



APPENDIX AVAILABLE ON THE HEI WEB SITE

Research Report 178

National Particle Component Toxicity (NPACT) Initiative Report on Cardiovascular Effects

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Section 1: NPACT Epidemiologic Study of Components of Fine Particulate Matter and Cardiovascular Disease in the MESA and WHI-OS Cohorts

Appendix M. Comparison of PM_{2.5} Annual Averages Between 2000 and 2007–8

Note: Appendices that are available only on the Web have been assigned letter identifiers that differ from the lettering in the original Investigators' Report. HEI has not changed the content of these documents, only their identifiers.

Appendix M was originally Appendix L

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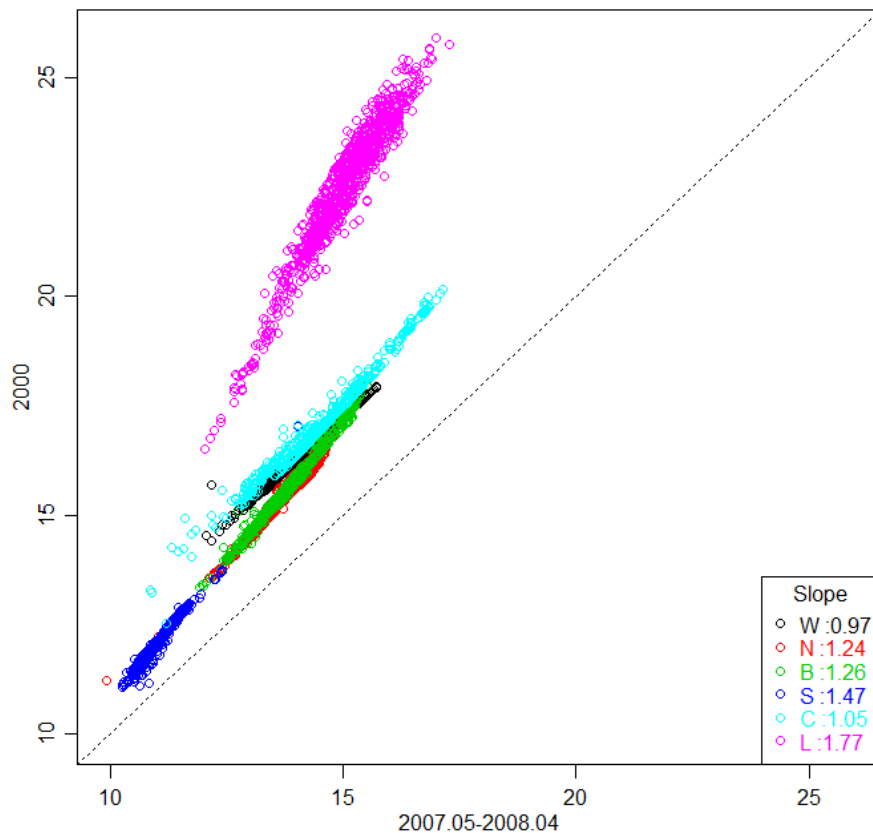
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This document was reviewed by the HEI NPACT Review Panel but did not undergo the HEI scientific editing and production process.

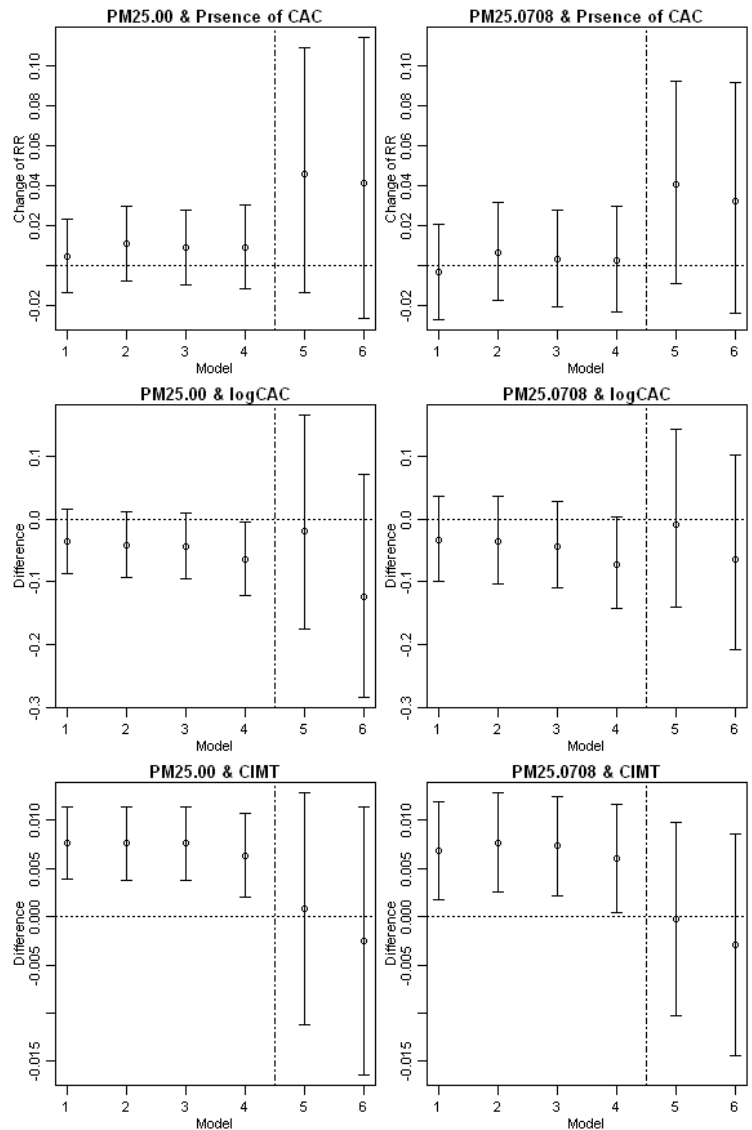
APPENDIX L: Comparison of PM2.5 annual averages between 2000 and 2007-8

Because the carbon MESA Air/NPACT monitoring data were sampled only between 2007 through 2008, we assumed the consistency of PM_{2.5} component concentrations over time and linked annual averages of PM_{2.5} component concentrations predicted from 2007 May through 2008 April to the MESA health data collected from 2000 through 2005. To examine this assumption, we utilized PM_{2.5} spatio-temporal predictions from 2000 and 2009 and compared annual averages in 2000 and between 2007 May and 2008 April for the same MESA participants.

Appendix Figure L.1 shows constantly higher predictions in 2000 than 2007-2008 in six cities. In addition, the degree of change in 2007-2008 compared to 2000 differed across cities. In particular, there was higher rate of increase in LA. In the cross-sectional health analysis for CIMT, health effect estimates using 2007-2008 were lower than those using 2000 (Appendix Figure L.2). This finding means that our assumption of consistent PM_{2.5} component concentrations over time may not hold and the change of concentrations differed by city is likely to affect health effect analysis in our health analysis combining all cities.



Appendix Figure L1. Scatter plots between PM_{2.5} annual averages between 2000 and 2007 May to 2008 April



Appendix Figure L.2. Cross-sectional associations for presence of CAC, log(CAC) and CIMT in MESA at exam 1 for an interquartile increase (2.49 and 1.51 for $PM_{2.5}$ for 2000 and 2007-2008, respective) in predicted $PM_{2.5}$ component concentrations averaged during 2000 and from 2007 May to 2008 April from the NPACT spatio-temporal model in seven cross-sectional models