

Does Diesel Particulate Matter Kill Californians? Perspective on an Epidemiologic Controversy

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The relationship between fine particulate air pollution (PM_{2.5}) and mortality is an important public health issue in California. Based on the epidemiologic evidence analyzed in a 2008 Staff Report by the California Air Resources Board (CARB), PM_{2.5} exposure contributes to 18,000 annual deaths in California and diesel particulate matter (PM) exposure contributes to 3,500 annual deaths in California. Primarily because of these “premature” deaths, CARB has approved extremely costly diesel regulations designed to reduce the diesel PM emitted by all California vehicles and equipment powered by diesel engines. However, other epidemiologic evidence not used by CARB, including Dr. Enstrom’s 2005 study of elderly Californians, indicates that there is no current relationship between PM_{2.5} and mortality in California. To help resolve the existing controversy about this relationship, CARB held a February 26, 2010 Symposium on “Estimating Premature Deaths from Long-term Exposure to PM_{2.5}.” Dr. Enstrom will discuss his presentation at this symposium and give his perspective on the controversy. He will explain how diesel PM became a toxic air contaminant in California in 1998 and how scientific developments since then have led to the current CARB diesel regulations. In particular, he will discuss troubling aspects of this twelve-year process that are related to the February 5, 2010 *SCIENCE* editorial “Ensuring Integrity in Science” and to a distortion of health priorities in California.

Dr. Enstrom has been conducting epidemiologic research in the School of Public Health since December 1973, where he obtained an M.P.H. and postdoctoral certificate in epidemiology. In 1970 he obtained a Ph.D. in physics from Stanford University. He has been a Fellow of the American College of Epidemiology since 1981. His epidemiologic research has focused on the relationship of mortality to healthy lifestyles, vitamin C, active and passive smoking, smoking cessation, and air pollution. Since 2005 he has been President of the Scientific Integrity Institute, which he established to promote scientific integrity in epidemiology and to address epidemiologic controversies.