

Introduction

What is Asthma?

Asthma is a *chronic* disorder of swelling and sensitivity in the airways of the lungs that causes *recurrent* episodes of airway narrowing, leading to wheezing, shortness of breath, chest tightness, and coughing, in response to a variety of triggers.

The Facts

Pediatric asthma morbidity is disproportionately concentrated among young children residing in the poorest neighborhoods of Washington, DC (Figures I & II).

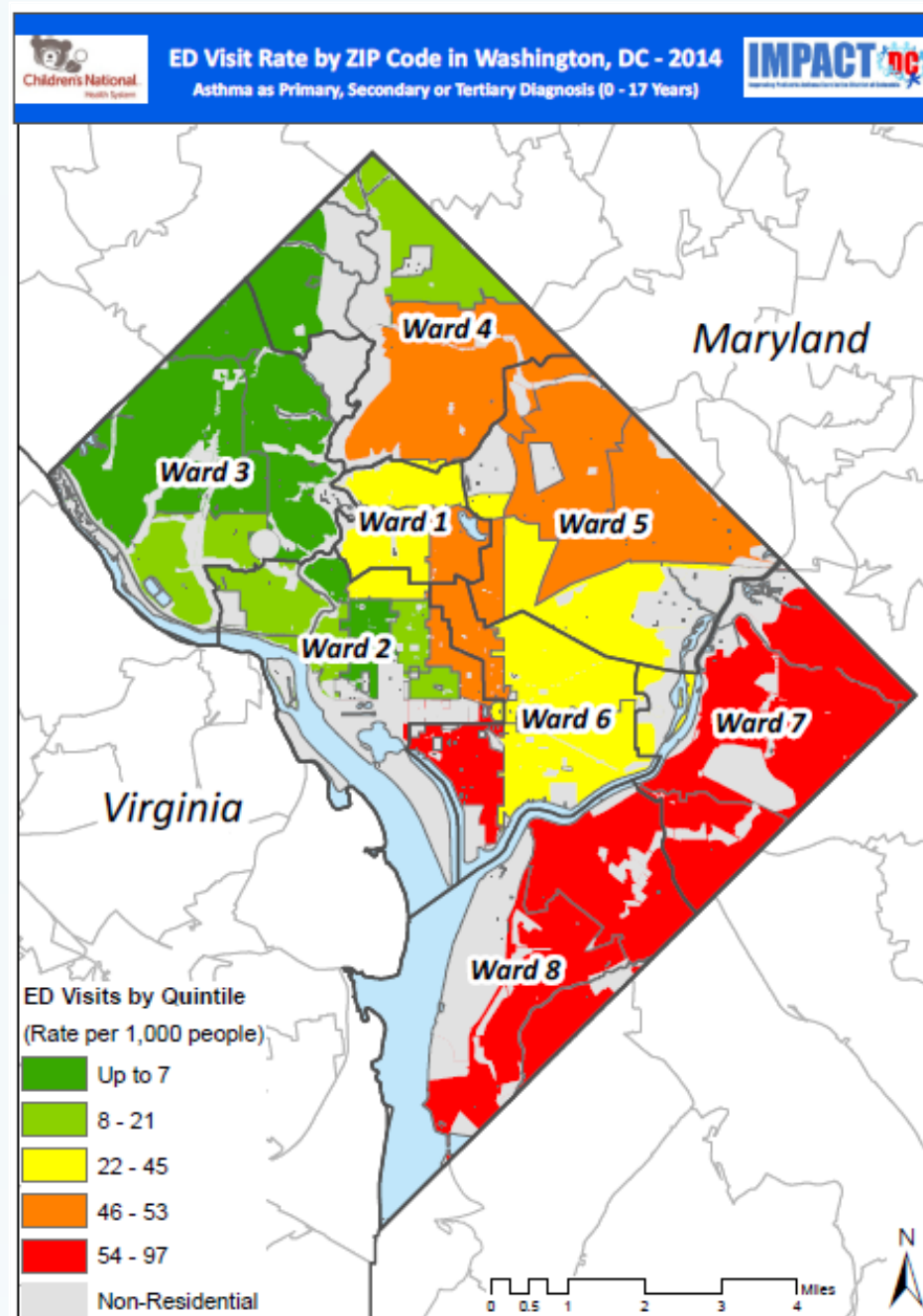


Figure I. ED visits for asthma by DC residents 0-17 by ward, 2015

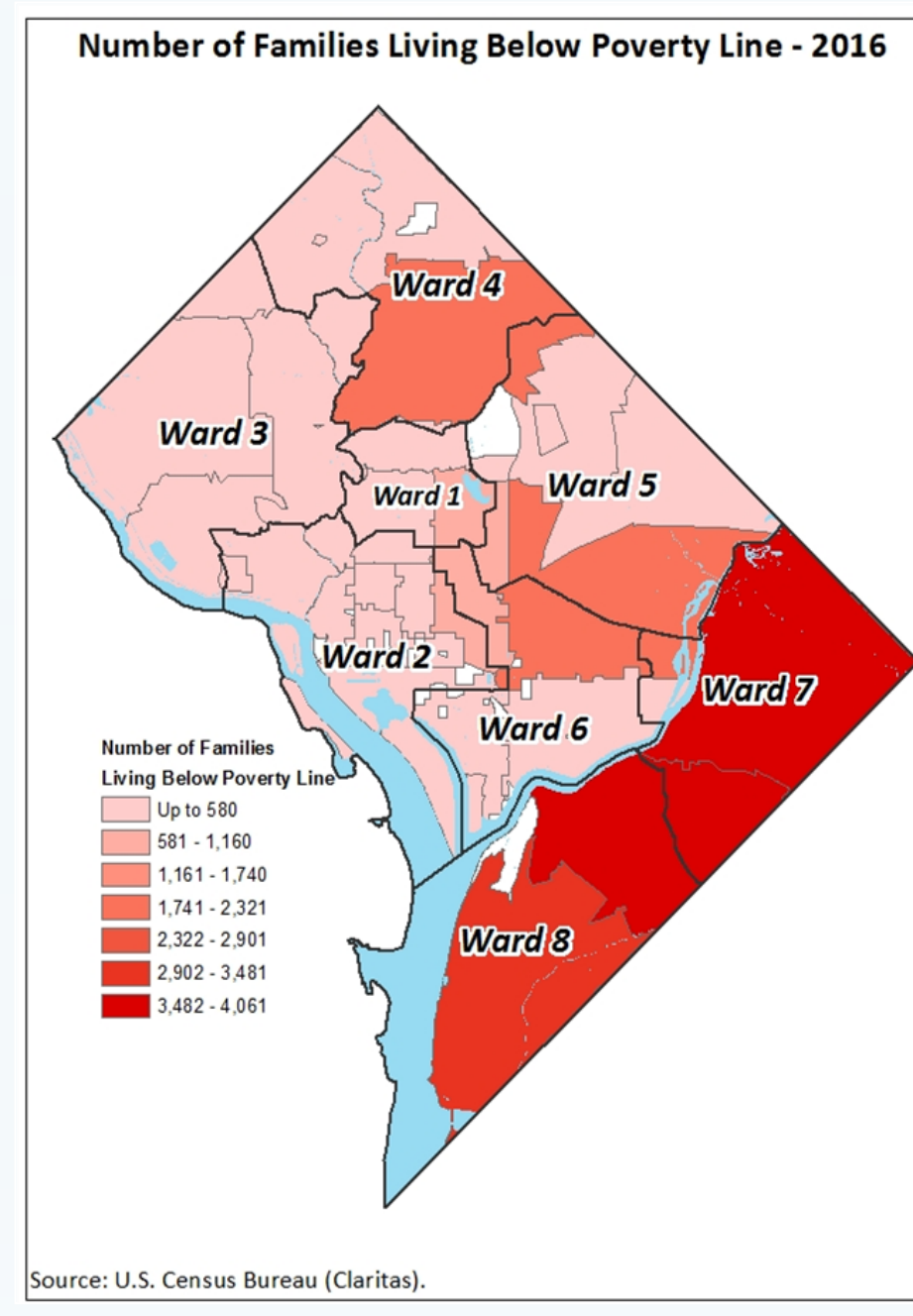


Figure II. Number of Families Living Below the Poverty Line, 2016

As shown in Figure II, ED visits were concentrated among children residing in Wards 7 and 8. Historically, these communities have reported the lowest incomes in Washington, DC. The ED visit rate per 100 children was almost 10 times greater in zip code 20032 (Ward 8) than in zip code 20015 (Ward 4).

