

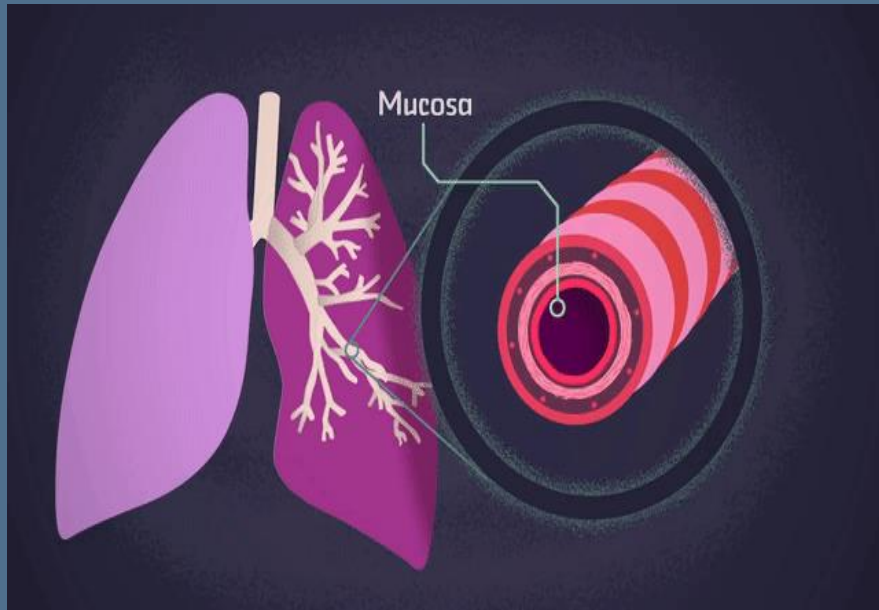


The Prevalence of Asthma Among Black Children in Massachusetts Compared to the General Population

Nana Conduah (North High School)
Enam Fiattor (Central Catholic High School)
Shania Rimpel (Matignon High School)

What is Asthma?

Asthma is a condition where your airways narrow and swell

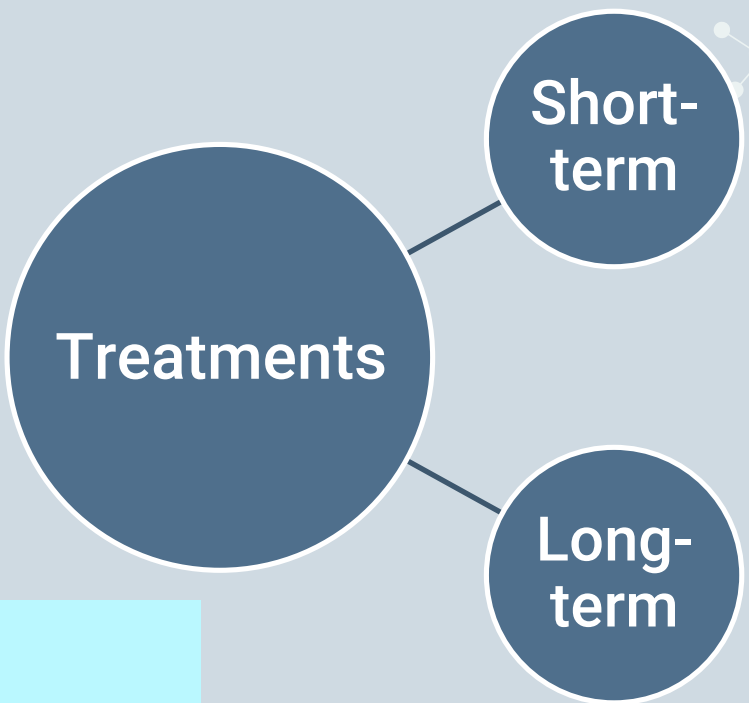


"Asthma"

How you get asthma



"News-Medical"



- Inhalers
- Short-term medication

- Long-term medication



What is a Health Disparity?

A health disparity is defined as

the **difference** in the incidence, prevalence, mortality, and burden of disease

and other adverse health conditions that exist among specific population groups in the United States

when compared in contrast to a larger group (general population). One group must be compared to a larger group.



