HEI at Symposium on Transport, Air Quality, and Health

HEI was pleased to participate in February in a symposium hosted by the Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH) in Austin, Texas. This was the first meeting hosted by CARTEEH, a new multi-university center funded by the U.S. Department of Transportation. “HEI’s work to produce, evaluate, and communicate the latest science on air quality and health to inform environmental policy and transportation decisions seemed like a very good complement to the work of CARTEEH,” said HEI President Dan Greenbaum.

In an opening keynote address, Greenbaum summarized the evidence on health impacts of transportation, broadening the scope to include noise, socioeconomic status, and green space. Looking toward the future, he identified ways to assess transportation-related health impacts in consideration of changing mobility patterns.

Also at the meeting, HEI Staff Scientist Allison Patton presented her research on strategies to design mobile monitoring campaigns for assessment of long-term exposure to near-highway air pollution.

Presentation slides from the symposium are available at https://events.tti.tamu.edu/conference/2019-carteeh-symposium/program.
Here are key findings in the 2019 report:

• Air pollution (PM$_{2.5}$, ozone, and household air pollution) is the fifth leading risk factor for mortality worldwide. In 2017, air pollution is estimated to have contributed to close to 5 million deaths globally — nearly 1 in every 10 deaths.

• Air pollution contributes to more deaths than many better-known risk factors such as malnutrition, alcohol use, and physical inactivity.

• Air pollution reduced life expectancy in 2017 by 1 year and 8 months on average worldwide.

• In China, PM$_{2.5}$ pollution has dropped markedly in recent years, but concentrations still exceed the World Health Organization’s least-stringent target.

• Nearly half the world’s population — 3.6 billion people — were exposed to household air pollution in 2017. There has been progress: the proportion of people cooking with solid fuels declined from about 64% in 2005 to 47%.

HEI spread the word on the release of State of Global Air 2019 through enhanced communications tools, including social media (see www.stateofglobalair.org/engage) and factsheets on particular countries. A webinar, held on April 10, drew nearly 100 participants from around the world. It was also streamed live on Facebook.

The State of Global Air is a collaborative effort between HEI (which helps lead the air pollution analysis) and the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, with expert input from the University of British Columbia and University of Texas at Austin. On the interactive State of Global Air website, visitors can explore and compare trends in air quality and health from 1990 to 2017 tracked by the IHME GBD project. For more information contact Katy Walker, kwalker@healtheffects.org. Join State of Global Air on Facebook and Twitter (@HEISoGA).

HEI Welcomes New Digital Communications Manager

This spring, recognizing the rapidly changing nature of science and other communication, HEI created a new position for a Digital Communications Manager. Our aim is to more effectively share research results from HEI-funded studies as well as inform the air pollution science community and public of HEI’s many other activities.

We are pleased to welcome Sofia Chang-DePuy to this position. Chang-DePuy holds an MPH in Health Communication from Tufts University School of Public Health in Boston, Massachusetts. Previously, she was the manager of marketing communications at PatientsLikeMe, a graduate researcher at the Dana-Faber Cancer Institute in Boston, and special projects coordinator at the Massachusetts Department of Public Health.

HEI looks forward to expanding our digital outreach with Chang-DePuy’s help and expertise.
Traffic Literature Review Well Underway

I n line with HEI’s current Strategic Plan, an expert panel appointed by the Institute’s Board of Directors is actively conducting a systematic literature review on the health effects of long-term exposure to traffic-related air pollution. The review is currently well underway, with preliminary results expected in late 2019. The systematic review will undergo peer review in 2020, and HEI aims to publish it as a Special Report in the summer of 2021.

The health effects of traffic-related air pollution continue to be of important public health interest, with highest exposures in urban settings and at residences close to busy roadways.

Panelists are taking a systematic approach to search the literature, assess study quality, summarize results, and reach conclusions about the body of evidence. To this end they have developed a review protocol, which they will publish this summer. They will search the literature in PubMed with publication dates between January 1980 and June 2019.

