

Landmarks of Air Pollution Epidemiology: Legacy of Douglas Dockery

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In 1979 the American Journal of Epidemiology devoted an entire issue to a review of the health effects of particulate air pollution, concluding there was no evidence for negative health effects from particulate pollution at levels seen in Europe and the US. Forty years later, the threat of particulate air pollution or particulate matter (PM) to public health which some denied even existed has been confirmed, addressed by public policy, and significantly reduced, based on the foundations provided by epidemiology. Over that period, Professor Douglas Dockery has partnered with leaders to produce landmark papers which have redefined air pollution epidemiology. Furthermore, he has mentored many of the current leaders in the field who are continuing to provide novel insight into the extent of the health effects of air pollution and the mechanisms behind these associations. In this symposium, individuals who have worked closely with Dr. Dockery will cover five topics summarizing the body of his work: effects of ambient PM exposures on respiratory health of children, effects of acute PM exposures and cardiovascular outcomes; effects of chronic PM exposures and life shortening; exposure assessment in epidemiology; and synthesis of PM studies and effects of control of PM. We will discuss Dr Dockery's contributions, in the context of how his research has laid the foundation for the important questions being asked today. The former mentees of Dr. Dockery will point out their lessons learned as an inspiration for young investigators. We will highlight the evolution of the evidence under the direction of Dr. Dockery's leadership supporting policy implementation, displaying a rich portfolio of epidemiological study designs used to substantiate the evidence. The achievement of building policy implementation based on data science has not lost its relevance and the implications for today's environmental health challenges will be discussed.

The symposium fits the theme of the conference "History and Future of Environmental Epidemiology." Douglas Dockery has been one of the leaders in the field of air pollution epidemiology for more than 40 years. Thus, his accomplishments and body of work represent the history of the field. This research has motivated and laid the groundwork for today's research and many of today's leaders were mentored at some time or another by Dr. Dockery, representing the future of the field. The speakers were chosen because of their direct collaboration with Dr. Dockery's body of work.