

Wildfire smoke may be worse for your brain than other air pollution, study says

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A plane drops fire retardant on the Park Fire near Forest Ranch, Calif., Sunday, July 28, 2024. Credit: AP Photo/Nic Coury

Wildfire smoke may be worse for brain health than other types of air pollution, according to new research linking it to an increased risk of

dementia.

The findings, reported Monday at the Alzheimer's Association International Conference in Philadelphia, come as millions spent the weekend under air quality warnings from [wildfires](#) spewing smoke across the western U.S.

At issue is [fine particulate matter](#) or PM2.5—[tiny particles](#) about 30 times smaller than the diameter of a human hair that can be inhaled deep into the lungs and move to the bloodstream. This pollution—from traffic, factories and fires—can cause or worsen heart and lung diseases, and the new study [adds to evidence](#) it may play some role in dementia, too.

Researchers tracked health records from 1.2 million [older adults](#) in Southern California between 2009 and 2019. They used [air quality monitoring](#) and other data to estimate residential exposure to PM2.5 over three years from wildfire smoke or other causes.

The study found the odds of a new dementia diagnosis increased about 21% for every 1 microgram increase in the concentration of wildfire particles. That compared with a 3% increased risk for every 3 microgram jump in non-wildfire particles, concluded researchers from the universities of Washington and Pennsylvania.



A firefighter lays out a hose line while fighting the Park Fire near Forest Ranch, Calif., Sunday, July 28, 2024. Credit: AP Photo/Nic Coury

It's not clear why there would be a difference. But with wildfires increasing, this needs more study, said Alzheimer's Association chief science officer Maria Carrillo. That's especially considering that the risk of Alzheimer's, the most common form of dementia, is higher for lower-income populations who may have a harder time avoiding unhealthy air, she said.

Health warnings urge staying indoors when air quality is poor but "there are a lot of people who don't have the option to stay home or they work outside," she noted.

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