

Are some people more at risk from air pollution?

7 September 2015, by Dina Abdulhadi



A study by researchers from EPA and Duke University reflects how traffic-related air pollution can impact the health of people living in nearby communities.

I'm driving in rush hour traffic, waiting for the slow crawl of cars to reach the speed I would be moving had I biked home. My heart rate rises slightly; it's a beautiful summer day and I'm thinking of the many things I'd rather be doing than sitting in traffic.

The congestion eventually eases though, and I'm home. I breathe deeply, and my heart rate lowers.

The stress I felt had an immediate but temporary effect on my [health](#). For people who live in communities near these congested roadways, however, traffic can have a longer-term impact on heart health. And even then, [air pollution](#) does not affect everyone equally.

A new study suggests that women and African-Americans who live near busy roadways may have a greater risk than their white male counterparts for developing high fasting blood sugar levels, a risk factor for heart disease.

The study used a database called CATHGEN, developed by Duke University. It contains health

information on nearly 10,000 people who received [cardiac catheterization](#), a common test for heart disease. Researchers at EPA and Duke University are using the participant's health data to see how air pollution also affects the progression of [heart disease](#).

A large body of research has connected fine particulate matter, a common air pollutant, to health effects, including heart problems. Many studies have even found that consistent exposure to the same elevated level of air pollution can have a stronger impact on blood glucose for women than men. But the race-related disparity is a new observation, researchers conclude in the study.

This study is one in a series that aims to see how factors like age, sex, race, disease status, genetic makeup, socioeconomic status, and where a person lives can put someone at greater risk from the health effects of air pollution. The knowledge gained through CATHGEN studies can be used to develop public health strategies for protecting those at greater risk from air pollution and to support review of the Air Quality Standards under the Clean Air Act.

Ongoing EPA CATHGEN studies are expected to provide more answers to the question of whether air pollution may affect people differently. In the meantime, read this first CATHGEN study, published in *Environmental Health Perspectives* and titled, Association of Roadway Proximity with Fasting Plasma Glucose and Metabolic Risk Factors for Cardiovascular Disease in a Cross-Sectional Study of Cardiac Catheterization Patients.

Air pollution [most strongly effects those already at risk for heart disease](#), mainly older adults and those with high blood pressure, cholesterol, or history of [heart problems](#). Though I'm young and healthy, days with higher pollution levels can still make me winded while exercising even if they don't trigger a

[heart](#) attack. Reading papers like this reminds me to check the Air Quality Index before planning long summer bike rides and makes me appreciate how important environmental quality is to human health.

More information: "Association of Roadway Proximity with Fasting Plasma Glucose and Metabolic Risk Factors for Cardiovascular Disease in a Cross-Sectional Study of Cardiac Catheterization Patients." *Environ Health Perspect*; DOI: [10.1289/ehp.1306980](https://doi.org/10.1289/ehp.1306980)

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