



Air Pollution: A Vector for Environmental Racism

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The World Health Organization recently dramatically lowered the recommended thresholds for air pollution in recognition of the effect of air pollution on health. Air pollution is associated with poor health outcomes including dementia, stroke, heart disease, lung cancer, and acute and chronic respiratory disease. Specifically, small particulate matter (PM2.5) is composed of all the solid and liquid particles suspended in the air including dust, pollen, soot, smoke, and liquid droplets. Ground-level ozone (O3) comes from pollution emitted from cars, power plants, industrial boilers, refineries, and chemical plants. PM2.5 and ground-level ozone are associated with increased morbidity and mortality from cardiorespiratory disease and lung cancer risk. Through a comprehensive literature review, we found racial/ethnic communities were at greater risk for exposure to PM2.5 and O3. This literature review complemented descriptive work in ArcGIS and Stata comparing the relationship between air pollution, area deprivation, and population demographics. In particular, census tracts with increased PM2.5 and O3 concentrations also have greater populations of Hispanic, Black, Asian, and Pacific Islander residents. Disproportionate exposure to environmental stressors such as PM2.5 and O3 is an example of environmental racism that is a major contributor to racial and ethnic disparities in health across the lifespan. Future research will build on this work to understand the impact of air quality on health equity and racial/ethnic disparities in the U.S. Medicare beneficiary population.

AIR QUALITY & HEALTH EQUITY
SMALL PARTICULATE MATTER (PM2.5)
AND GROUND-LEVEL OZONE (O3)

WHO IS IMPACTED?
Communities of color:
Hispanic, Black, Asian

WHAT IS THE IMPACT?
Increased morbidity and
mortality from dementia, cancer,
cardiac, and respiratory disease.

ARCGIS STORYMAP

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