Criteria for selection of health outcomes in the review included relevance for policy and public health, and previous strength of evidence. As a result, the selected health outcomes focus on all-cause and cause-specific mortality, respiratory effects, cardiovascular effects, diabetes, and birth outcomes.

The panel developed an exposure framework to guide the selection and evaluation of epidemiological studies on traffic-related air pollution, building on the 2010 critical review. Studies will be considered if they were conducted both within and outside the near-road environment and if they had an exposure assignment of less than 5 km. The panel so far has identified about 700 studies relevant for further screening.

A poster was presented at the HEI Annual Conference this year, and results of the review will be presented at the 2020 annual meeting.

Members of the HEI Panel on the Health Effects of Long-Term Exposure to Traffic-Related Air Pollution are listed at www.healtheffects.org/air-pollution/systematic-literature-review-traffic-related-air-pollution.

Communicating the Science

Applying the HEI Model to Other Important Science Questions

I n May, HEI President Dan Greenbaum was invited to address the Gilbert W. Beebe Symposium of the National Academies of Science, Engineering, and Medicine on “The Future of Low-Dose Radiation Research in the United States.”

The symposium this year brought together a range of scientists from government and academia to address the continuing need for better research to understand the effects of exposure to low doses of radiation — and to explore ways in which future research in this at-times controversial arena might be funded and conducted.

The symposium organizers invited Greenbaum to present the HEI model, whereby research is funded jointly by government and industry and undertaken with high rigor and careful attention to impartiality, ensuring that the results can be viewed as “trusted science” and used to inform important decisions.

Greenbaum also described the earlier congressionally chartered effort by the Academies — in which he participated — to develop and monitor progress on a multidisciplinary research program on airborne particulate matter.

For a copy of the presentation, please contact Dan Greenbaum at dgreenbaum@healtheffects.org; the entire symposium is available as a webcast at https://livestream.com/nasem/2019beebesymposium.

Selecting New Research to Improve Long-Term Exposure Assessment

A s spring turns to summer, HEI will be busy selecting high-quality studies for funding.

In March, HEI issued a request for applications (RFA 19-1) on “Applying Novel Approaches to Improve Long-Term Exposure Assessment of Outdoor Air Pollution for Health Studies.” The goal of the research program is to advance exposure assessment for long-term air pollution and health studies using sensors, mobile monitoring, tracking technologies, and other approaches. Preliminary applications were due on June 3.

HEI is also in the process of reviewing full applications for RFA 18-1, “Assessing Improved Air Quality and Health from National, Regional, and Local Air Quality Actions,” to study the effectiveness of air quality regulations, and preliminary applications for RFA 18-2, “Walter A. Rosenblith New Investigator Award,” to support creative early-career investigators with outstanding promise who are interested in the health effects of air pollution. Selected studies will be announced later this year. For more information, visit www.healtheffects.org/research/funding.

HEI Update Page 3 Spring 2019
HEI sponsors and the Research Committee gathered in Boston in March. This yearly meeting provides an opportunity for the sponsors to hear an update on HEI’s activities, and this year especially for the Committee to hear directly from the sponsors about priority topics HEI should be addressing in its new Strategic Plan for 2020–2025.

At its Annual Conference, held in Seattle in early May, HEI presented its draft Strategic Plan for 2020–2025, [www.healtheffects.org/sites/default/files/First-Draft-HEI-Strategic-Plan2020-2025.pdf](http://www.healtheffects.org/sites/default/files/First-Draft-HEI-Strategic-Plan2020-2025.pdf). This first draft is available for public comment. HEI will finalize the plan this summer and welcomes your comments at this early stage. Please send your thoughts on the draft Plan to HEIPlan@healtheffects.org.

MARK YOUR CALENDAR:
HEI Annual Conference
April 5–7, 2020
Renaissance Boston Waterfront Hotel
Boston, MA

Your Input Welcome on HEI’s Next Strategic Plan