In zip code 20032, the majority of the children in this community are African American and one in three families live in poverty. By contrast, in zip code 20015 the majority of the children are Caucasian and the median household income is \$164,425 (American Fact Finder, 2018).

The Cause

Many children living in low-income neighborhoods suffer the burden of inadequate access to resources. They undergo greater direct challenges and experience stressors, such as unhealthy living conditions and emotional and psychological stressors at a much higher rate (Bellin et al., 2018).

Review of Current Research/Literature

Unhealthy Housing Conditions

Housing is an important determinant of health and substandard housing contributes to chronic respiratory symptoms. For children in low-income communities, there are numerous asthmatic triggers related to environmental factors. Some of the main triggers for asthma include exposure to secondhand smoke, perfume, and certain types of pets (Gracy, 2018).

Low income communities are exposed to more allergens such as cockroaches, cracks or holes in walls, and the presence of mold creating more allergic sensitization in those exposed (DePriest & Butz, 2017).

Secondhand Smoke

Based on available studies it concluded there were no distinct differences in the amount of secondhand smoke exposure (SHSe) in urban family homes with or without smokers living in the home. Of the children questioned approximately 80% were exposed to SHSe on a routine basis (Wu et al., 2019).

Emotional and Psychosocial Factors

Parental stress management is an important environmental factor to consider when looking at children with asthma in low-income communities (Bellin et al., 2018). Depending on the child's capacity to maintain care for their own asthma, the sole responsibility can fall to the parents. However, routine asthma management was not shown to be one of the main stressors for parents caring for asthmatic children in low-income communities. Rather, it was stress from "asthma-related change, uncertainty, control, and anxiety," in relation to their affected child (DePriest & Butz, 2017).

Search Strategies

The information used in this research and literature review was obtained through the following search strategies:

- Scholarly article reviews
- CINAHL database
- Internet searches

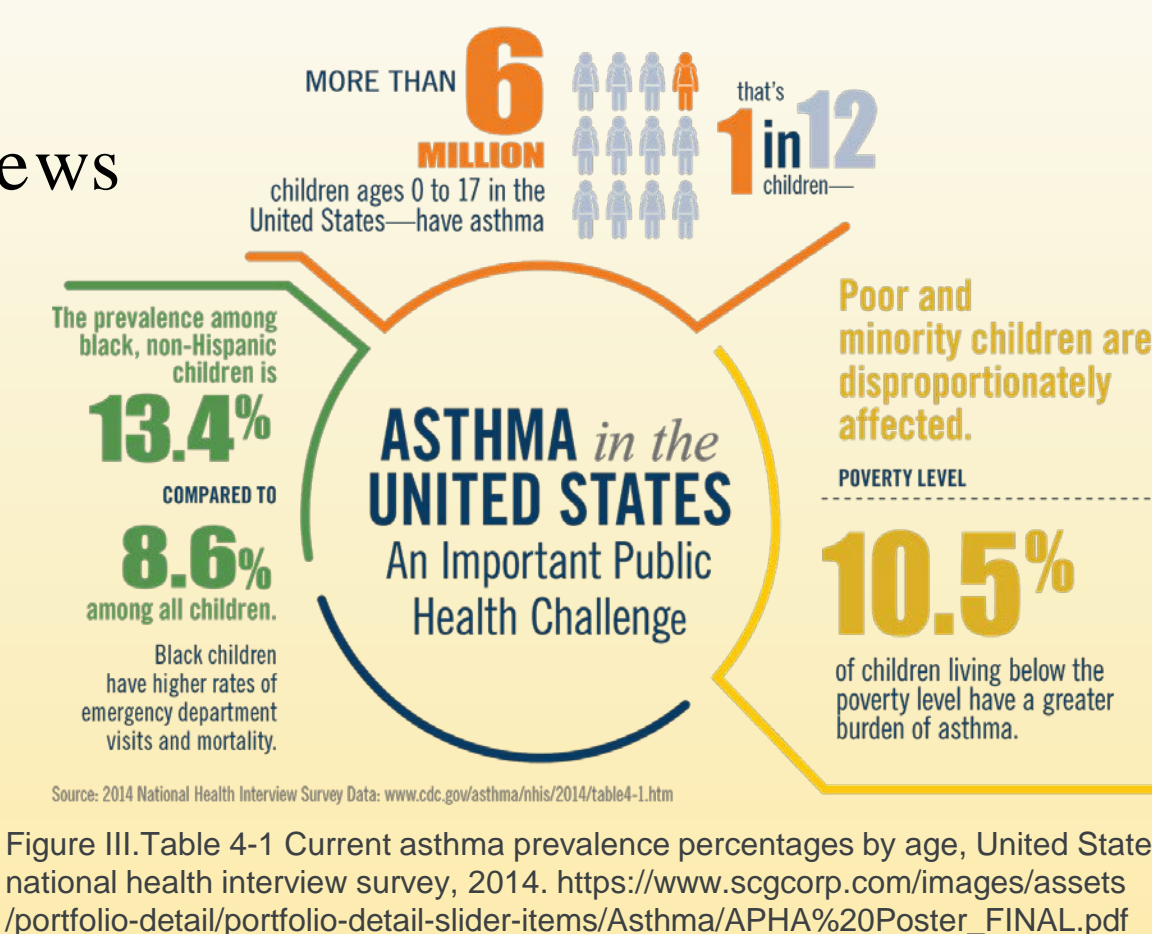


Figure III. Table 4-1 Current asthma prevalence percentages by age, United States: national health interview survey, 2014. https://www.scgcorp.com/images/assets/portfolio-detail/portfolio-detail-slider-items/Asthma/APHA%20Poster_FINAL.pdf

Application of Evidence Based Practice

Current Guidelines

Nurses and health care providers use the Expert Panel Report (EPR-3), a set of evidence-based clinical practice guidelines that incorporate best practices to help children with asthma control their disease (Rance, 2011).

Role of Nurses

- Establishing open communication with patients.
- Identifying and addressing concerns about asthma and treatment.
- Developing a treatment plan collaboratively with the patient, provider, and family.
- Encouraging self-monitoring and treatment.

Hospital-based research showed using self-assessment tools improved self-management, reduced symptoms, improved lung function and decreased missed days of work and school (Rance, 2011).

Future Policy & Research

- Future research should focus on examining the perspective of the patient and family to aid in clinical evaluation.
- Obtaining the perspective of the patient and family can be done using a self-assessment tool such as a questionnaire during visits to the doctor or hospital.

Conclusion

Reflection

Despite decreased rates of pediatric ED visits and hospital admissions for asthma, racial and socioeconomic disparities persist, highlighting significant areas for improvement (Volerman et al., 2017).

Tackling these issues must go beyond simply managing asthma symptoms. For many children, optimal health is unattainable due to insurmountable social and economic barriers. Addressing the gross inequalities of care affecting the incidence of asthma may help to improve the state of pediatric health.

The Solution

- Focus on efforts to eliminate the disproportionate impact asthma has on children growing up in socioeconomically disadvantaged neighborhoods.
- An emphasis on partnerships and community based programs.
- An investment in evaluation, identifying the most effective strategies in reducing the burden of asthma so that they can be replicated.



Figure IV. Asthma treatment education for target population. <https://childrensnational.org/departments/severe-asthma-clinic>

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