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The effects of the Hazelwood mine fire on some respiratory symptoms appear to be persisting, but other measures of lung health may be improving

Hazelwood Health Study researchers have reported that the effects of Hazelwood mine fire smoke exposure on some respiratory symptoms seem to have persisted or even developed over time, whereas improvements in other aspects of respiratory health, such as lung function, have also been observed.

More than 600 participants from the Hazelwood Health Study's Adult Survey, who had been exposed to smoke from the 6 week mine fire event, provided information in 2016 and again in 2022 about their experience of several respiratory symptoms including cough, wheeze, shortness of breath and chest tightness. It was found that symptoms of chronic cough had persisted for some people or had even newly developed for others, rather than improved. It also appeared that symptoms of wheeze had persisted or developed over time, however the data for that finding was less clear.

Tyler Lane, who led this research, said *"compared with the symptoms reported 2.5 years after the event, mine fire smoke-exposed participants were more likely to report chronic cough and possibly current wheeze, 8.5 years after the event. That is, the effect of mine fire smoke exposure on cough and wheeze seemed to have increased over time."*

Further to this, mine fire smoke-exposed people who had contracted COVID-19, compared to mine fire smoke-exposed people who had not contracted COVID-19, were more likely to report shortness of breath at night, chronic phlegm and possibly chest tightness. That finding suggested that mine fire smoke exposure and COVID-19 combined, resulted in more respiratory symptoms than mine fire smoke exposure alone.

On a more positive note, a separate group of adult Hazelwood Health Study Respiratory Stream participants have undertaken 2 rounds of clinical measurement of their lung function. In round 1, 3.5 years after the fire, smoke exposed participants were found to be more likely than unexposed participants to have poorer lung function as evidenced by a decrease in lung stretchiness and an increase in symptoms of airway obstruction characteristic of Chronic Obstructive Pulmonary Disease (also known as COPD). In round 2, however, 7.5 years after the fire, the

previously observed airflow obstruction and reduced stretchiness in the lungs showed signs of improvement. Additional tests showed no association between mine fire smoke and airway inflammation. Respiratory Stream Lead, Brigitte Borg, said *“higher levels of smoke exposure were no longer associated with poorer lung function in participating adults at round 2, suggestive of a recovery in lung health over time.”* Whilst that appears to be a good outcome for the community, the researchers did note that 190 participants from round 1 did not complete their round 2 clinical assessment and so the status of their lung health was unknown.

In 2023, all round 1 and 2 Respiratory Stream participants were invited to complete a 3rd round of clinical assessments which aimed to confirm whether lung health was continuing to improve or whether mine fire smoke effects on lung health had persisted. The results from those assessments will be available later this year.

For more information about the Hazelwood Health Study, visit www.hazelwoodhealthstudy.org.au

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To access all Hazelwood Health Study findings:
<https://hazelwoodhealthstudy.org.au/study-findings>

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