

SCIENCE QUESTIONS

Guiding Themes for the 2010 AAAR International Conference on:

“Air Pollution and Health: Bridging the Gap from Sources to Health Outcomes”

1. **Pollutants and Sources Associated With Health Effects.** How does our understanding of the health effects of air pollutants (singly or in mixtures) help identify pollutants that can be linked to sources the control of which would provide maximal health benefits? (Overarching Theme)
2. **Reliability of Methods, Models, and Approaches.** How reliable are methods (measurements and models) and approaches (epidemiological and toxicological) for studying and quantifying the links between air pollutants (species and or sources) and adverse health effects?
3. **Pollutant Characterization and Population Exposure.** How do relevant pollutant properties vary in space and time from sources and in ambient air; what are the implications of these variations for population exposure?
4. **Relation between Exposure and Dose.** What advances have been made in understanding the relationships between exposure, both spatially and temporally, and estimates of dose that tie to health outcomes?
5. **Mechanisms of Action and Biomarkers of Exposure and Effects.** Are patterns emerging that relate component(s) of air pollution and/or source types to mechanisms? What is the status of identifying and measuring biomarkers of exposure and/or adverse health effects from air pollution?
6. **Susceptible Populations.** Who are the susceptible populations, what drives different susceptibilities to the same or different air pollutants, and are there susceptibility traits associated with specific health outcomes that are common among the subpopulations?
7. **Confounding or Other Factors.** What roles do confounding or other factors have in increasing, decreasing, or obscuring attribution of the true health effects from ambient air pollutants?
8. **Accountability.** Do actions taken to improve air quality result in reduced ambient concentrations of relevant pollutants, exposure, and health effects, and have we encountered unintended consequences?
9. **Regulatory and Policy Implications.** What are the policy implications of our improved understanding of the source to health effect paradigm?