

Important Transitions in HEI's Publications and Communications



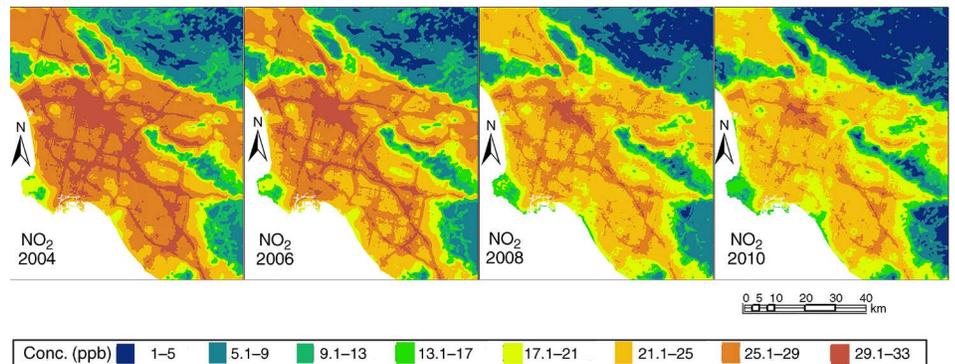
Hilary Selby Polk.

HEI's Publications and Communications department — which edits and publishes all HEI scientific reports and results, and manages the Institute's websites, social media, and other communication platforms — is in the midst of several important transitions, working to position HEI to more effectively communicate its results in the digital age.

Early this year, Hilary Selby Polk announced her plans to retire at the end of May.

Continued on page 3

New HEI Study Suggests California Goods Movement Plan Improved Air Quality and Health



Reductions in annual nitrogen dioxide (NO₂) exposure across the years of the Goods Movement program.

A new HEI study has found that a series of actions taken to reduce pollution from California goods movement activities resulted in reduced exposure to air pollution and to improved health outcomes for Californians enrolled in the state's health care program for low-income individuals (Medi-Cal). Improvements were greatest for people who suffer from asthma and chronic obstructive pulmonary disease (COPD).

Continued on page 3

Record Attendance for Virtual Annual Conference

In a series of eight widely viewed webinars, HEI's virtual 2021 Annual Conference in April and May featured timely science on air pollution and public health, spotlighting an array of new research angles and approaches. The scientific sessions included chairs, speakers, and discussants from academia, government, industry, and community groups.

Continued on page 2

Also in This Issue

NEW HEI RESEARCH REPORT Mechanisms of Lung Injury by Ozone.....	2
Air Pollution and Health in Southeast Europe.....	2
Key Findings on Traffic Pollution and Health.....	4
HEI Seeks Director of Science Communications	4
New Staff Scientist for Core and Global Health Programs.....	4

Study by Rosenblith Awardee Evaluates Mechanisms of Lung Injury by Ozone

The mechanisms by which ozone injures the lungs continue to be issues of science and policy import. [Research Report 204](#), *Novel Mechanisms of Ozone-Induced Pulmonary Inflammation and Resolution, and the Potential Protective Role of Scavenger Receptor B1*, presents a study by Kymberly Gowdy of East Carolina University (now at Ohio State University) and colleagues in which they evaluated how acute exposure of mice to ozone affects initiation and resolution of the inflammatory response in the lung.

Gowdy is a recipient of HEI's [Walter A. Rosenblith New Investigator Award](#). HEI initiated the award program in 1999 in honor of its first Research Committee chair.

The study by Gowdy and colleagues is the first to examine the role of specialized proresolving mediators, key lipids of the resolution phase of inflammation, in how lung cells are activated and later removed by macrophages. It provides a rationale for future research to evaluate whether supplementation with specialized proresolving mediators may mitigate human conditions that involve chronic inflammation, such as chronic respiratory and cardiovascular diseases.

