

# Reduction in air pollution from wood stoves associated with significantly reduced risk of death

January 8 2013

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Male deaths from all-causes, but particularly cardiovascular and respiratory disease, could be significantly reduced with a decrease in biomass smoke (smoke produced by domestic cooking and heating and woodland fires), a paper published today in *BMJ* suggests.

The researchers say this could have significant impact on further interventions to reduce pollution from this source.

Although a large amount of research has been carried out on the [adverse health effects](#) of [air pollution](#), no studies have reported reductions in deaths associated with interventions to reduce biomass smoke pollution.

In 2001, Launceston (in Tasmania, Australia) was the setting for a series of interventions to reduce wood smoke pollution. The interventions dramatically accelerated a general trend towards using electric rather than wood heaters. As such, wood stove prevalence fell from 66% to 30% of all households and average particulate air pollution during winter was reduced by 40% ( $44 \mu\text{g}/\text{m}^3 - 27 \mu\text{g}/\text{m}^3$ ).

Researchers from Australia and Canada used this data to assess whether there were any significant changes in all-cause, cardiovascular and respiratory mortality.

This is the first study to assess changes in mortality associated with a

reduction in smoke from domestic wood heaters. The researchers compared the population of Launceston with the population of Hobart (also in Tasmania), which did not have any air quality interventions.

The reductions in mortality (deaths per 1000 people at risk per year, adjusted for age) between 1994-2001 and 2001-2007 were not significant for [males and females](#) combined (2.7% for all-cause mortality; 4.9% for [cardiovascular mortality](#); 8.5% respiratory mortality). However, reductions were statistically significant for males alone: differences of 11.4% for all-cause mortality; 17.9% for cardiovascular and 22.8% for respiratory.

Results taken during the winter months (June – August) showed even higher reductions: cardiovascular 20%; respiratory 28%.

The researchers conclude that a trend was found in reduced all-cause, cardiovascular and respiratory [mortality](#) during the period of improved air quality which was greatest during winter with stronger associations in males. They say that the findings "highlight the potential for important public health gains from interventions to reduce ambient pollution from biomass smoke".

Provided by British Medical Journal

Citation: Reduction in air pollution from wood stoves associated with significantly reduced risk of death (2013, January 8) retrieved 27 January 2023 from <https://medicalxpress.com/news/2013-01-reduction-air-pollution-wood-stoves.html>

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