500%

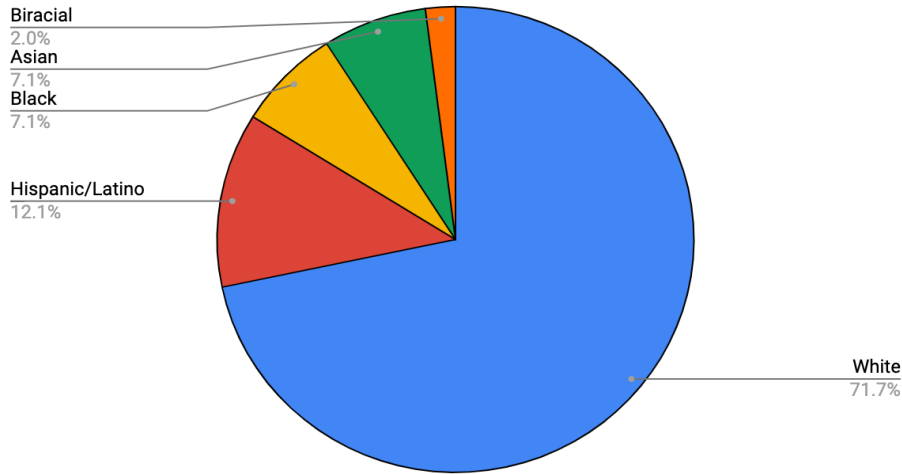
Higher death rate for Black children with asthma compared to White children

"Health Disparities [...]"



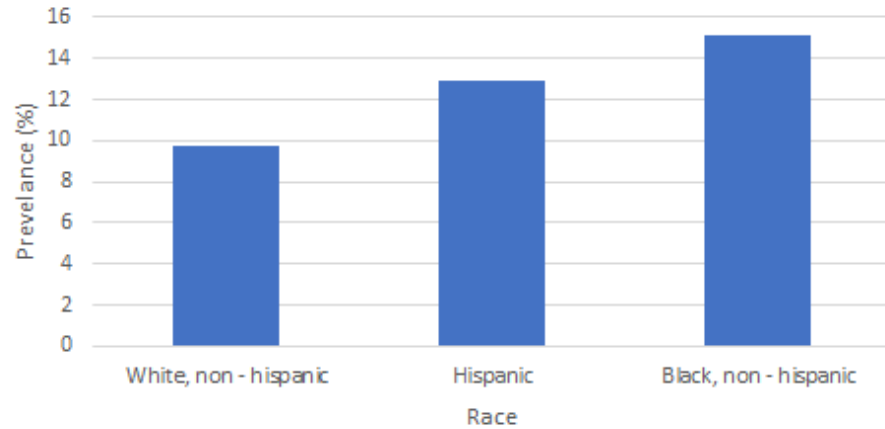
Asthma: A Health Disparity in Massachusetts

Racial Breakdown of Massachusetts



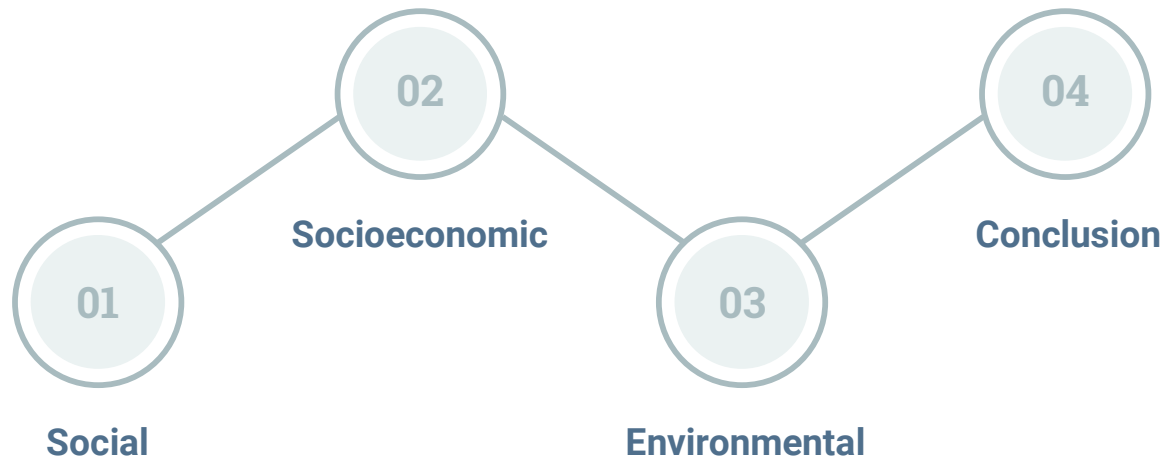
U.S. Census Bureau,
2018

Prevalence of Current Asthma among Massachusetts Children by Demographic and Socioeconomic Factors, 2011-2013

