Saving Tens of Thousands of Lives by Cutting Air Pollution

Reducing particulate matter and nitrogen dioxide pollution in nearly 1000 European cities to the World Health Organization (WHO) target levels could save about 50,000 lives a year, a multinational team of investigators reported.

Using 2015 data on air pollution and deaths in those cities, the investigators estimated the health impact of lowering levels of particulate matter with a diameter of 2.5 μm or smaller (PM$_{2.5}$) and nitrogen dioxide (NO$_2$) to meet the targets in the WHO’s air quality guidelines. The guidelines recommend no more than an annual mean of 10 μg/m$^3$ for PM$_{2.5}$ and 40 μg/m$^3$ for NO$_2$.

Meeting the WHO targets would prevent an estimated 51,213 premature deaths for PM$_{2.5}$ exposure and 900 premature deaths for NO$_2$ exposure each year, the authors found. Achieving even lower levels of 3.7 μg/m$^3$ for PM$_{2.5}$ and 3.5 μg/m$^3$ for NO$_2$—the lowest levels measured in any European city in 2015—would prevent an estimated 124,729 premature deaths from PM$_{2.5}$ exposure and 79,435 premature deaths from NO$_2$ exposure annually.

Pollution-related health effects varied significantly by city. Three northern European cities—Tromsø, Norway; Umeå, Sweden; and Oulu, Finland—had the lowest premature mortality burden linked with PM$_{2.5}$ and NO$_2$ exposure. Cities in northern Italy, southern Poland, and the eastern Czech Republic had the highest burden linked with PM$_{2.5}$ exposure and NO$_2$ exposure. Cities in southern Europe and the capitals in western and southern Europe had the highest premature deaths attributed to NO$_2$.

“The study proves that many cities are still not doing enough to tackle air pollution, and levels above the WHO guidelines are leading to unnecessary deaths,” study co-author Mark J. Nieuwenhuijsen, PhD, of the Barcelona Institute for Global Health in Spain, said in a statement.

Most Patients Hospitalized With COVID-19 Have Lasting Symptoms

Three-quarters of patients hospitalized with coronavirus disease 2019 (COVID-19) still had at least 1 symptom 6 months after they became ill, according to recently published follow-up research.

The study included 1733 patients who were hospitalized in Wuhan, China, and discharged between January and May 2020. Fatigue and ongoing muscle weakness were reported by 63% of the patients and roughly one-quarter reported difficulty sleeping or anxiety and depression. A subset of patients still had reduced lung function and below normal results on a 6-minute walking test. Ongoing lung and mobility impairments were more prevalent among the most severely ill patients. Among 1378 patients with estimated global antibody levels had dropped by one-third had reduced kidney function at 6 months.

Among a subgroup of 94 patients who provided plasma samples during their acute illness and at follow-up, about one-third had reduced kidney function at 6 months.

“Policy-makers, programme managers, and healthcare providers, as well as parents and caregivers must attend to opioid stewardship to ensure the rational and cautious use of opioids,” the authors wrote. – Bridget M. Kuehn, MSJ

Note: Source references are available through embedded hyperlinks in the article text online.