

# The Medical Journal of Australia • MJA

# MEDIA RELEASE

## **NATIONAL APPROACH NEEDED TO SMOKE POLLUTION ADVICE**

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IT is time for an independent national expert committee on air pollution and health protection to be established to support environmental health decision-making in Australia, according to the authors of a Perspective published online today by the *Medical Journal of Australia*.

Professor Sotiris Vardoulakis, Professor of Global Environmental Health at National Centre for Epidemiology and Population Health at the Australian National University, and colleagues, made the recommendation on the back of a bushfire season that saw Sydney and other major population centres blanketed in a smoke for long periods of time.

“Existing health protection advice ... mainly focuses on shorter and more localised smoke episodes. It is important that health professionals and patients, as well as healthy individuals and those at higher risk develop a good understanding of the available health protection measures and their effectiveness and potential trade-offs,” Vardoulakis and colleagues wrote.

“A major public health concern is population exposure to atmospheric particulate matter (PM) with a diameter  $< 2.5 \mu\text{m}$  ( $\text{PM}_{2.5}$ ), which can penetrate deep into the respiratory system, inducing oxidative stress and inflammation, and even translocate into the bloodstream.

“Mortality rates have been found to increase in Sydney on days with high bushfire smoke pollution. Hospital admissions, emergency department attendances, ambulance call-outs and GP consultations, particularly for respiratory conditions, all increase during periods of severe  $\text{PM}_{2.5}$  from bushfires.”

Vardoulakis and colleagues wrote that current health protection advice related to bushfire smoke mainly focuses on short term measures aimed at reducing personal exposure to pollution – stay indoors, with windows and doors closed; reduce strenuous physical exercise outdoors etc – however such advice would “become impractical” over the longer periods of high  $\text{PM}_{2.5}$  levels such as those experienced over the past summer.

There were also inconsistencies between states and other jurisdictions about the way in which air-quality was measured and communicated to the public, they said.

“More nuanced advice would encourage individuals to be guided by location-specific air quality forecasts and the pattern of hourly  $\text{PM}_{2.5}$  concentrations at nearby air quality monitoring locations, and to plan their daily activities in ways that minimise exposure to pollution.

“For example,  $\text{PM}_{2.5}$  was lower in most locations in Sydney in early morning hours during the December 2019 bushfire smoke episode. Exercising outdoors and cycling or walking to school or work within this time window would help maintain good physical activity levels without substantially increasing exposure to smoke,” they wrote.

“Real time information on the temporal and spatial variation of air pollution in all jurisdictions should be made available online and through other media to enable individuals to assess nearby air quality.

“Consistency of air quality information and related public health advice across jurisdictions is essential,” Vardoulakis and colleagues concluded.

Professor Vardoulakis and colleagues from the Australian National University have developed a comprehensive set of factsheets on *How to protect yourself and others from bushfire smoke*, which have been widely disseminated and translated into several languages:

(<https://rsph.anu.edu.au/phxchange/communicating-science/how-protect-yourself-and-others-bushfire-smoke>)

“Further research is needed into the longer term effects of smoke pollution, as well as the effectiveness of related health protection advice.

“Working towards ambitious climate change mitigation targets is an essential long term strategy for managing the underlying causes of the increasing bushfire risk in Australia.

“It is time for an independent national expert committee on air pollution and health protection to be established to support environmental health decision making in Australia.

“This new expert committee should have a clear mandate and resources to develop evidence-based, accurate, practical and consistent advice on health protection against bushfire smoke, and air pollution more broadly, across jurisdictions.”

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