



# 14 EXCESS DEATHS PER YEAR ATTRIBUTED TO WOOD HEATER POLLUTION IN REGIONAL CITY OF 25 000

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EXCESS deaths due to air pollution from wood heaters have led to a call for more effective policies, public health education, and subsidies to encourage the switch to efficient, less polluting home heating, in research published by the *Medical Journal of Australia*.

The study, conducted in Armidale, a regional NSW city of 24 504 people, found 14 premature deaths per year were attributable to air pollution from wood heaters. This corresponds to 210 lost years of life, and, longer term, to the loss of 364 days of life expectancy at birth, at an estimated cost of \$10 930 per heater per year.

The researchers, led by Dr Dorothy Robinson, Adjunct Senior Research Fellow at the University of New England, conducted a health impact assessment (excess annual mortality and financial costs) based upon atmospheric PM<sub>2.5</sub> (particulate matter less than 2.5 µm aerodynamic diameter) measurements, between 1 May 2018 and 30 April 2019.

"We defined two time periods by examining the data: the wood heater pollution period and a background period not usually affected by wood smoke," Robinson and colleagues wrote.

"Mean daily population weighted PM<sub>25</sub> exposure was 3.1 µg/m<sup>3</sup> during the background period and 18.8 µg/m<sup>3</sup> during the wood heater pollution period; the mean daily population-weighted wood smoke PM<sub>2.5</sub> exposure for the wood heater pollution period was 15.6 µg/m<sup>3</sup>.

"Our analysis of the health effects of wood heaters was restricted to the risk of premature death. Other adverse health outcomes of air pollution include premature birth, lower birthweight, stroke, neurodegenerative disease, diabetes, deep venous thrombosis, and cardiovascular and lung disease," they wrote.

"Both short and long term exposure to air pollution may be important aggravating factors for COVID-19 transmission, severity, and lethality.

"Effective policies are needed to reduce wood heater pollution, including public education supported by health professionals about the effects on health of wood smoke, subsidies that encourage residents to switch to efficient, less polluting home heating (perhaps as part of an economic recovery package), and regulatory changes," Robinson and colleagues concluded.

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