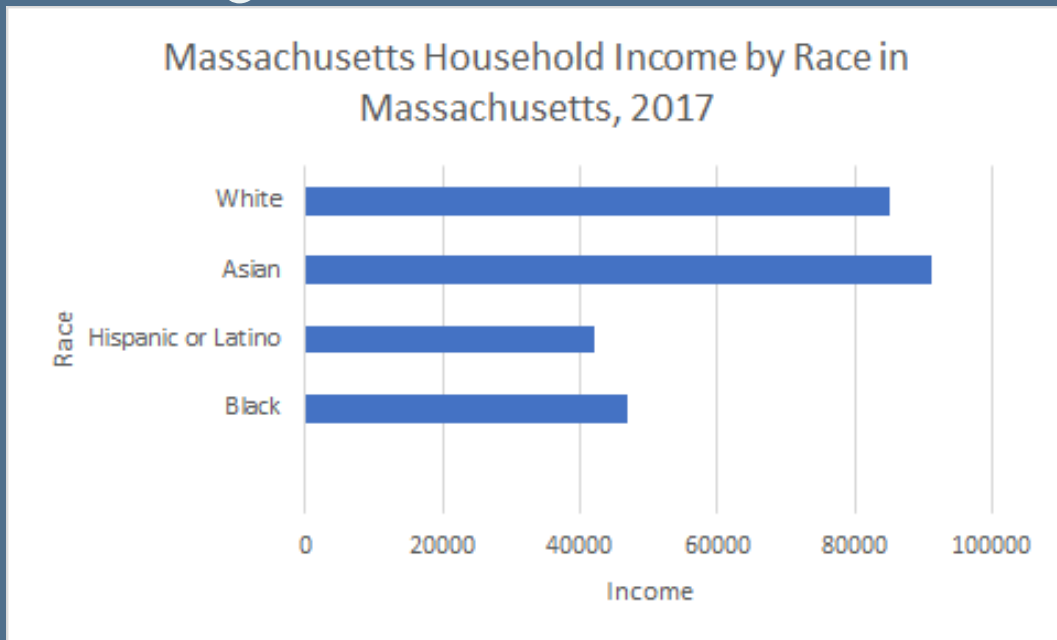


Mass Gov

Factors that influence the prevalence of asthma in Black children



Stress



WBUR Bostonmix, 2017

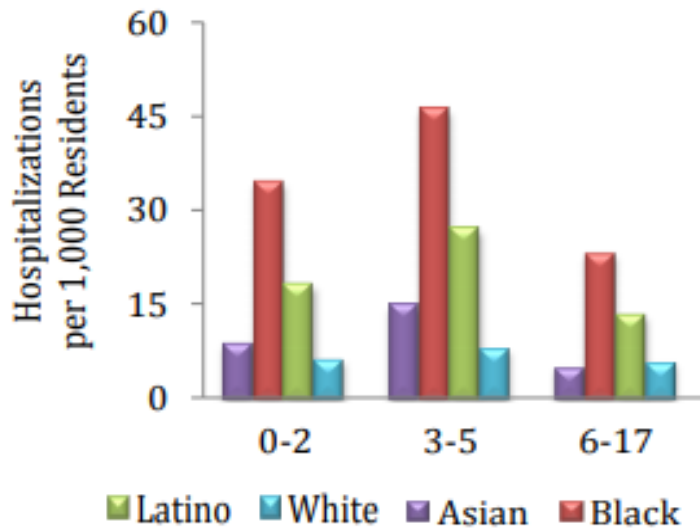
Many African American parents have a heavy financial burden

Children's asthma attacks are left untreated



Disadvantages

Figure 6.8 Asthma Emergency Department Visits by Age and Race/Ethnicity, 2012



DATA SOURCE: Acute Hospital Case Mix Databases, Massachusetts Center for Health Information and Analysis

Emergency visits rates are 3 times higher for black children

Black children are less likely to see a specialist compared to other white children

