

Understanding the impact

of the Hazelwood mine
fire on the health of the
Latrobe Valley community

The Hazelwood mine fire had a major impact on the Latrobe Valley community. As well as being an incredibly stressful time for locals living in the area, it understandably caused many people to have concerns about the length of time they were exposed to smoke from the fire and its possible health effects. In 2014, the Hazelwood Health Study was set up to monitor the long-term health of community members. This leaflet provides a snapshot of the Study's findings to date.

Health information has now been collected from more than 70,000 people

The Hazelwood Health Study, now in its 9th year, is led by Monash University, the University of Tasmania and Federation University. Data collected includes:

70,000

Health service information from more than 70,000 people across the Latrobe Valley and wider Gippsland

10,000

The educational results of more than 10,000 school children

4,500

Cancer information from more than 4,500 people

4,000

Physical symptoms, mental health and smoke exposure information from more than 4,000 adults

3,500

Pregnancy and birth information from more than 3,500 women

**1,000
+ 500**

Heart and lung information from more than 1,000 adults and 500 young children

300

Mental health information from more than 300 school children.

INTERESTING

While the Study shows that the fire has contributed to ongoing health problems in Morwell and surrounding areas, it has also shown that some of those problems are improving.



The heart and lung health of adults was affected but there are signs of improvement



CARDIOVASCULAR HEALTH (heart and blood vessels)

⬆ Medications dispensed

⬆ Risk of death from cardiovascular conditions



RESPIRATORY HEALTH (lungs and breathing)

⬆ Medications dispensed

⬆ Ambulance call-outs

⬆ Emergency department attendances

⬆ Hospital admissions

⬆ Specialist visits (among men)

NO CHANGE in risk of death from respiratory conditions

Fire-related distress persists in some adults



AT TIME OF FIRE

⬆ Mental health-related consultations, prescriptions, ambulance call-outs and hospital admissions

2.5 YEARS LATER

14% of adults reported symptoms consistent with post-traumatic stress disorder (PTSD)

Moderate levels of distress reported by adults in Morwell, with higher levels of distress among people who were exposed to more smoke

Distress was most common among younger adults and those who already had respiratory or mental health conditions

5.5 YEARS LATER

⬆ Fire-related distress (especially among younger adults) compared to the levels reported 2.5 years after the fire – this may have been partly due to additional smoke exposure during the 2019 Black Summer fires



- ⬆ Self-reported heart attacks and high blood pressure (but reported by very small numbers of people)



NO DIFFERENCES in cardiovascular disease, reduced heart function, heart muscle damage, abnormal heart rhythm or abnormal blood vessel health



- ⬆ Respiratory symptoms, e.g. cough, shortness of breath

- ⬆ Chest tightness
- ⬆ Chronic (long-term) cough
- ⬆ Lung stiffness
- ⬆ Chronic obstructive pulmonary disease (COPD) among non-smokers
- ⬆ Chronic cough among smokers
- ⬇ Control of asthma

Pregnant women exposed to mine fire smoke

- ⬆ Risk of gestational diabetes

Babies who were in the womb at the time of the fire

After birth:

- ⬆ Symptoms such as runny nose, cough and wheeze
- ⬆ Healthcare visits
- ⬆ Upper respiratory infections (colds)

Very young children

- ⬆ Use of antibiotics, steroid creams and asthma medications
- ⬆ Visits to GPs and emergency departments

