

**Frederick W. Lipfert, Ph.D**  
**Environmental Consultant**  
**23 Carll Court**  
**Northport, NY 11768**

October 26, 2011

Ms. Trish Chancey  
Contract Analyst, Air Resources Board  
1001 "I" Street, 5th Floor  
Sacramento, CA 95814

Subject: Revised report on air pollution and mortality in California

Dear Ms. Chancey:

I have reviewed the revised report, "Spatiotemporal analysis of air pollution and mortality in California...", by Michael Jerrett and others. I find that my previous comments in June (attached) have been largely ignored, and apparently not posted on the ARB web site. In addition, after a more careful reading of the new report, I have a number of additional comments to offer, as summarized below.

I find that the consistent and overwhelming defect in this report is its arbitrary selectivity:

1. Selecting California as fundamentally different from the rest of the nation, without testing this hypothesis or identifying the responsible factors.
2. Selecting references that emphasize favored pollutants, while ignoring many others.
3. Selecting PM<sub>2.5</sub> as the most important pollutant, without testing this hypothesis directly with multi-pollutant models..
4. Selecting heart disease as the most important cause of death, while ignoring the apparently significant **beneficial** relationships with cancer.
5. Selecting certain regression models on the basis of pollutant outcomes, rather than on superior overall model fit.
6. Selecting linear or quasi-linear dose-response relationships without testing for thresholds.

As a result, it appears that model selection is much more important than quantifying long-term pollutant exposures. These deficiencies would lead me to recommend the subtitle:

***"Cherry Pickers Overlook Potential Cures for Cancer."***

However, I would also add that a lot of serious and interesting work appears to have gone into this report; the above faults lie primarily with its summaries and emphases. Tables 25-44 comprise about 1700 regression results; rather than cherry-picking favored models on the basis of their implied pollution effects, considerations of overall model fit and rationality should be used. Failing that, the most logical approach would be to average findings across all models in each table. The next most important defect is the total neglect of multi-pollutant models.

I hope that the ARB will seriously consider these comments and make them available to all interested parties. Please let me know if there are any questions about this material or if you would like more details on any topic.

Very truly yours,

Frederick W. Lipfert, Ph.D