In its independent evaluation, the HEI Review Committee thought the study provided a good foundation for further research to assess the role of specialized lipid mediators in mitigating inflammatory responses. Given that exposure to ozone exacerbates chronic inflammatory conditions such as asthma and cardiovascular disease, the Committee said it will be worth exploring whether ozone affects the resolution of inflammation in these conditions, and whether enhancement of lipid mediator levels through diet or other interventions may be clinically useful in mitigating such conditions. [HEI](#)

[Research Report 204](#) is available for downloading, free of charge, at www.healtheffects.org/publications. For more information on the study, contact HEI at info@healtheffects.org.

HEI Cohosts Workshop on Air Pollution and Health in SE Europe

As fine particulate matter (PM_{2.5}) levels in Southeast Europe have remained higher than in those of Western Europe for decades, public and governmental interest in the topic has increased, and the demand for data and evidence on air pollution levels and trends as well as health effects is growing.

In an effort to focus the discussions related to air quality and health, HEI cohosted a [virtual workshop](#) on June 8–9 to review the status of current evidence on the health effects of air pollution in Southeast Europe and its interlinkage to current policy debate and actions.

Jointly hosting the event with HEI were the International Society for Environmental Epidemiology; the European Respiratory Society; the Medical University of Plovdiv, Bulgaria; and environmental health institutions in Serbia.

The workshop was part of the larger HEI project in Southeast Europe supported by the Clean Air Fund. Participants from across the region were affiliated with academic/research institutes, healthcare organizations, professional societies, national and regional nonprofit groups, bi- and multilateral organizations, federal and local government agencies, ministries, and other organizations. [HEI](#)

Recordings from the event will be available soon at www.healtheffects.org/meetings.



The webinar series kicked off with “Climate Change, Air Quality, and Health,” attracting more than 550 attendees, a record for HEI. Subsequent sessions covered new research and generated lively discussions on successes and challenges in community-centered environmental health research, global air quality policy and decision-making, the COVID-19 pandemic as it relates to air pollution, methods for synthesizing evidence across studies, non-tailpipe emissions, and effects on health at low levels of air pollution exposure. All told, the virtual conference drew 1,200 attendees from 76 countries across five continents.

This year HEI introduced the Jane Warren Trainee Conference Award in remembrance of Warren, who joined HEI in the 1980s and served as Director of Science from 1999 until her retirement in 2008. Winners included five graduate students and postdocs: Weiran Yuchi (The University of British Columbia), Daniel Mork (Colorado State University), David Luglio (New York University Langone Health), Gaige Hunter Kerr (George Washington University), and Ekta Chaudhary (Indian Institute of Technology Delhi, India). They presented their research and participated in a virtual networking event with HEI investigators, committee members, and staff.

All speaker slides and recordings are available at www.healtheffects.org/annual-conference. Next year's conference will be held in person in Washington, D.C., on April 24–26, 2022, even as HEI considers ways that might allow remote participation in some of the major sessions. Details will be posted on our website starting next winter. [HEI](#)

Health Effects Institute

75 Federal Street, Suite 1400
Boston, MA 02110, USA
Phone: +1-617-488-2300
Fax: +1-617-488-2335

www.healtheffects.org

State of Global Air: www.stateofglobalair.org

Richard F. Celeste, *Chair, Board of Directors*
Daniel S. Greenbaum, *President*

HEI is a nonprofit organization funded jointly by government and industry to research and evaluate the health effects of air pollution. An overview of HEI, information on its current research program, and all published HEI reports are available for downloading, free of charge, from the website.

Production Staff for *Update*:

Hope Green, *Editor*
Ruth E. Shaw, *Cameographics, Layout and Composition*

SIGN UP: HEI NEWSLETTER ONLINE

To sign up for e-mail delivery of *Update*, go to “Newsletter Sign-up” at the bottom of our home page, www.healtheffects.org.

“Hilary has done an extraordinary job for HEI,” said HEI President Dan Greenbaum.

