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State of Global Air 2020 Report

Air Pollution Contributes to Nearly 500,000 Infant Deaths Worldwide in 2019

6.7 Million Deaths Linked to Air Pollution Last Year: Now the 4th Highest Health Risk Globally

Study Finds Little or No Progress in the Most Polluted Regions Over Past 10 Years

The first-ever comprehensive analysis of air pollution’s global impact on newborns finds that outdoor and household particulate matter pollution contributed to the deaths of nearly 500,000 infants in their first month of life, according to a new global study, *State of Global Air 2020 (SoGA 2020)*. Nearly two-thirds of those deaths were linked to use of solid fuels such as charcoal, wood, and animal dung for cooking.

Long-term exposure to outdoor and household air pollution contributed to over 6.7 million annual deaths from stroke, heart attack, diabetes, lung cancer, chronic lung diseases, and neonatal diseases worldwide in 2019. For the youngest infants, most deaths were related to complications from low birth weight and preterm birth. Overall, air pollution is now the 4th highest cause of death among all health risks, ranking just below smoking and poor diet, according to the annual SoGA 2020 report and interactive website published today at www.stateofglobalair.org by the Health Effects Institute (HEI¹).

This report’s findings — based on the most recent Global Burden of Disease (GBD) study published in the international medical journal *The Lancet* on October 15, 2020 — comes as COVID-19 — a disease for which people with heart and lung disease are particularly at risk of infection and death — has claimed more than 1 million lives. Although the full links between air pollution and COVID-19 are not yet known, there is clear evidence linking air pollution and increased heart and lung disease creating a growing concern that exposures to high levels of air pollution, especially those commonly experienced in countries of South and East Asia, could exacerbate the effects of COVID-19.

“The interaction of COVID-19 with the continued global rise in chronic illness and related risk factors, including obesity, high blood sugar, and outdoor air pollution, over the past 30 years has created a perfect storm, fueling COVID-19 deaths,” said Dr. Christopher Murray, Director of the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, Seattle, USA, who led the GBD research.

¹ The Health Effects Institute is an independent, nonprofit research institute funded jointly by the U.S. Environmental Protection Agency, industry, foundations, and development banks to provide credible, high-quality science on air pollution and health for air quality decisions.

Although sustained policy actions in some countries have produced modest air quality improvements, the report finds that there has been little or no sustained progress in the most polluted countries of South Asia and Africa. While China has made initial progress in reducing air pollution, countries in South Asia including Nepal, Pakistan, Bangladesh, and India have continued to experience very high levels of ambient air pollution levels. The analysis found that China and India together were responsible for over half of the total global attributable deaths, accounting for more than 3.5 million deaths from total air pollution in 2019.

“An infant’s health is critical to the future of every society, and this newest evidence suggests an especially high risk for infants born in South Asia and sub-Saharan Africa,” said Dan Greenbaum, President of HEI. “Although there has been slow and steady reduction in household reliance on poor-quality fuels, the air pollution from these fuels continues to be a key factor in the deaths of these youngest infants,” he added.

Infants in the first month of life are already at a vulnerable stage. But a growing body of scientific evidence from multiple countries indicates that particulate air pollution exposure during pregnancy is linked to low birth weight and preterm birth. These latter conditions, both of which are associated with serious complications, already account for the vast majority of deaths in the neonatal period (1.8 million in 2019). The new analysis reported in the State of Global Air this year estimates that 20% of infant deaths in this age group are attributable to ambient and household air pollution, most through their impact on low birth weight and preterm birth. “I think it is so important that the Global Burden of Disease project is addressing air pollution and low birthweight/preterm birth. It hasn’t been brought into focus for health professionals and policy makers in a meaningful way,” said Dr. Susan Niermeyer, a neonatologist at the University of Colorado who was not involved with the study.

The report also highlighted the ongoing challenge posed by exposure to household air pollution from the burning of solid fuels — and not just for infants. Despite a reduction of 11% over the last decade, 49% of the world’s population — a total of 3.8 billion people — were still exposed to household air pollution due to cooking in 2019. Most of them live in just 17 countries. Exposure is linked strongly to levels of sociodemographic and economic development.

The *State of Global Air 2020* annual report and accompanying interactive website are designed and implemented by the Health Effects Institute in cooperation with the Institute for Health Metrics and Evaluation (IHME²) at the University of Washington, and the University of British Columbia; HEI provides leadership for the air pollution portion of the GBD³; HEI’s www.stateofglobalair.org offers the only report and website where all of the estimates of exposure to air pollution and their burden of disease included in the GBD air pollution analyses are made available for full public access.

For more information on SoGA 2020 contact: Dr. Katherine Walker, Principal Scientist, and lead author of the report (kwalker@healtheffects.org; +1-617-281-4890)

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² IHME is an independent population health research center that coordinates the annual Global Burden of Diseases, Injuries, and Risk Factors (GBD) Comparative Risk Assessment study. Its results are published each year.

³ The GBD study is an international effort to estimate the number of deaths and lost years of healthy life due to some 286 causes of death and 369 diseases in 204 countries, and how much of this burden is caused by 87 different risk factors, including diet, high blood pressure, tobacco smoking and air pollution. The Institute for Health Metrics and Evaluation (IHME) leads an international team of nearly 3700 scientists from 146 countries in conducting the analysis. The latest GBD results have been published in: [GBD 2019 Risk Factors Collaborators. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019. Lancet 396:1223-1249.](https://doi.org/10.1016/S0140-6838(20)30001-1)