



Department of Pediatrics

School of Medicine / CMSC 1102
The Johns Hopkins Hospital / Baltimore, MD 21287-3923
(410) 955-5883 / FAX (410) 955-0229

Division of Immunology and Allergy

March 9, 2015

The Honorable Barbara Boxer
Ranking Member, Senate Environment and Public Works Committee
456 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Boxer,

We are writing to give more information and perspective about our recent publication “Neighborhood poverty, urban residence, race/ethnicity, and asthma: Rethinking the inner-city asthma epidemic” and its implications for the relationship between asthma and air pollution.

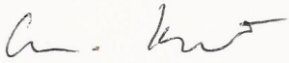
In this study we used data from the National Health Interview Survey (NHIS) to examine the relationship between metropolitan status (i.e., living in an Urban, Suburban, Medium Metro or Small Metro/Rural area), poverty, race/ethnicity, and prevalence of asthma among children in the U.S. This survey, conducted by the Centers for Disease Control is a nationally representative sample. In our study we found that poverty and race/ethnicity were major risk factors for asthma prevalence, but that living in an urban metropolitan area was not a risk factor for asthma prevalence. This study’s finding has been misinterpreted by some who believe that it suggests that air pollution in general, and ozone in particular, is not important for asthmaⁱ.

This is an erroneous conclusion to draw from the study’s results because first, our study did not examine air pollution, and second, residence in an urban area cannot be taken as a surrogate for high air pollution exposure, as air pollution is not confined to urban areas. In fact, ozone levels are actually highest in suburban areas downwind from urban areas rather than in urban areas themselvesⁱⁱ, and there is substantial variability across the U.S. between regions and areas. For example, air pollution levels are very high in non-urban areas in the California Central Valley. Most importantly, a link between ozone levels and respiratory health outcomes is supported by many studies that have used a variety of methods that are more appropriate for this questionⁱⁱⁱ.

Our findings instead highlight that children with asthma live in all types of metropolitan areas throughout the U.S., and suggest the need for comprehensive policies to reduce the prevalence of asthma across the U.S. Until we can develop such policies, we need to reduce threats to the health of people with asthma, including ozone pollution.

Thank you for your interest in this matter. Please contact me with any questions.

Sincerely,



Corinne A. Keet, MD, PhD
Assistant Professor of Pediatrics
Johns Hopkins School of Medicine
Baltimore, MD 21287
Email: ckeet1@jhmi.edu
Phone: 410-955-5883

On behalf of my co-authors:

Meredith McCormack, MD, MHS, Johns Hopkins School of Medicine
Roger D. Peng, PhD, Johns Hopkins School of Public Health
Craig Pollack, MD, MHS, Johns Hopkins School of Medicine
Emily McGowan, MD, Johns Hopkins School of Medicine
Elizabeth C. Matsui, MD, MHS, Johns Hopkins School of Medicine

ⁱ For example: <http://instituteeforenergyresearch.org/analysis/study-undermines-scientific-basis-epas-ozone-rule/>

ⁱⁱ Simon, H et al. Environmental Science and Technology. 2015, 49, 186-195

ⁱⁱⁱ For example:

Meng, YY et al. J Epidemiol Community Health 2010; 64: 142-147.

Kim CS et al. Am J Respir Crit Care Med. 2011, 183:1215-1221.

Gleason JA et al. Environmental Research 132 (2014) 421-429.

Rice MB et al. Am J Respir Crit Care Med. 2013. 188(11): 1351-1357