Polk started as a Science Editor in 2007 and was later promoted to Senior Science Editor before becoming Managing Editor following major shifts in HEI’s publications efforts in 2015. Most recently she served as de facto Director of Publications and Communications, overseeing HEI’s core scientific publications and the range of new online and digital communication activities. In those roles she oversaw the publication and dissemination of close to 100 Research Reports and other science publications (including many in other languages), the launch of two new websites to complement healtheffects.org, and restoration of HEI’s work in the National Library of Medicine, among many other accomplishments.

To begin to fill the many roles that Polk played, HEI launched a successful search for a new Senior Editorial Manager to take



Kristin Eckles.

over the publications aspects of her job and was pleased to welcome Kristin Eckles to the staff in March 2021. In this role, Eckles now oversees publication of HEI’s scientific reports and other publications for digital and other distribution. She brings more than 19 years of experience working in medical publishing (books and journals); she served for 17 years as an editorial project manager of books at the American Society of Health-System Pharmacists. Eckles holds a bachelor’s degree in English from Goucher College, Towson, Maryland.

During this transition, Hilary has been working with staff and HEI’s Directors to develop an overarching Communications strategy for both the near and long term. In line with this, HEI has launched a second search, this time for a Director of Science Communications with a broader role: to oversee the work of the new Senior Editorial Manager as well as other Communications staff, *and* to complete and implement an innovative, broader digital communications strategy for HEI. The posting for that position can be found [here](#).

CALIFORNIA GOODS MOVEMENT PLAN (Continued from page 1)

The study is the latest report from HEI’s Accountability Research program, which tests whether actions taken to improve air quality have reduced pollution and improved health. Results from this study indicate that actions to reduce emissions related to goods movement may be effective in improving local air quality levels and healthcare utilization among disadvantaged people.

As presented in [Research Report 205](#), *Improvements in Air Quality and Health Outcomes Among California Medicaid Enrollees Due to Goods Movement Actions*, HEI-funded investigator Ying-Ying Meng at the University of California, Los Angeles, and colleagues evaluated the overall effectiveness of the 2006 California Goods Movement Plan, consisting of approximately 200 mandatory and voluntary actions aimed at reducing air pollutant emissions related to the movement of traded goods through California ports and freeways. These emissions can lead to poor air quality in neighboring communities, in turn leading to poorer health among residents.

The investigators examined whether the plan reduced exposure to NO₂, PM_{2.5}, and ozone, and reduced healthcare utilization, among 23,000 adults with chronic health conditions who were enrolled in Medi-Cal. To disentangle the impact of the goods movement plan from other regulations implemented during the same time frame that also affected air quality, the investigators compared how much pollutant levels and emergency room visits changed from the pre-policy period (2004–2007) to the post-policy period (2008–2010) in three areas based on proximity to major goods movement transit routes. This included (1) areas near ports and freeways with truck traffic, (2) areas near freeways without truck traffic, and (3) control areas not near ports or freeways.

Comparing the first year post-policy to pre-policy years, Meng and colleagues found larger improvements in NO₂ and PM_{2.5} exposures near ports and truck-permitted freeways than in

control areas. Additionally, after the policies were put in place, Medi-Cal beneficiaries with asthma or COPD who were living near ports and freeways had fewer emergency room visits than did people who lived in the control areas. Results for the areas near freeways without truck traffic fell in between the areas near ports and control areas.

In its independent evaluation of the study, the HEI Review Committee lauded the investigators for the quasi-experimental design and addressing an important research topic of great interest to policymakers. They appreciated the use of three defined goods movement traffic exposure areas and the focus on a large longitudinal cohort of people who may be more vulnerable to the health effects of air pollution. The Committee also liked the use of the causal inference based statistical approach — a difference-in-differences method — which is thought to take care of some confounders. However, the Committee also noted that potential selection bias and influences from other regulations or secular trends (such as economic downturns) could not be completely ruled out.

Overall, the Committee thought the study provided evidence that regulatory actions to limit emissions from goods-movement-related traffic may decrease emergency care utilization among disadvantaged people who live nearby, in particular among those who suffer from respiratory-related chronic conditions. It will be useful, the Committee said, to evaluate whether similar improvements are observed elsewhere when goods movement actions are implemented, targeting ports and other major distribution hubs.

