

KEYNOTE SPEAKERS

LONG-TERM EFFECTS OF OUTDOOR AIR POLLUTION

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Numerous studies from Europe and elsewhere suggest that current levels of air pollution trigger a broad range of acute health effects among susceptible people of all ages. There is less information on the health effects related to long-term exposure to air pollution. Several prospective cohort studies have documented that long-term exposure to particulate matter was associated with increased mortality rates. Most of these studies were conducted in the United States. European cohort studies have found associations between nitrogen dioxide (marker for traffic emissions) and increased mortality. Effect estimates in the cohort studies were substantially larger than those observed in the time series studies, which assess the short-term effects of air pollution. Evidence of impacts of long-term exposure to air pollution on lung function (development), respiratory disease and possibly development of atherosclerosis and birth outcomes is increasing. Uncertainties remain about the components responsible for the observed associations, sensitive subgroups and transferability of effect estimates across populations. In the US studies effects of PM_{2.5} on mortality were higher for subjects with lower education. The US cohort studies have played an important role in the current proposal for new air quality guidelines in Europe.