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# Air Pollution and Cardiovascular Disease: JACC State-of-the-Art Review.

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## Abstract

Fine particulate matter <2.5 μm ($PM_{2.5}$) **air pollution** is the most important environmental risk factor contributing to global **cardiovascular** (CV) mortality and disability. Short-term elevations in $PM_{2.5}$ increase the relative risk of acute CV events by 1% to 3% within a few days. Longer-term exposures over several years increase this risk by a larger magnitude (~10%), which is partially attributable to the development of cardiometabolic conditions (e.g., hypertension and diabetes mellitus). As such, ambient $PM_{2.5}$ poses a major threat to global public health. In this **review**, the authors provide an overview of **air pollution** and health, including assessment of exposure, impact on CV outcomes, mechanistic underpinnings, and impact of **air pollution** reduction strategies to mitigate CV risk. The **review** concludes with future challenges, including the inextricable link between **air pollution** and climate change, and calls for large-scale trials to allow the promulgation of formal evidence-based recommendations to lower **air pollution**-induced health risks.

**KEYWORDS:** blood pressure; coronary artery disease; environment; insulin resistance; particulate matter; type 2 diabetes mellitus

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