



India Rogers-Shepp,¹ Jonathan Lu,¹ Maïté Van Hentenryck,¹ Navami Jain,² Sohayla Eldeeb,² Avanthi Puvvala,³ Lisa Patel MD,⁴

1 MD Candidate, Stanford School of Medicine, Stanford University

2 Student, Stanford University

3 Student Researcher, Stanford Climate and Health, Stanford University

4 Faculty, Stanford School of Medicine, Stanford University

REVIEW ON EVALUATING ASSOCIATIONS BETWEEN AIR POLLUTION BURDEN AND RATES OF ED VISITS AND HOSPITALIZATION IN STOCKTON'S DISADVANTAGED COMMUNITIES

(1) Background, needs assessment, and/or objectives

California has identified Downtown and South Stockton as having a particularly high pollution burden, and have designated funds to remedy the issue under AB 617. This pollution directly impacts a largely Latinx, immigrant, and low-income community. This literature review documented disparate asthma and hospitalization rates compared to the types of pollutants being emitted.

(2) Community Partner (Full Business Name & Website)

Catholic Charities of the Diocese of Stockton: <https://www.ccstockton.org/>

Little Manila Rising: <https://www.littlemanila.org/>

Fathers and Families of San Joaquin: <https://www.ffsj.org/>

(3) Methods, approach, design, and/or statistical analysis

Searched Google Scholars and Stanford Library for air pollution and hospitalization themes. Hospitalization rates in Stockton, taken from Centers for Medicare and Medicaid Services, were overlaid with the AB-617 boundary region using Google Maps.

(4) Results, outcomes, and/or lessons learned

Mild association between poverty and rates of emergency department (ED) visits for asthma as well as a mild association between housing burden and ED visits for asthma were found in the Stockton community. Despite finding no correlation between pollution burden and ED rates for asthma, both were markedly high. Analysis also revealed 3 zip codes in the AB 617 boundary with relatively high numbers of hospitalizations and lengths of stay, which warrants further analysis.

This project demonstrates approaches for working effectively with community partners and building on their expertise to deliver findings that are useful.

(5) Conclusion, implications, and/or recommendations.

The project will aim to centralize data outcomes for the Stockton community through focus groups, translated infographics, social media, etc. We hope to disseminate findings to healthcare providers/community leaders. Further research could be targeted towards creating a detailed map.

Analysis of Medicare data showed that 3 zip codes (95204, 95205, and 95206) in the AB 617 boundary had a relatively high number of hospitalizations as well as lengths of stay while 4 (95208, 95211, 95213, 95267, and 95269) had comparatively low number of hospitalization and lengths of stay.

COMMUNITY PARTNER

CATHOLIC CHARITIES OF THE DIOCESE OF STOCKTON