Children who were tested several years later

3 years after the fire

- ⬆ Stiffness of lungs and blood vessels

6 years after the fire

NO stiffness of lungs detected, meaning this may have resolved

Health issues in babies and young children continue to be monitored

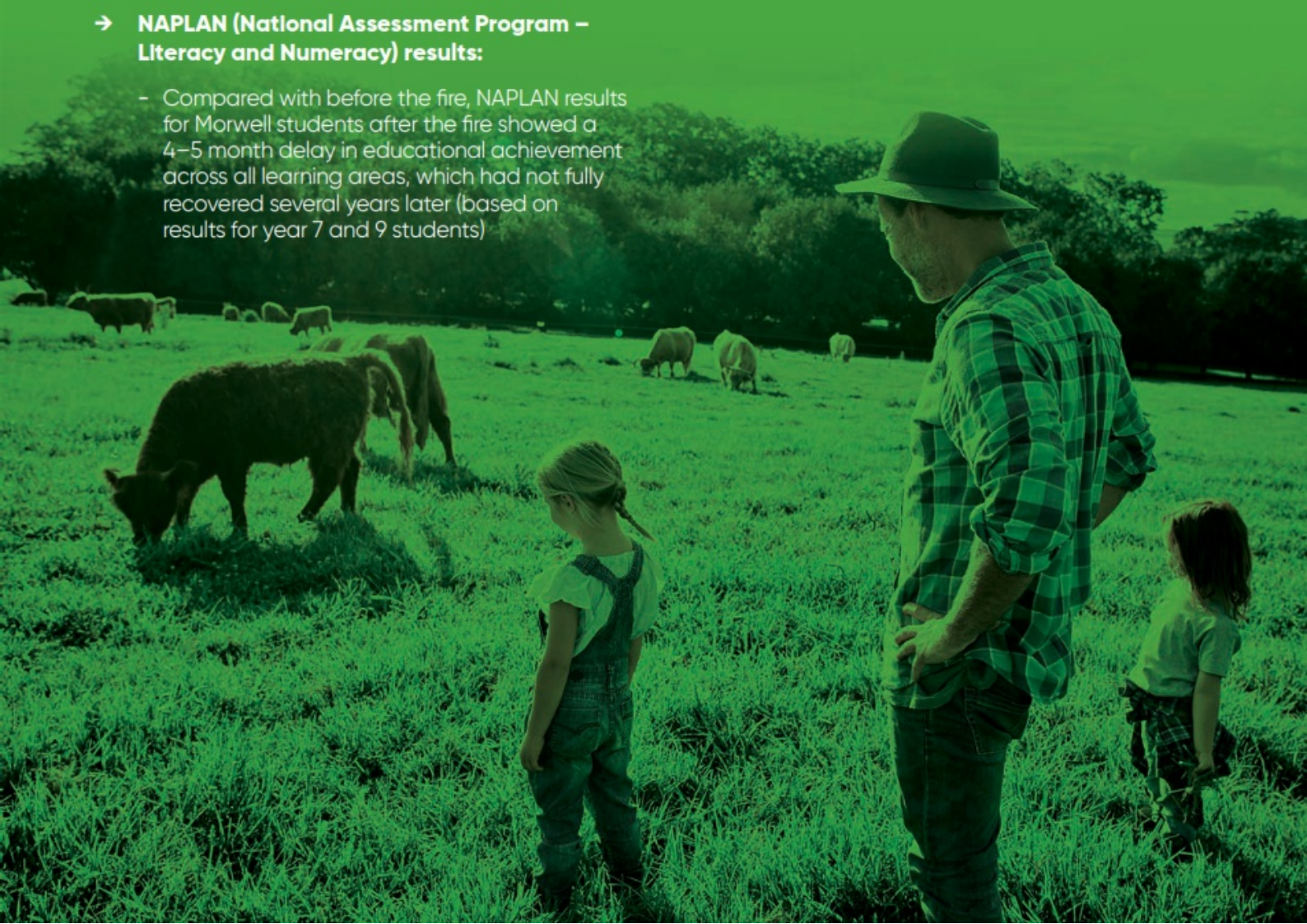


DID YOU KNOW?

No differences in cardiovascular health several years after the fire suggests that earlier problems may now have resolved. However, the data suggests ongoing impacts on lung health.

