

Keck School of Medicine of USC

Department of Preventive Medicine
Jonathan M. Samet, MD, MS
Professor and Flora L. Thornton Chair
Director, USC Institute of Global Health


September 25, 2012

Jean Ospital, MPH, PhD
Health Effects Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Jean,

As you requested, I attach comments concerning the Health Effects Appendix of the District's draft Air Quality Management Plan. Please do not hesitate to contact me if you have questions with regard to these comments.

Yours sincerely,



Jonathan M. Samet, MD, MS
Professor and Flora L. Thornton Chair
Department of Preventive Medicine
Director, USC Institute for Global Health

University of Southern California
2001 N. Soto St., SSB 330A, MC 9239, California 90089-9239 • Tel: 323 865 0803 • Fax: 323 865 0854



**Review: Health Effects Appendix
South Coast Air Quality Management District
Jonathan M. Samet, MD, MS**

General Comments:

This relatively brief document provides an overview of the health effects of various air pollutants, giving emphasis to pollution by airborne particulate matter. The document also covers other “criteria pollutants” as well as ultrafine particulate matter and toxic air contaminants. This range of topics is appropriate to the development of an Air Quality Management Plan.

As presented, the document represents a summary, and an apparent updating of an earlier report. It is necessarily selective in its coverage and relies to an extent on the review documents prepared by the US Environmental Protection Agency for the “criteria” pollutants. I have the following general comments:

- Preparation of reviews of the health effects of air pollution is a daunting task, given the extensive data available and its continuing and rapid accrual. The South Coast Air Quality Management District is not well positioned to prepare a comprehensive and up-to-date review. Consequently, there are deficiencies of this review related to its scope and timeliness. The basis for the document’s development is provided in the last paragraph on page I-2. While the statement is clear, the methods are not fully transparent. In particular, several older reviews are mentioned, along with more recent documents from the US Environmental Protection Agency and several prepared by the California EPA. I suggest that more careful attention be given to describing the basis for this review and to consideration of its methodology. For example, given the complexity and scope of the literature, the developers of the review might rely solely on summary documents or to also summarize documents and research published based on studies in California. In the present version, I could not readily identify why particular studies were included.
- I understand that the South Coast Air Quality Management District is required to provide a review in support of its air quality management plan. As stated, the California Health and Safety Code Section 40471(b) requires the preparation of report on “the health impacts of particulate matter in the South Coast Air Basin (SCAB) in conjunction with the preparation of the Air Quality Management Plan revisions.” This document does not directly address the health impacts, if some quantification of burden is implicit in the requirement. The identification of health effects and selected of examples of risks from the literature represents a starting point in estimating the health impact. As noted in my next comment, the review might have establishing the relevance of the broad body of evidence to the South Coast Air Quality Management District as one objective.

- There is an extensive literature on airborne particulate matter and health, as well as on the risks of various other air pollutants. One question that might be reasonably addressed in this report is the generalizability of findings from this broad literature to California. Here, a careful review of studies in California might be of benefit. Additionally, considerations might be given to the mixture of pollutants in the South Coast Air Basin to support conclusions about the generalizability of findings.
- The document needs further editing in part to improve clarity and in part to bring in some of the most recent and relevant references. Additionally, if the most recent US EPA documents are to be used as the basis of the report, some updating is needed.

Specific comments:

See attached.

Attached to report of 1/11/81
 after the meeting