New Study Highlights Need to Protect Human Health from Impacts of Climate Change

OAKLAND, CA (June 8, 2011) -- The recent discovery of a potentially harmful chemical component, isocyanic acid, in tobacco smoke, urban pollution and smoke from wildfires underscores the need to include safeguards for human health in local, state and national policies to address climate change, the Public Health Institute (PHI) said Wednesday.

“Our health is a critical priority as we work to tackle climate change,” said Matthew Marsom, director of public health policy and advocacy at PHI. “We urgently need to implement policies that reduce emissions and urban air pollution. We should also be improving our preparedness for extreme weather events like wildfires that will increasingly occur with climate change.”

The recent study, led by a National Oceanic and Atmospheric Administration (NOAA) researcher, identified the chemical isocyanic acid for the first time in tobacco smoke, urban pollution and wildfire smoke. The Intergovernmental Panel on Climate Change and other reputable researchers predict that climate change will exacerbate urban ozone pollution and increase the frequency and scope of wildfires in California and many other parts of the world.

The health effects of human exposure to isocyanic acid in smoke and pollution are not fully understood, but the NOAA study suggests they are cause for concern. The acid dissolves in water, meaning it can dissolve into moist tissues in the body or even be absorbed directly through the eyes and mouth. Once in the body, isocyanic acid forms “part of a biochemical pathway linked with cataracts and inflammation that can trigger cardiovascular disease and rheumatoid arthritis,” according to the findings.

Ironically, the NOAA report points out that pollution-control equipment being introduced in California and Europe to reduce diesel truck emissions — a source of carbon, particulate pollution and ground-level ozone precursors — also emits isocyanic acid as a by-product. The findings are too preliminary to suggest problems with the pollution-control systems. However, they flag the need to guard against unintentionally introducing new health threats as we move to confront climate change.

“As we address climate change, we have an opportunity to dramatically improve public health, with approaches like diesel pollution reduction and improvements to mass transit and rail infrastructure,” said Cristina Tirado, director of PHI’s Center for Public Health & Climate Change. “It’s essential, though, that we don’t inadvertently introduce any new threats to our health.”

The study appeared in a recent issue of the Proceedings of the National Academy of Sciences.

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About the Public Health Institute

The Public Health Institute, an independent nonprofit organization based in Oakland, California, is dedicated to promoting health, well-being and quality of life for people throughout California, across the nation and around the world. PHI's primary methods for achieving these goals include: sharing evidence developed through quality research and evaluation; providing training and technical assistance; and promoting successful prevention strategies to policymakers, communities and individuals.

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