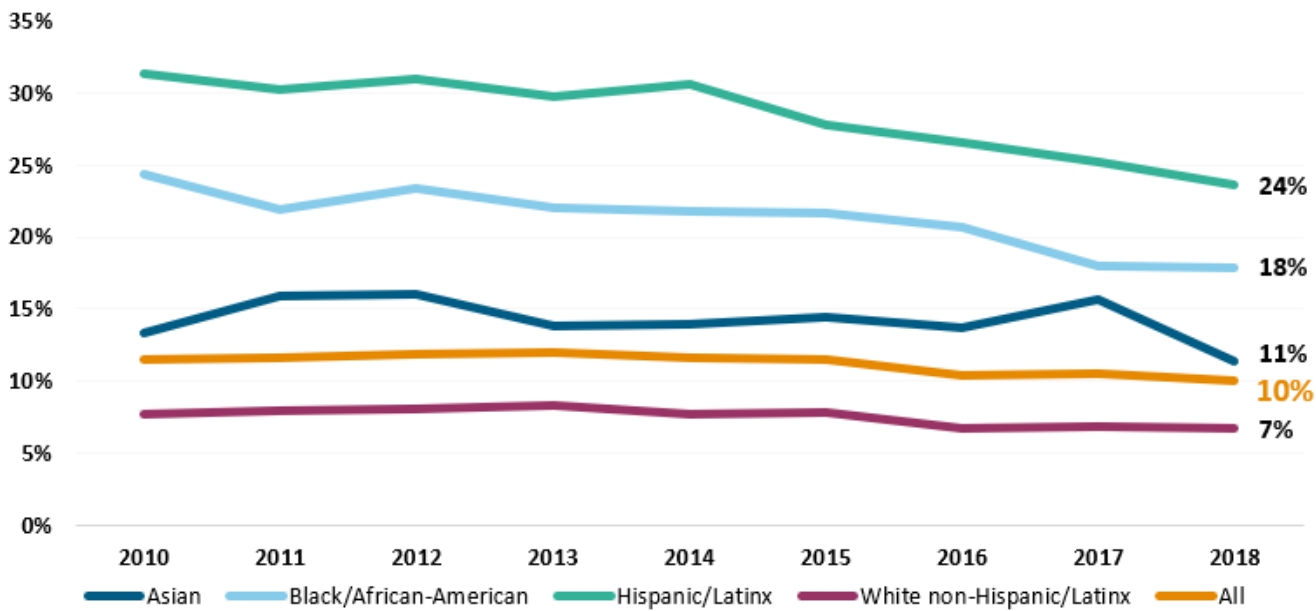
Poorer communities; children with asthma need a healthier environment



Cost

Poverty trends down in MA, but people of color still face disparities

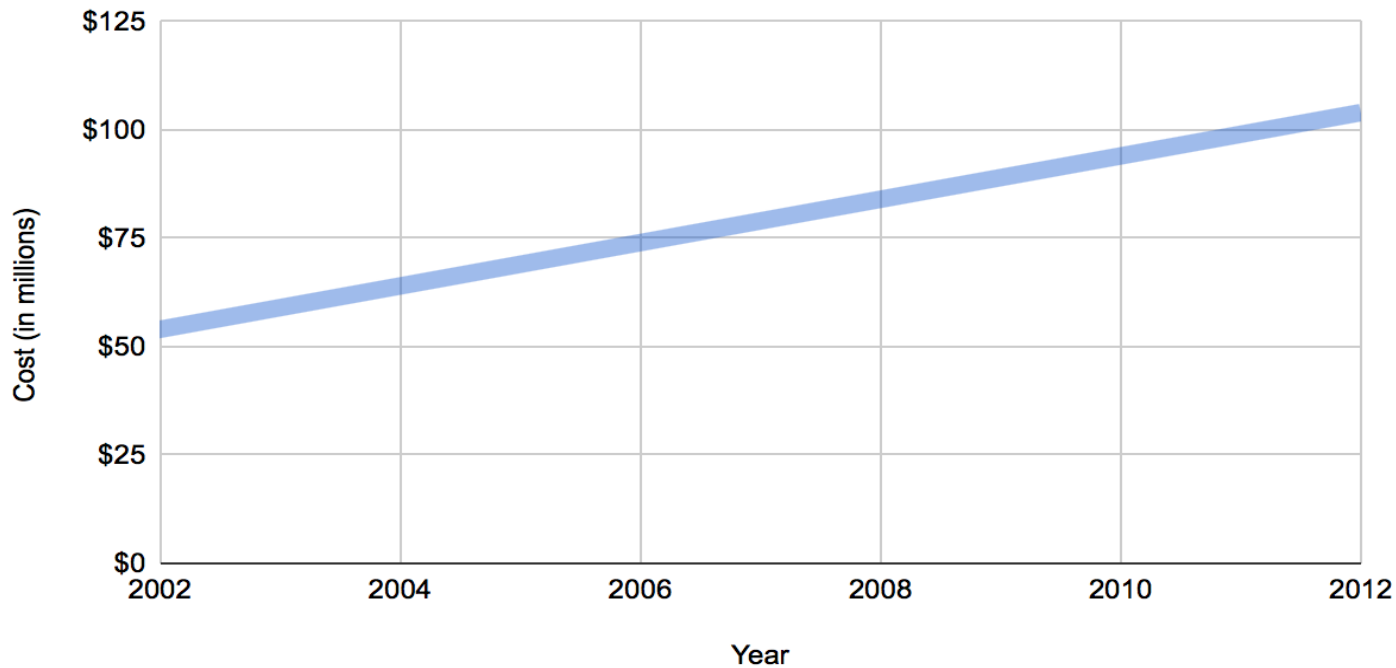
Percent of people with incomes below the federal poverty line, 2010-2018