[Research Report 205](#) is available for downloading, free of charge, at www.healtheffects.org/publications. For more information on the study, contact [Eva Tanner](mailto:etanner@healtheffects.org) (etanner@healtheffects.org).

HEI to Share Key Findings on Traffic Pollution and Health

The health effects of traffic-related air pollution (TRAP) continue to be of public health interest across the globe even as emissions from individual vehicles have continued to improve in many parts of the world. HEI and an expert panel have conducted a [new systematic review](#) of the epidemiological literature on the health effects of long-term exposure to TRAP, the largest systematic effort to date. The panel was appointed in 2018 by HEI's Board of Directors following the publication of HEI's well-cited [2010 critical review](#).

Comprehensive study, now in peer review, assesses the evidence on vehicle emissions impacts in an evolving and complex world

The systematic review is currently undergoing independent peer review and publication is aimed for early 2022. HEI has started to disseminate initial key results in targeted meetings, including the [Transportation, Air Quality, and Health Symposium](#), hosted in May by the Center for Advancing Research in Transportation Emissions, Energy, and Health; a symposium at the [August 2021 conference](#) of the International Society of Environmental Epidemiology; and a July 2021 workshop "[How We Move Matters](#)" being convened by the National Academies of Sciences, Engineering, and Medicine.

The initial findings from the meta-analyses, supplemented with additional analyses and evaluation of potential biases, provided

a high level of confidence in an association between TRAP and all-cause mortality, circulatory mortality, and ischemic heart disease mortality. The confidence in an association was moderate to high between TRAP and lung cancer mortality, asthma onset for both children and adults, and acute lower respiratory infections in children. Confidence was lower for several cardiometabolic outcomes and birth outcomes. In light of the large number of people exposed to TRAP — both in and beyond the near-road environment — the findings indicate that TRAP remains an important public health concern and deserves continued targeted policy and broader public attention.

HEI will continue to communicate initial key results as it finalizes the publication. The new review will be an authoritative update of HEI's most-cited report for use by researchers and policymakers. [HEI](#)



HEI Seeks Director of Science Communications

The Health Effects Institute seeks to hire a Director of Science Communications to manage and enhance communication of HEI-funded science research on the health effects of air pollution and unconventional oil and gas development to U.S. and global audiences, advancing HEI's reputation as a trusted source of science.

Reporting directly to the HEI president, the individual will oversee in-house and consulting communications and publications staff and work closely with HEI science staff and outside funded investigators to manage communications in a variety of forms

aimed at scientists, policy makers, sponsors, journalists, NGOs, and the broader interested public, through digital and print platforms. The individual will be responsible for communications strategy, brand management, and content development across HEI's air pollution, energy, and global health programs. Media will include HEI's websites, social media, the press, published scientific reports, webinars, annual conference promotion, fact-sheets, and other avenues to be developed by the director.

The position will remain open until a suitable candidate is found. Please [click here](#) for the full job description. [HEI](#)

HEI Welcomes New Staff Scientist to Core and Global Health Programs

HEI recently welcomed Staff Scientist Yi Lu, an environmental epidemiologist. She received a PhD in Environmental Health Sciences from the University at Albany School of Public Health, where she applied new methodologies to assess the impact of school environments on children's health and performance.



Yi Lu.

Lu has worked on projects across geographies, including the United States, China, Romania, and Pakistan, focusing on assessment of health impacts related to exposure to environmental pollutants. She comes to HEI with broad-ranging technical, project management, and communication skills. As a postdoctoral fellow at Boston University,

Lu analyzed alcohol-related harms among different populations. She also has a Bachelor of Medicine degree in preventive medicine from the Southern Medical University in Guangzhou.

At HEI, Lu will contribute to the Global Health program and HEI-funded research on air pollution and health in Asia and Africa. [HEI](#)