

Fine particles from wildfire smoke impact children's respiratory health

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(HealthDay)—Exposure to wildfire-specific airborne fine particles with



diameter $\leq 2.5 \ \mu m \ (PM_{2.5})$ is more harmful for children's respiratory health than exposure to $PM_{2.5}$ from other sources, resulting in an estimated 30.0 percent increase in visits to emergency and urgent care facilities, according to a study published online March 23 in *Pediatrics*.

Rosana Aguilera, Ph.D., from the University of California in San Diego, and colleagues examined the correlations between wildfire-specific $PM_{2.5}$ and pediatric respiratory health during 2011 to 2017. Visits to emergency and urgent care facilities by individuals aged 19 years and younger with one or more respiratory condition, including difficulty breathing, respiratory distress, wheezing, asthma, or cough, were regressed on exposure to wildfire-specific $PM_{2.5}$ and $PM_{2.5}$ from ambient sources.

The researchers found that the number of admissions increased by 3.7 percent with a 10-unit increase in $PM_{2.5}$ from nonsmoke sources. In contrast, there was an estimated 30.0 percent increase in visits due to $PM_{2.5}$ attributable to wildfire.

"Our results underscore the need for a better understanding of the differential effects of wildfire-specific $PM_{2.5}$ on <u>vulnerable populations</u>," the authors write. "Broader regional trends in extreme wildfire occurrences associated with <u>global warming</u> and population expansion as well as compounding effects on the respiratory system from the current global pandemic (coronavirus disease 2019) and regional epidemics (e.g., seasonal flu) provide urgency to quantifying impacts and develop vulnerability-targeted early warning systems and adaptation plans expanding from county to broader scales."

More information: <u>Abstract/Full Text (subscription or payment may</u> <u>be required)</u>



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