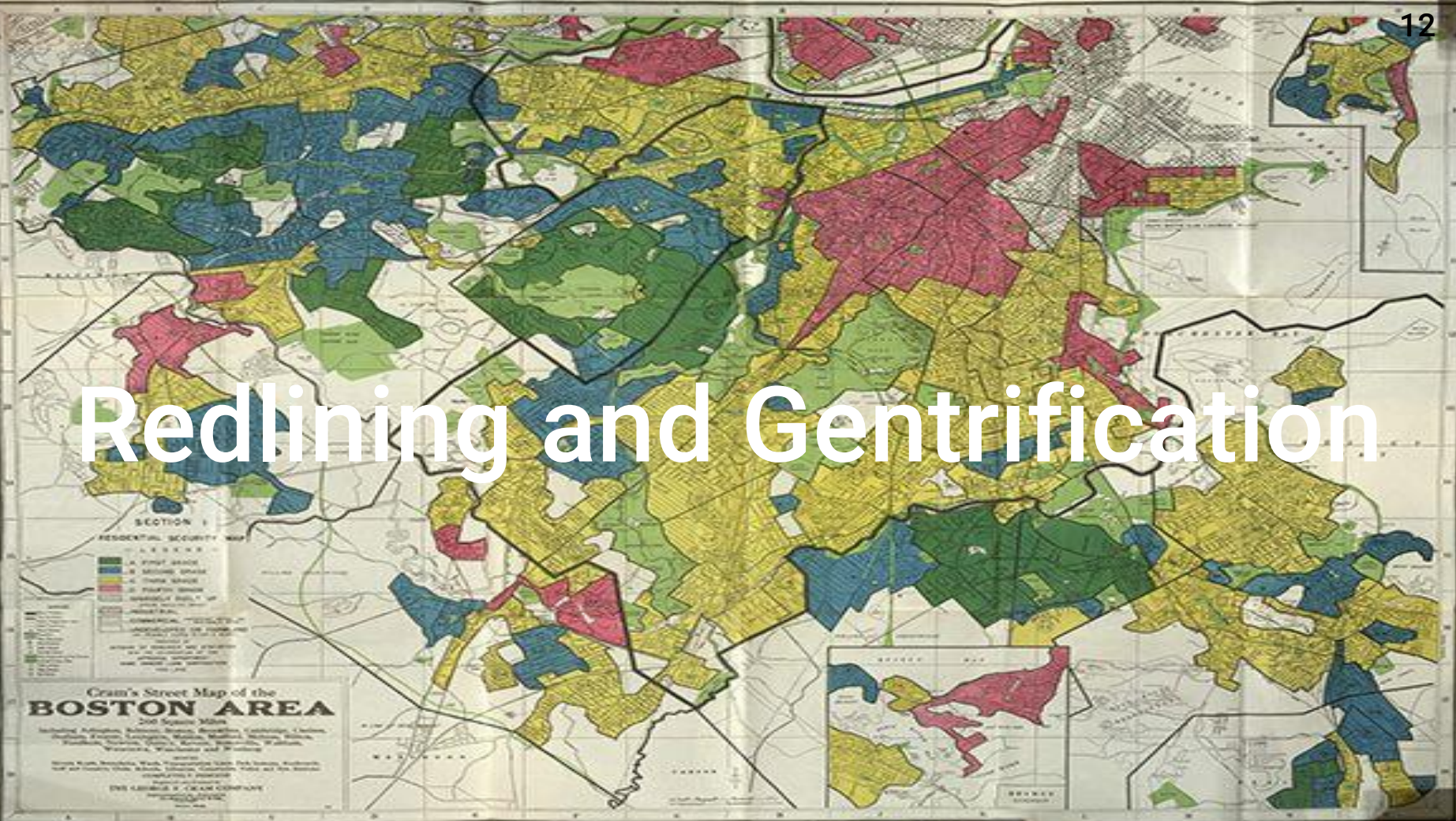
Source: U.S. Census Bureau, American Community Survey. These broad race categories do not illustrate differences within racial/ethnic groups. Due to sample size issues, more specific statistics can be unreliable.

