy*. 2025 Aug 1;6:1639718.

Ogbogu PU, Capers Q 4th, Apter AJ. Disparities in Asthma and Allergy Care: What Can We Do? *J Allergy Clin Immunol Pract*. 2021 Feb;9(2):663-669.

Effective Interventions for Health Disparities

- Community Health Worker engagement improves outcomes.
- Housing remediation for allergen control improves asthma outcomes.
- Legislation to cap out-of-pocket costs for asthma medications.
 - Minnesota and Illinois have both enacted laws that cap out-of-pocket costs for prescribed asthma inhalers at \$25 per 30-day supply.
- Medical-legal partnerships can decrease hospitalizations.
 - 37.9 % fewer hospitalizations occurring among those receiving the intervention in Cincinnati. (p=0.001)
- Telemedicine initiatives have demonstrated parity with in-person visits in terms of disease outcomes.
- School-based educational programs improve disease control, treatment adherence and quality of life.
- Policy measures that ensure IgG replacement coverage for patients with PIDDs, or that guarantee access to biologics for severe allergic disease.

Social Determinants of Health ICD-10 Codes Can Improve Quality of Health Care



Health Care Team

Use a SDOH screening tool.

- Follow best practices for collecting SDOH data in a sensitive and HIPAA-compliant manner.
- Consistently document standardized SDOH data in the EHR.
- Refer individuals to social service organizations and appropriate support services through local, state, and national resources.

USING SDOH Z CODES

Can Enhance Your Quality Improvement Initiatives

Z code Categories

- Z55** – Problems related to education and literacy
- Z56** – Problems related to employment and unemployment
- Z57** – Occupational exposure to risk factors
- Z58** – Problems related to physical environment
- Z59** – Problems related to housing and economic circumstances

- Z60** – Problems related to social environment
- Z62** – Problems related to upbringing
- Z63** – Other problems related to primary support group, including family circumstances
- Z64** – Problems related to certain psychosocial circumstances
- Z65** – Problems related to other psychosocial circumstances

This list is subject to revisions and additions to improve alignment with SDOH data elements.

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”

”

**WE CAN CHANGE THE WORLD
AND MAKE IT A BETTER PLACE.
IT IS IN OUR HANDS
TO MAKE A DIFFERENCE.**

– NELSON MANDELA



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Thank you! Questions?

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