

THE DEVELOPMENT OF A MULTIPOLLUTANT SCIENCE ASSESSMENT TO SUPPORT THE REVIEWS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S NATIONAL AMBIENT AIR QUALITY STANDARDS

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Background and Aims: Standard setting, science assessments, and research related to evaluating and reducing the human health effects of exposure to air pollutants have largely focused on single-pollutant approaches. Nonetheless, it has long been recognized that human populations are exposed to a complex mixture of air pollutants that varies in time and space. This work describes efforts of the U.S. Environmental Protection Agency (EPA) to move toward multipollutant approaches to evaluating the human health effects of exposure to air pollution.

Methods: Scientists with EPA's National Center for Environmental Assessment (NCEA) are evaluating the feasibility of assessing the health effects of exposure to air pollutant mixtures as a part of ongoing reviews of the U.S. National Ambient Air Quality Standards (NAAQS). Overcoming the scientific and logistical challenges associated with conducting such an assessment will involve extensive collaboration with partners and stakeholders in government, industry, academia, and the broader research community.

Results: EPA has developed plans to conduct a multipollutant science assessment whereby the health effects of exposures to mixtures of air pollutants may be systematically evaluated. While legally mandated schedules for completing reviews of the NAAQS somewhat complicates the simultaneous assessment of all air pollutants for which NAAQS have been established, there is a clear need to more explicitly address multipollutant issues in the NAAQS review process. Initial plans, scope and approaches related to the development of the proposed multipollutant science assessment will be presented and discussed.

Conclusions: Although there are considerable scientific and regulatory challenges associated with adopting multipollutant approaches for the evaluation of air pollution-induced health effects, significant progress can be made in the near future through parallel advancements in multipollutant policy, health assessments and research. (Disclaimer: The views expressed are those of the authors and do not necessarily reflect the views or policies of the U.S. EPA.)