Tracking educational and mental health outcomes in school children

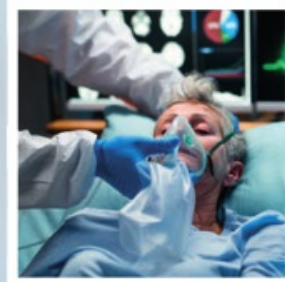
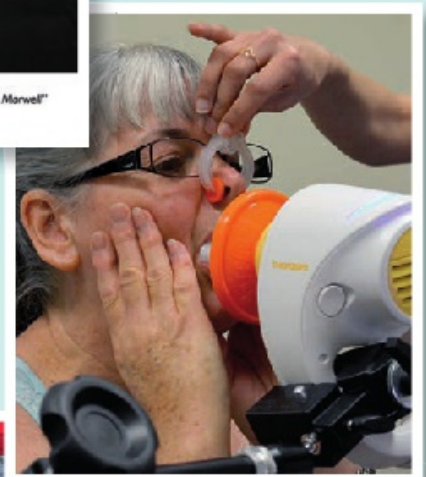
- **Specialist school students had particular difficulties at the time of the fire**
- **1.5 years after the fire:**
 - Most mainstream school students did not have ongoing problems, but about 1 in 5 students (22%) reported post-traumatic stress symptoms
 - Morwell students exposed to smoke reported more distress than non-Morwell students, with primary school students reporting more symptoms than secondary students
- **NAPLAN (National Assessment Program – Literacy and Numeracy) results:**
 - Compared with before the fire, NAPLAN results for Morwell students after the fire showed a 4–5 month delay in educational achievement across all learning areas, which had not fully recovered several years later (based on results for year 7 and 9 students)



Findings related to older people, communication, community wellbeing and recovery

In addition to the specific health and education impacts described in this leaflet, the Hazelwood Health Study has also found that:

- Voices of older people were paid little attention during the event and there was little support for them, especially those living independently
- The public health response at the time was limited by a lack of evidence about the likely health impacts of the mine fire
- There were problems with official communication about the mine fire, which led to confusion, mixed messaging, and a loss of trust in the authorities who were dealing with the crisis
- Because of this, local media outlets and social media groups were important in filling communication gaps and representing community concerns
- As well as health considerations, community recovery includes broader wellbeing, job creation and sustainability, along with careful consideration of the implications of an energy transition away from coal



Study findings drive positive change for Latrobe Valley and beyond

Although the Study can't change what happened in the past, it is providing important learnings. The research findings are regularly shared with local and Statewide organisations such as the Latrobe City Council, the Gippsland Primary Health Network, the Latrobe Health Advocate, the Latrobe Health Assembly and the Department of Health.

Here are some examples of how the Study has helped shape services for the ongoing health of the Latrobe Valley or changed the way authorities now respond to bushfire and other smoke-related events to protect the health of the community:

Contributing to decisions made during the Black Summer bushfires

During the 2019 Black Summer bushfires across eastern Australia and Tasmania, study findings were used in making decisions to evacuate smoke-affected communities and supply air purifiers in evacuation shelters.

Informing national guidelines for smoke events

The Study's findings have also helped inform national guidelines for prolonged smoke events, showing the importance of minimising pregnant women's exposure to air pollution.

Prompting extra mental health services for school-aged children

In response to the Study, the Department of Health recognised the increased levels of distress in school-aged children, which led to the establishment of a clinical pathway and the increased provision of mental health services in the region.

CONSEQUENCES FOR COAL MINE OPERATORS

Study findings were included in the 2019 Supreme Court trial that found the Hazelwood coal mine operators guilty of 10 Worksafe breaches, as well as an earlier trial that found them guilty of three Environment Protection Act breaches. The mine operators were found guilty of polluting the atmosphere so as to make it harmful to health.



Ongoing research

The Hazelwood Health Study is continuing, which may reveal further evidence of health improvements and lessons for the future. We will share the latest findings with the community as they become available. If you were in the Latrobe Valley at the time of the fire and have concerns about your health or that of your family members, please see your GP.



For more information about the Hazelwood Health Study, go to <https://hazelwoodhealthstudy.org.au/>

We would like to express our sincere thanks to everyone who has participated in the Hazelwood Health Study.

