



# The Healthy Environments Partnership (HEP) Supports Action to Equitably Protect Communities from Air Pollutants & Their Health Effects

HEP is a community-based participatory research project.

Partners include:

- ◆ Brightmoor Community Center
- ◆ Community Partner at Large
- ◆ Detroit Department of Health and Wellness Promotion
- ◆ Detroit Hispanic Development Corporation
- ◆ Friends of Parkside
- ◆ Henry Ford Health System
- ◆ Warren Conner Development Coalition
- ◆ University of Michigan School of Public Health



## The Healthy Environments Partnership

Project Manager:

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## POLICY RECOMMENDATIONS

**Assess the impact of programs, policies, and land use decision on airborne particulate matter and the health of residents in surrounding communities.**

Require decision makers to consider strategies to reduce the negative effects of air pollution on health (e.g., reducing diesel emissions, minimizing idling and proximity of trucking routes to residential neighborhoods) and include public health professionals in determining city planning and transportation decisions.

**Support National Ambient Air Quality Standards for particulate matter that protect health and ensure enforcement at the State and local level.**

State and local governments can work with National agencies to develop and enforce policies that will ensure safer, cleaner environments and protect residents' health. National agencies can work with localities to clean up existing polluting sources and minimize adverse health effects.

**Enact state-wide school siting policies that protect children from environmental pollution.**

Require a minimum distance between school sites and pollution sources such as highways, factories, airports, rail lines, and other potential environmental hazards. Fund air filtration systems for existing schools that report high levels of pollution.

**Monitor the long-term effects of fine particulate matter on health over time, and equitably distribute risks and benefits.**

Use scientific data to determine the cumulative health effects of air pollution. Calculate the associated health care costs to show the long-term impact on communities and to inform future decisions.

### Citations:

1. Kannan S, Dvonch JT, Schulz AJ, Israel BA, Mentz G, House JS, Max P, Reyes AG. 'Exposure to Fine Particulate Matter and Acute Effects on Blood Pressure: Effect Modification by Measures of Obesity and Location'. *Journal of Epidemiology and Community Health*. 2009; 0:1-8.
2. Dvonch JT, Kannan S, Schulz AJ, Keeler GJ, Mentz G, House JS, Benjamin A, Max P, Bard RL, Brook RD. 'Acute effect of ambient particulate matter on blood pressure: differential effects across urban communities'. *Hypertension*. 2009; 53(5): 853-9

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**HEP Overview:** Established in 2000, HEP is a community-based participatory research partnership that develops, implements, and evaluates interventions in Detroit, Michigan to reduce racial and socioeconomic disparities in cardiovascular disease (CVD). HEP is funded through the National Institute of Environmental Health Sciences and the National Institute on Minority Health and Health Disparities.

## **Background: Exposure to harmful air pollutants contributes to Detroit residents' increased risk of cardiovascular disease (CVD)**

- In 2008, the cardiovascular disease mortality rate (per 100,000 population) in Detroit was 329, almost double the national rate of 187.
- Exposure to air pollution is linked to asthma and other pulmonary conditions as well as heart disease.
- Detroit residents are exposed to PM<sub>2.5</sub> from Ohio River Valley coal combustion emissions, as well as local motor vehicles, steel and automotive industries, oil combustion, and waste incineration.
- Residents of Southwest Detroit are more likely to be exposed to PM<sub>2.5</sub> than residents living in other areas of the city, due to the density of traffic and industrial facilities in Southwest Detroit.



## **HEP Research Findings: Exposure to PM<sub>2.5</sub> is associated with increased blood pressure.<sup>1,2</sup>**

- The mean level of PM<sub>2.5</sub> across all study sites in Detroit was at the current U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Standards (NAAQS). Concentrations of PM<sub>2.5</sub> in Southwest Detroit were about 20% higher than the NAAQS.<sup>2</sup>
- Short term increases in PM<sub>2.5</sub> were associated with significant increases in systolic blood pressure, even at levels lower than the current EPA NAAQS.<sup>2</sup>
- Increases in systolic blood pressure were more than two times larger in Southwest Detroit, the study area with the highest levels of PM<sub>2.5</sub>, compared to those found in other areas of the city.<sup>2</sup>
- It is well established that increases in systolic blood pressure of the size found in the HEP study substantially increase the risk of heart attacks and stroke.<sup>1,2</sup>

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