Testimony of Bernard D. Goldstein, MD, at EPA Virtual Public Hearing on "Review of the National Ambient Air Quality Standards for Particulate Matter"

The Clean Air Act requires EPA to consider the impact of COVID-19 on the margin of safety for its proposed fine particulate standard. Bernard D. Goldstein, MD

The Clean Air Act requires that National Ambient Air Quality Standards (NAAQS) should be set to protect public health with an "adequate margin of safety." The documented role of COVID-19 in increasing the risk of death in those with impaired pulmonary and cardiac function strongly indicates that loss of lung and cardiac function due to long-term exposure to particulates will increase the likelihood that COVID-19 infection will have fatal results.

In its April 30, 2020, Federal Register notice on its Particulate Standard, EPA describes the basis for the extent of the Margin of Safety as follows:

> "In addressing the requirement for an adequate margin of safety, the EPA considers such factors as the nature and severity of the health effects involved, the size of the sensitive population(s), and the kind and degree of uncertainties."

The "nature and severity" caused by COVID-19 in those with less lung reserve includes a substantially increased risk of death. The "size of the sensitive population(s)," including the elderly and those with preexisting lung and cardiac impairment, is already very large and due to the baby boom will increase dramatically in the next five years before PM2.5 again will be considered. The "kind and degree of uncertainties" includes the very real possibility that, as WHO has suggested, COVID-19 is the new normal and that, based on experience with other vaccines, older populations will have limited protective response from any vaccine that is developed.

As EPA acknowledges, precise information is not needed for choosing a "margin of safety." Their Federal Register PM2.5 proposal states that the role of the Margin of Safety is: "…to prevent lower pollutant levels that may pose an unacceptable risk of harm, even if the risk is not precisely identified as to nature or degree."

Based upon the rapidly developing database, it appears highly likely that a significant tipping point in whether one survives COVID-19 is the extent of pulmonary and cardiac reserve function. EPA's Integrated Scientific Assessment recognizes that the more recent epidemiologic evidence provides stronger support for chronic lung and cardiac effects of PM2.5. Further, these findings are bolstered by additional evidence of inflammatory and oxidizing effects of PM2.5 from animal and in vitro studies. Both oxidation and inflammation are mechanistically linked to accelerated loss of lung and heart function with age.

Numerous government functions have been altered by our current pandemic. EPA must reconsider its findings and recommendations in light of developing knowledge about COVID-19.

Dr. Goldstein is a former board-certified internist who is a member of the National Academy of Medicine and of the Environmental Protection Network. He served as chair of CASAC under Administrator Gorsuch and was appointed by President Reagan as head of EPA's Office of Research and Development, serving under Administrators Ruckelshaus and Thomas. He is currently Dean Emeritus of the University of Pittsburgh Graduate School of Public Health. He is co-author of Environmental Health Law: an Introduction.