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5R01ES019573-05

Project 316 of 2071

[DESCRIPTION](#) [DETAILS](#) [RESULTS](#) [HISTORY](#) [SUBPROJECTS](#) [SIMILAR PROJECTS](#) [NEARBY PROJECTS](#) [BETA](#) [LINKS](#) [NEWS AND MORE](#)**Project Number:** 5R01ES019573-05**Contact PI / Project Leader:** [COOGAN, PATRICIA F](#)**Title:** AIR POLLUTION AND RISK OF INCIDENT HYPERTENSION AND DIABETES IN U.S. BLACK WOMEN**Awardee Organization:** BOSTON UNIVERSITY MEDICAL CAMPUS**Abstract Text:**

DESCRIPTION (provided by applicant): Air pollution increases the risk of acute cardiovascular events. Whether it contributes to the risk of hypertension and diabetes, chronic predisposing conditions to cardiovascular disease, is unknown. Hypertension and type 2 diabetes occur much more commonly among U.S. black women than white women, a discrepancy only partly explained by known risk factors. U.S. black women tend to live in neighborhoods with more air pollution than their white counterparts, regardless of socioeconomic status. With state-of-the-art methods, we propose to test the hypotheses that exposure to air pollution increases the risks of incident hypertension and type 2 diabetes in African American women. We will focus on particulate matter of d2.5

Public Health Relevance Statement:

The proposed study will evaluate whether exposure to air pollution increases the risks of incident hypertension and type 2 diabetes in a cohort of 59,000 African American women from across the U.S. The study is of immense public health importance given the high prevalence of hypertension and diabetes, the disparity in the incidence between black and white women, and the ubiquity of exposure to air pollution. Positive findings will inform public policy on air quality regulation, illuminate causes of racial disparities in the incidence of hypertension, and diabetes provide pivotal insight into a novel pathway whereby air pollution causes cardiovascular events, and motivate additional research.

NIH Spending Category:

Cardiovascular; Climate-Related Exposures and Conditions; Clinical Research; Diabetes; Hypertension; Prevention

Project Terms:

Accounting; Acute; Affect; African American; Air; Air Pollutants; Air Pollution; air quality regulation; base; Blood Pressure; Caliber; California; Canada; Cardiovascular Diseases; Cardiovascular system; Chronic; cohort; Cohort Studies; Coronary heart disease; cost; Data; Databases; Development; diabetes control; Diabetes Mellitus; Disadvantaged; Disease; Event; Exposure to; follow-up; Geographic Information Systems; Health; High Prevalence; Human; Hypertension; Incidence; Individual; Inflammation; insight; interest; Investigation; land use; Life; lifestyle factors; Link; Location; Los Angeles; Measurement; Measures; Methods; Modeling; Monitor; Morbidity - disease rate; mortality; Neighborhoods; Nitrogen Dioxide; Noise; Non-Insulin-Dependent Diabetes Mellitus; novel; Outcome; Oxidative Stress; Oxides; Participant; Particulate Matter; Pathway interactions; pollutant; Pollution; Population; Prevalence; prospective; Public Health; Public Policy; Questionnaires; racial disparity; Research; residence; Resources; Risk; Risk Factors; Socioeconomic Status; Surveys; Techniques; Testing; trafficking; Woman; Women's Health

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