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Re: Allegation of Research Misconduct by GMU Assistant Professor Lucas Henneman

Dear Research Integrity Officer DiTeresi:

This letter is to support the November 27, 2023, Allegation of Dr. James Enstrom regarding falsification by GMU Assistant Professor Lucas Henneman (<https://volgenau.gmu.edu/profiles/lhennem>). The falsification occurred in the November 24, 2023, *Science* article, "Mortality risk from United States coal electricity generation" by Lucas Henneman, Christine Choirat, Irene Dedoussi, Francesca Dominici, Jessica Roberts, and Corwin Zigler (DOI:10.1126/science.adf4915).

I have followed the controversy about deaths related to fine particulate matter (PM2.5) since I was appointed by Gov. Fife Symington to the Arizona Comparative Environmental Risk Project in 1993 (<https://azmemory.azlibrary.gov/nodes/view/44499>). We met frequently for some months to consider a list of potential hazards that were of interest to regulators, including PM2.5. Government agencies have apparently long sought the authority to regulate fine particulate matter, which may be dust from natural sources as well as combustion-generated emissions. This authority would cover a very broad range of industries, including agriculture, mining, construction, manufacturing, electricity generation, and transportation.

Extensive peer-reviewed evidence refutes the claim that PM2.5 *causes* deaths, but Dr. Henneman has falsified the research record by not citing any of this null evidence. Instead, Dr. Henneman's article claims "A total of 460,000 deaths were attributable to coal PM2.5, . . ." However, not a single one of these statistical deaths has been confirmed by diagnostic pathology to be *caused* by PM2.5. Dr. Henneman has failed to acknowledge that actual human exposure to PM2.5 is lower than exposure to ambient PM2.5 and that current human exposure to PM2.5 is below the level of provable human health effects. Also, indoor pollution from dust mites and allergens is far more significant than PM2.5 air pollution, which is now at record low levels in the US.

Evidence-based medicine is being mocked and sound epidemiological principles are disregarded by Dr. Henneman. Scientific integrity requires objective, transparent analysis and interpretation of appropriate data, not epidemiologic misuse of 650 million person-years of HIPAA-protected Medicare records.

Please examine the extensive, meticulous evidence presented in Dr. Enstrom's Allegation. In addition, watch his July 20, 2019 Doctors for Disaster Preparedness talk "The PM2.5 Deaths Controversy: Combating Pseudoscientists" (<https://youtu.be/8j3a4MBUU40>) and read his Spring 2018 article "Scientific Distortions in Fine Particulate Matter Epidemiology" (<http://scientificintegrityinstitute.org/DRPM25JEEPope052918.pdf>), which is published in the peer-reviewed *Journal of American Physicians and Surgeons*, of which I am managing editor.

I am a specialist in general internal medicine and author of the second through fifth editions of *Sapira's Art and Science of Bedside Diagnosis*, which contains extensive material on evidence-based medicine, and of many articles on risk assessment and other subjects in the scientific and popular literature.

Thank you for your timely consideration of and response to Dr. Enstrom's Allegation.

Sincerely,

Jane M. Orient, M.D.