

Many undocumented health problems discovered among those exposed to bushfire smoke

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The physical and mental burden of prolonged exposure to bushfire smoke is vastly underestimated by official statistics that are based upon

admissions into the health system, finds a large survey of residents affected by the widespread bushfires close to Canberra, Australia's capital city, in the summer of late 2019 and early 2020. Improved knowledge in this area will improve initiatives that are aimed at building resilience among individuals and communities impacted by these catastrophic events.

Prolonged exposure to bushfire smoke creates a heavy mental and physical burden not portrayed by official statistics of admissions into the [health system](#), finds a new study, published in *Frontiers in Public Health*. It highlights the urgent need for improved knowledge in this area to support and build resilience among individuals and communities that are impacted by these [catastrophic events](#).

"We found that almost every single respondent to our [survey](#) experienced at least one physical health symptom that they attributed to the smoke," explains Professor Iain Walker, co-author of the study, and based at the Research School of Psychology, Australian National University, Australia. "In addition, about one-half of our respondents reported symptoms of anxiety and depression, as well as sleep loss."

"Just less than one-fifth of respondents sought help from a medical practitioner, despite the widespread reporting of negative health burdens in our survey," he continues. "This shows that the rate of people presenting into the health system is much less than the number of people who experience health symptoms when exposed to bushfire smoke."

Widespread devastation

Air pollution from bushfires is known to increase the likelihood of death in humans and it especially affects people with pre-existing respiratory and cardiovascular problems. Its impacts on [mental health](#) are not so well understood.

The Australian summer of late 2019 to early 2020 saw fires burn 10m hectares (nearly 25m acres), which spread blanketing, choking smoke over an even larger area. As soon as was possible after this event, the researchers of this study conducted a survey of residents in the area to get a more thorough assessment of the impact of bushfire smoke on the community.

"Our survey of residents living in and around Canberra, Australia's capital city, asked a wide range of questions about the physical and mental health symptoms the participants had experienced, as well as how their behaviors changed during the bushfire period. For example, staying indoors to avoid the smoke, which in turn reduces [physical activity](#)," explains Walker.

Over 2000 people responded to the survey, which was administered via post, door to door visits, social media, and telephone contact to maximize the number and range of individuals reached.

Widespread negative health burden

"The survey showed that physical health effects were more extensive than previously thought and that there were very high levels of anxiety and depression," reports Walker. "It is likely that official statistics greatly underestimate the prevalence of health problems because of the major hurdles in the way of anyone presenting into the system, and we think many residents were motivated to avoid overburdening the health system at a time when it was stretched."

Walker explains that improving our understanding in this area is important to help design better public health communications and service delivery.

"There is a real need for improved knowledge on the long-term effects

of exposure to [bushfire](#) smoke, and how these effects vary across different segments of the population. We are conducting further studies to understand how bushfires continue to affect the mental [health](#) of people impacted by these fires and the smoke, and how we can build resilience among individuals and communities."

More information: Physical and Mental Health Effects of Bushfire and Smoke in the Australian Capital Territory 2019–20, *Frontiers in Public Health* (2021). [www.frontiersin.org/articles/1 ... 89/fpubh.2021.682402](http://www.frontiersin.org/articles/1...89/fpubh.2021.682402)

Provided by Frontiers

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