

MAPPING ENVIRONMENTAL HAZARDS AND BLACK CARBON MEASUREMENTS IN AN IMMIGRANT COMMUNITY

Thu Quach, *Cancer Prevention Institute of California, USA*
Julie Von Behren, *Cancer Prevention Institute of California, USA*
My Tong, *Cancer Prevention Institute of California, USA*
Robert Gunier, *Cancer Prevention Institute of California, USA*
Andrew Hertz, *Cancer Prevention Institute of California, USA*
Scarlett Gomez, *Cancer Prevention Institute of California, USA*
Lisa Fu, *California Healthy Nail Salon Collaborative, USA*
Erika Garcia, *Cancer Prevention Institute of California, USA*
Peggy Reynolds, *Cancer Prevention Institute of California, USA*

Background and Aims: The Vietnamese population in the US is a rapidly growing immigrant group. This population shows increasing trends for many chronic health problems with increasing number of years in the US, which may be attributed in part to environmental stressors. The objective of this project is to use qualitative and quantitative methods to identify and characterize neighborhood-level environmental hazards for the Vietnamese population in California. Key to this work is the integrated participation and perspective of Vietnamese community members to identify and prioritize elements of their community that potentially impact their health.

Methods: Community members (N=35) from two counties in California were recruited and trained to conduct walking street audits of environmental hazards in neighborhoods where they live and work. Each street segment was approximately one city block long. Participants carried GPS devices, collected black carbon measurements using small real-time personal monitors, conducted five-minute car and truck counts and used Photovoice documentary methods.

Results: The walking audits were conducted on 144 street segments, of which 45% were in business areas and 55% in residential areas. The mean five-minute truck count was 2 (range: 0 -10) on business streets and 0.3 (range: 0-4) in residential areas. The median level of black carbon was 1.3 $\mu\text{g BC}/\text{m}^3$ (range: 0-41). Observational audit survey data highlighted issues around litter and smoking, as well as traffic-related odors and noise. Qualitative data from Photovoice and written comments from auditors reflected concerns around neighborhood safety.

Conclusions: We successfully engaged community members in collecting qualitative and quantitative environmental data on their local neighborhoods. Comparisons between these community-collected snapshot data to governmental monitoring data for traffic and black carbon will help inform how well existing secondary data can capture perceived local environmental hazards and how the community-collected data can be used to enhance existing environmental measurement data.