



Gangarosa Department of Environmental Health and COVID-19

As the world responds to the COVID-19 pandemic, the Gangarosa Department of Environmental Health at the Rollins School of Public Health is actively contributing through research, science outreach and teaching. Environmental factors have been associated with the origins of the SARS-CoV-2 virus, as well as underlying conditions that put people at increased risk of severe outcomes from COVID-19 illness. Our department is taking full advantage of our expertise in disease ecology and the environmental determinants of infectious diseases, our experience in promoting hygiene and other behavior change strategies designed to prevent exposure to and transmission of infectious agents, the global focus of our research, and the multi-disciplinary expertise within the department.

A major challenge in the epidemic response is effective, evidence-based communication. Below is a selected list of initiatives, publications, and media appearances by GDEH faculty, staff, students, and alumni in response to this pandemic.

- GDEH faculty, Dr. Donghai Liang and Dr. Liuhua Shi, were lead authors on one of the first nation-wide studies on associations between air pollution exposures and COVID-19 death outcomes in the US. The article, [“Urban Air Pollution May Enhance COVID-19 Case-Fatality and Mortality Rates in the United States”](#), was published at *Cell Press Journal The Innovation*, and has been reported in multiple media outlets, including [E&E News](#) and [Rocky Mountain Institute](#). The study was also supported by other members of GDEH – Drs. Jeremy Sarnat, Yang Liu, Stefanie Ebelt, Noah Scovronick, and Howard Chang.
- GDEH faculty, Dr. Matt Freeman and jointly appointed faculty Dr. Bethany Caruso explored the complexities of practicing self-quarantine and physical distancing during a pandemic for people without a household toilet. The article, [“Shared sanitation and the spread of COVID-19: risks and next steps”](#), was published at *The Lancet Planetary Health*. In addition, they recently published a correspondence, entitled [“Global Access to Handwashing: Implications for COVID-19 Control in Low-Income Countries”](#) at *Environmental Health Perspectives*. Drs. Freeman and Caruso also serve as technical advisors for the [COVID-19 Hygiene Hub](#).
- GDEH Environmental Health Sciences PhD alumna, Miranda Delahoy '19, recently published a paper as first author through her work as an Epidemic Intelligence Service Officer at the Centers for Disease Control. The study, [“Characteristics and Maternal and Birth Outcomes of Hospitalized Pregnant Women with Laboratory-Confirmed COVID-19 — COVID-NET, 13 States, March 1–August 22, 2020”](#), was also featured in an article by [The New York Times](#).
- GDEH PhD candidate, April Ballard, along with Global Health MPH student Alison Hoover, were recently awarded a grant from the [120 Under 40 Program](#), supported by the Bill and Melinda Gates Institute for Population and Reproductive Health and Bayer, to focus on the needs of those experiencing homelessness in relation to COVID-19, family planning, and menstruation, specifically looking at what products are preferred, and with what frequency and quantity. They are working with local organizations to deliver and evaluate kits (i.e., Dignity Packs) containing personal protective equipment, hygiene products, menstrual hygiene products, and sexual health products during street outreach efforts. GDEH MPH student Ana Rodriguez is serving as a research assistant on the project. She is performing outreach with local organizations, conducting interviews, and developing an open-source tool that centers the needs of people experiencing homelessness and will serve as a resource for others who work in the sector.



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- GDEH post-doctoral fellow Valerie Bauza, Senior Public Health Program Associate Gloria D. Sclar, Junior Research Manager Alokanda Bisoyi, and MPH student Ajilé Owens, conducted a phone survey study with households in rural Odisha, India in collaboration with a partner NGO Gram Vikas. The aim of the study was to examine household's knowledge, risk perceptions and preventative practices related to COVID-19 and impacts of the pandemic and government lockdowns on water, sanitation and hygiene (WASH) behaviors, daily life, social interactions and economic and food security. They wrote a comprehensive report on the findings to help inform Gram Vikas's program response to COVID-19 and are currently working on a journal article.
- GDEH investigators on the [HAPIN Cookstove Trial](#), along with colleagues from Colorado State and Johns Hopkins, submitted a proposal to NIEHS for supplemental funding to study the occurrence of antibodies to SARS-CoV-2 in the HAPIN study population, in relation to exposure to PM2.5

The Department's efforts are part of the wider initiatives being undertaken throughout the [Rollins School of Public Health](#) and [Emory University](#). While we continue these efforts, we are also taking special steps in our teaching to explore with students the role of the environment in the emergence, transmission, and control of novel infectious agents.

[Thomas Clasen, JD, PhD](#)

Professor and Interim Chair