

# STATE OF GLOBAL AIR /2019



**14,300 deaths**  
due to air  
pollution in 2017

**2 years and 11 months' loss in life expectancy**  
at birth due to air  
pollution exposure

**66  $\mu\text{g}/\text{m}^3$**   
population-weighted  
average  $\text{PM}_{2.5}$   
concentration

**96% of the population uses solid fuels**

## Chad

**Air pollution is the 3rd leading risk factor for premature death, accounting for nearly 10% of deaths — more than 14,000 — in Chad in 2017 alone.**

Air pollution exposures, including exposure to outdoor particulate matter ( $\text{PM}_{2.5}$ ), 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 also linked to COPD.

*Percentage of deaths by cause attributed to air pollution in Chad.*



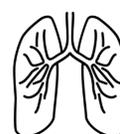
**54 percent**  
of COPD deaths



**18 percent**  
of diabetes  
deaths



**27 percent**  
of ischemic heart  
disease deaths



**48 percent**  
of lung cancer  
deaths

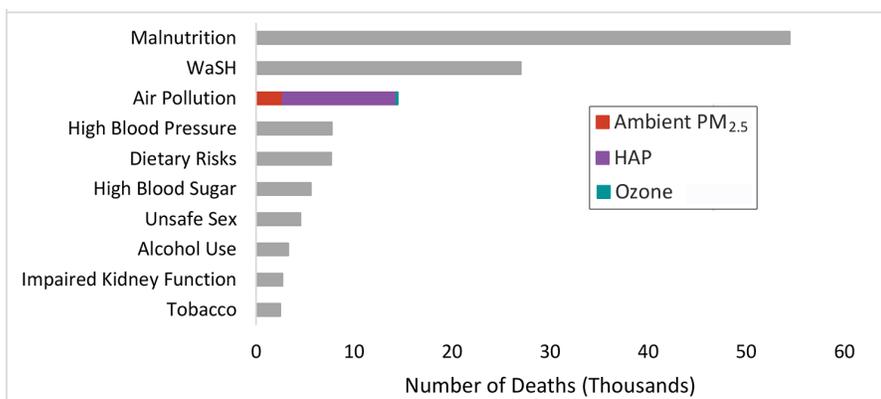


**19 percent**  
of stroke deaths

## Key Facts

- Air pollution (total) is the 3rd leading risk factor in Chad in 2017, after malnutrition and sanitation (WaSH). Considered separately, household air pollution and outdoor air pollution are ranked as the 6th and 17th leading risk factors.
- The entire Chadian population lives in areas with  $\text{PM}_{2.5}$  concentrations\* above the WHO Air Quality Guideline for healthy air ( $10 \mu\text{g}/\text{m}^3$ ).
- In 2017, there were 2,700 deaths attributable to exposure to outdoor  $\text{PM}_{2.5}$ , 11,600 deaths to HAP, and 156 to ozone.
- Exposure to HAP accounted for a loss of about 2 years of life expectancy, and exposure to outdoor PM accounted for a loss of nearly 1 year and 6 months.

*Leading risk factors for death and disability in Chad in 2017.*



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For more details, please visit  
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\* Please note that  $\text{PM}_{2.5}$  concentrations reported here are estimated using satellite data, ground air quality monitoring data, and chemical transport models. There can be uncertainty in these estimates in regions where ground monitoring data are not available compared with regions where more ground monitoring data are available. Our best estimate of the concentration for Chad is  $66 \mu\text{g}/\text{m}^3$ , but given the lack of sufficient ground monitoring, it may range from  $15 \mu\text{g}/\text{m}^3$ – $194 \mu\text{g}/\text{m}^3$ .



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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



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