Cost

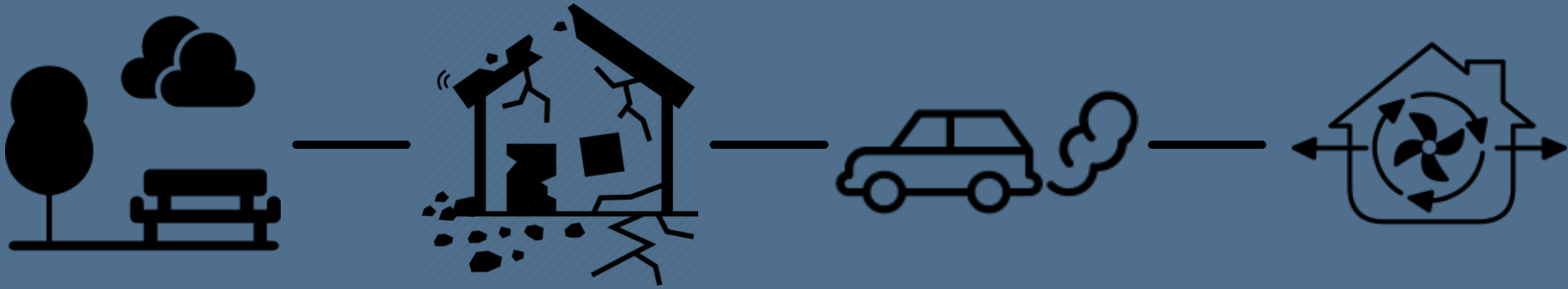
Asthma Hospitalization Cost in Massachusetts, 2002-2010



Redlining and Gentrification



Indoor and Outdoor Environment



Intervention Methods

High-efficiency particulate air filter (HEPA)

Development of low-income neighborhoods with better material

Better pay

Conclusion



Disadvantages



Cost



Outdoor Environment



By taking these considerations into account, we may see a substantial reduction in cases

Thank you!
Any questions?



References

- “Asthma.” *Mayo Foundation for Medical Education and Research*, 4 June 2020.
- “Asthma Among Children in Massachusetts.” *Mass.gov*, Jan. 2017.
- “Asthma Research and Resources.” *The Collaborative on Health and the Environment*.
- Ayanian, Helen. “Chapter 6: Chronic Disease, 2014-2015.” *Boston Public Health Commission*, 2015.
- “Data by Race and Latino Origin in Massachusetts, 2014.” *University of Massachusetts Boston*, 2014.
- Giang, Marcus. “Massachusetts Poverty Rate and Median Income Improved in 2018, but Not by Enough.” *Massachusetts Budget and Policy Center*, 19 Nov. 2019.
- “Health Disparities Between Blacks and Whites Run Deep.” *Harvard School of Public Health*, 2016.
- Houseman, Haley. “Artists and Activists Trace Boston’s Historic Red Line on the Streets.” *Hyperallergic Media Inc.*, 22 Sept. 2015.
- Poverty USA. “Maps and Data.” *United States Conference of Catholic Bishops*, 2018.
- Sabin, Janice A, and Anthony G Greenwald. “The influence of implicit bias on treatment recommendations for 4 common pediatric conditions: pain, urinary tract infection, attention deficit hyperactivity disorder, and asthma.” *American Journal of Public Health* vol. 102, 5 (2012): 988-95. doi:10.2105/AJPH.2011.300621
- “Statistics about Asthma.” *Mass.gov*, 2013.
- U.S. Census Bureau. “Massachusetts.” *American Community Survey*, 2018.
- “What is a HEPA Filter?” *United States Environmental Protection Agency*, 3 Apr. 2019.
- Wu, Felicia, and Tim K Takaro. “Childhood asthma and environmental interventions.” *Environmental Health Perspectives* vol. 115, 6 (2007): 971-5. doi:10.1289/ehp.8989