

## Air Pollution's Impact on Health: A Global Snapshot

Air pollution was the 4th leading risk factor for premature death globally, accounting for nearly 12% of all deaths, with more than 6.67 million in 2019 alone. Considered separately, ambient particulate matter (PM<sub>2.5</sub>) ranked as the 6th leading risk factor, and household air pollution (HAP) ranked 9th. Ozone was not in the top 20 risk factors.

### Key Statistics at a Glance

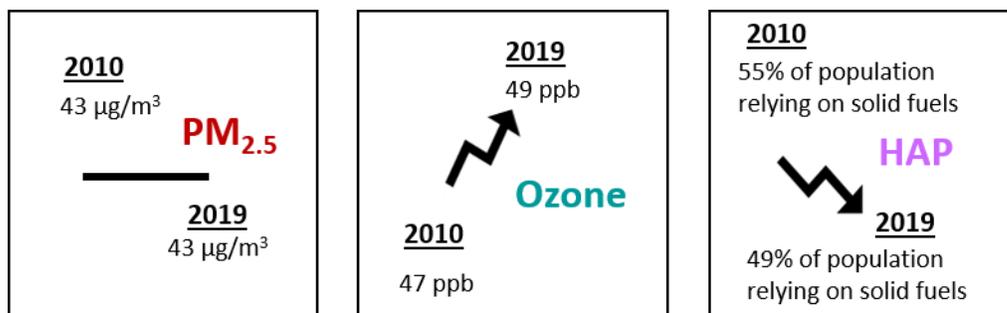
<p><b>6.67 million deaths</b> due to air pollution in 2019.</p> <p><b>Nearly 500,000 infant deaths</b> in the first month of life attributable to air pollution.</p>	 <p><b>43 µg/m<sup>3</sup></b> population-weighted annual average PM<sub>2.5</sub> concentration.*</p> <p><b>4.14 million deaths</b> attributable to outdoor PM<sub>2.5</sub> exposure.</p>	 <p><b>49%</b> of the population uses solid fuels for cooking.</p> <p><b>2.31 million deaths</b> attributable to exposure to household air pollution.</p>
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### Key Exposure Facts

**Over 90% of the world's population** lives in areas where PM<sub>2.5</sub> levels are above the WHO guideline for healthy air (10 µg/m<sup>3</sup>). \*\*

- Between 2010 and 2019, exposures to PM<sub>2.5</sub> remained the same, and exposure to household air pollution declined, but exposures to ozone increased.
- There are more than 10,000 stations reporting PM<sub>2.5</sub> concentrations and nearly 9,000 stations reporting ozone concentrations worldwide.

### How Have Pollutant Exposures Changed Between 2010 and 2019?



\* Please note that PM<sub>2.5</sub> concentrations reported here are estimated using a combination of satellite data, ground air quality monitoring data, and chemical transport models. These estimates can be more uncertain in regions where ground monitoring data are limited or not available. Globally, the best estimate of the annual average exposure is 43 µg/m<sup>3</sup>, but it may range from 40 µg/m<sup>3</sup> to 45 µg/m<sup>3</sup>.

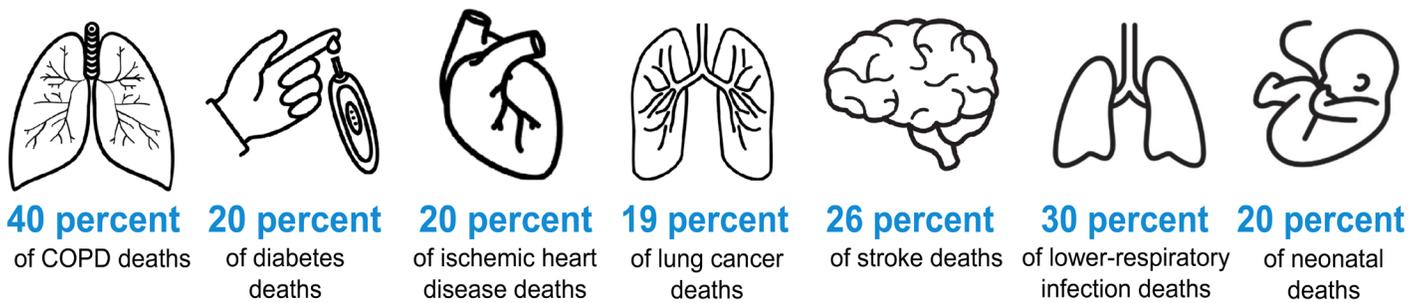
\*\* WHO provides an Air Quality Guideline of 10 µg/m<sup>3</sup> for PM<sub>2.5</sub> to minimize health risks to populations, as well as three interim targets (15 µg/m<sup>3</sup>, 25 µg/m<sup>3</sup>, and 35 µg/m<sup>3</sup>) as incremental steps toward the progressive reduction of air pollution.

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## **Air Pollution Accounts for a Substantial Percentage of Global Deaths from Specific Causes.**

Air pollution exposures, including exposure to outdoor particulate matter (PM<sub>2.5</sub>) and household air pollution (HAP), have been linked to increased hospitalizations, disability, and early death from respiratory diseases, heart disease, stroke, lung cancer, and diabetes, as well as communicable diseases like pneumonia. Exposure to outdoor ozone is linked to chronic obstructive pulmonary disease (COPD), and in children, especially those under the age of five, increases susceptibility to lower-respiratory tract infections. Exposure to PM<sub>2.5</sub> also puts mothers at risk of delivering babies too early and smaller than normal, and such babies are more susceptible to dying from a range of diseases.

## **Percentage of Global Deaths (by Cause) Attributed to Air Pollution in 2019**



## **Key Health Facts**

- Air pollution is the 4th leading risk factor for premature death worldwide. Leading causes of death globally include ischemic heart disease, stroke, COPD, intracerebral hemorrhage, and lower-respiratory infections, while leading risk factors include high blood pressure, tobacco, poor diet, and air pollution.
- The global death rate attributable to air pollution exposure is 86 deaths per 100,000 people.
- Ambient PM<sub>2.5</sub> and household air pollution are the largest contributors to premature death and years of healthy life lost across age groups.
- **GOOD NEWS:** The global burden of disease from household air pollution has decreased steadily over the past decade. Total deaths attributable to household air pollution fell by 23.8%.

### FOR MORE INFORMATION:

For the full report and additional data, please visit [www.stateofglobalair.org](http://www.stateofglobalair.org).

### ADDITIONAL RESOURCES:

To access real-time air quality index values for cities around the world, visit [AQICN](http://AQICN).

For open-access, real-time air quality data, visit [OpenAQ](http://OpenAQ).



For more details, please visit:  
[www.stateofglobalair.org](http://www.stateofglobalair.org)

Contact us:  
[contactsoa@healtheffects.org](mailto:contactsoa@healtheffects.org)



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The State of Global Air website is a collaboration between the Health Effects Institute and the Institute for Health Metrics and Evaluation, with expert input from the University of British Columbia.