PSR PHYSICIANS FOR SOCIAL RESPONSIBILITY

U.S. AFFILIATE OF INTERNATIONAL PHYSICIANS FOR THE PREVENTION OF NUCLEAR WAR

Testimony to the U.S. Environmental Protection Agency on
Review of the National Ambient Air Quality Standards for Particulate Matter
Docket ID EPA-HQ-OAR-2015-0072

Good evening. My name is Barbara Gottlieb. I'm the Director for Environment & Health at Physicians for Social Responsibility, a nationwide nonprofit dedicated to protecting humanity from the greatest threats to health and survival.

The National Ambient Air Quality Standards for Particulate Matter are vitally important to human health. I won't review the severe impacts of PM on the human body; you already know that it inflicts significant harm on the respiratory system, the cardiovascular system, the nervous system, and causes increased morbidity and mortality.

Along with many colleagues from medical and health-based organizations, I agree that EPA's proposal to set the primary annual standard for $PM_{2.5}$ at 9 to 10 micrograms per cubic meter is too high to adequately protect human health. However, I'm going to break ranks with many respected colleagues who are proposing that PM levels be set at or under 8 micrograms per cubic meter. PSR instead calls on you to set the standard at 5 micrograms or less per cubic meter.

We base our call for this more stringent standard on two sources. The first is the World Health Organization's "WHO Global Air Quality Guidelines," published in 2021. It is available at https://apps.who.int/iris/bitstream/handle/10665/345329/9789240034228-eng.pdf and I will upload it to the docket. This study is based on review of a very extensive body of scientific literature and the application of a rigorous methodology. It does note that some studies it considered provided no evidence of an effect of PM2.5 on all non-accidental mortality below the 8-microgram level. However, the report's Guideline Development Group (which by the way includes a Senior Epidemiologist from the US EPA) decided to consider as relevant any increase in risk for an adverse health outcome related to long-term exposure to a pollutant. The report therefore concluded, "The data obtained support a long-term AQG [air quality guideline] level of no more than 5 micrograms per cubic meter, based on the association between long-term PM2.5 and all non-accidental mortality."

A second source leads us to call for a primary annual standard of 5 micrograms *or less*. I'm referring to a study by Scott Weichenthal et al, published in September 2022 in Science Advances, the peer-reviewed open-access journal of the American Association for the Advancement of Science. That report is available online at https://www.science.org/doi/10.1126/sciadv.abo3381 and I will also upload it to the docket. Their

findings were unfortunately not used in developing the latest WHO guideline as their study was completed after that guideline was released.

Weichenthal and his colleagues examined exposure-response function for outdoor PM2.5 and mortality at low levels of concentration, including values at or below the new WHO guideline. They found "strong evidence of a supralinear concentration-response relationship between outdoor PM2.5 concentrations and mortality." Supralinear meaning greater than linear, what they found was a higher level of response or impact than might have been expected. They concluded that "This refined understanding of the concentration-response relationship between outdoor PM2.5 and mortality at low concentrations suggests a large increase in the number of annual global deaths attributable to outdoor PM2.5, particularly in 'low-pollution' settings."

In light of these findings, and taking into account the severity of PM's health effects and its essentially ubiquitous nature, PSR calls on EPA to set the primary annual standard for $PM_{2.5}$ at 5 or fewer micrograms per cubic meter. Thank you.