Policy review of the impact of the Hazelwood mine fire on older people: Final Report

Hazelwood
HEALTH STUDY

MONASH University
Medicine, Nursing and Health Sciences

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A pdf version of this report can be downloaded from the Hazelwood Health Study web site at http://hazelwoodhealthstudy.org.au/

List of Acronyms

ABS	Australian Bureau of Statistics
AEMI	Australian Emergency Management Institute
CEO	Chief Executive Officer
CFA	Country Fire Authority
CHO	Chief Health Officer
COAG	Council of Australian Governments
DEECD	Victorian Department of Education and Early Childhood Development
DH	Victorian Department of Health
DHHS	Victorian Department of Health and Human Services
DHS	Victorian Department of Human Services
EMMV	Emergency Management Manual of Victoria
HACC	Home and Community Care
HHS	Hazelwood Health Study
HMFI	Hazelwood Mine Fire Inquiry
LCC	Latrobe City Council
MEMPLANs	Municipal Emergency Management Plans
MUHREC	Monash University Human Research Ethics Committee
OP	Older People
PM2.5	Particulate matter with an aerodynamic diameter of less than or equal to 2.5 µm
SHERP	State Health Emergency Response Plan
UNISDR	United Nations Sendai Framework for Disaster Risk Reduction
VCOSS	Victorian Council of Social Services
VicEPA	Victorian Environment Protection Authority
VPE	Vulnerable People in Emergencies
WHO	World Health Organization

1   Executive Summary

This review explored the impact of the Hazelwood mine fire on older people living in the Morwell community in the context of policy-driven decisions made at the time. We were able to gain an understanding of older people's experiences of the smoke event and the efforts put in place to support them using a mix of qualitative research methodologies. We combined the findings from focus groups held with local older people and community members and interviews with local decision-makers and representatives of services which supported older people during the smoke event, with reviews of relevant literature and various government policies. We are confident that our review will have important implications for policy development and program planning in relation to older people and disasters. We hope that this will result in best practice to improve preparations for and responding to a future disaster event.

This report brings together a considerable body of knowledge from data gathered over 13 months from June 2015 to July 2016. The conclusions drawn were verified in a workshop with key respondents held in September 2016.

A framework was derived from key issues arising from comprehensive reviews of the published literature on older people and disasters ([Section 3](#)) and relevant policy documents ([Section 4](#)), and a chronological overview of key events that took place during the mine fire event ([Section 5](#)). The framework consisted of four interlinked headings that provided insight into the impact the event had on older people at the time and beyond. The framework was used to interpret a thematic analysis of the extensive amount of qualitative data collected ([Section 6](#)). We brought this together by combining what we had heard in the focus groups and interviews with our analyses of relevant literature and various government policies and plans ([Section 7](#)).

The key, verified conclusions of the impact of the Hazelwood mine fire on older people, in the context of future policy and planning, are summarised under four headings.

1.1   The impact of the Hazelwood mine fire event on older people

Our discussions with older residents showed that there was **considerable diversity in terms of the impacts of the smoke event**, with many older residents reporting a wide array of physical and psychological symptoms at the time, and some reporting ongoing symptoms as well as concerns about long-term health impacts. Conversely, other older residents reported being minimally impacted by the smoke event and that it was no worse than previous smoke exposures. The diverse range of responses may be because we talked with an array of groups and included older people who were not receiving health and community services and who received little or no support during the smoke event. Discussions with service providers tended to reinforce the stoic and robust nature of older residents. It may be that these service providers were largely consulting with those receiving their services, who would have felt confident that help was available should the need arise.

1.2   The impact of policy-driven decisions made at the time on older people

There was almost universal agreement that the Hazelwood smoke event was **a unique occurrence** which was beyond the scope of existing policies that had been developed for bushfires and other emergencies.

One of the challenges faced by the Victorian Department of Health (DH) and other agencies during the smoke event was the **lack of a strong evidence base regarding the impacts of coalmine fire smoke events**, including impacts on sub-groups such as older people. A recent review of the literature (Melody & Johnston, 2015) noted that the lack of evidence on the short and long-term impacts of exposure to coal mine fire smoke hampered the public health response to the mine fire event.

A number of respondents from the general community and from service provider representatives felt that the community should have been evacuated early into the event, However, our review of the literature made it clear that the decision to evacuate or temporarily relocate a community or sub-sets of that community is incredibly challenging, especially for frail older people with chronic health conditions. So the DH faced a very challenging situation, having to weigh the concerns of the community against the risks of a major community relocation effort in the absence of clear evidence.

There was a clear thread through the community, service provider and decision maker discussions regarding the mismatch between existing emergency policies and the extended, dynamic and uncertain nature of the Hazelwood mine fire event. The development of **policy on the run** and the resultant **change in health advice** to older people and other at-risk groups to temporarily relocate, coming as late as it did in the event period, was a source of annoyance for some older residents.

In addition to developing new policies and protocols, there were issues in the way in which existing policies interacted, such as the Municipal Emergency Management Plans (MEMPlans). In the case of a major event such as the Hazelwood mine fire, these MEMPlans are overridden by the state level plan, relegating local council to a minimal but supportive role. This approach may be suitable when responding to short sharp disaster events such as bushfire, allowing councils to take a more active role once the emergency has passed. However, in the current example of an extended duration event which was impacting a community, this approach resulted in clear issues.

1.3 The impact of the jumbled roles of emergency personnel and agencies on older people

One of the 'unique' challenges of the Hazelwood event was the extended duration. The emergency response continued over a 45 day period, with the public focus shifting from the response to a complex of fires which initially directly threatened the Morwell community to an ongoing fire largely restricted to the mine site and threatening state electricity supplies, and to a long term emerging smoke health threat. These shifts, coupled with the fact that multiple agencies were involved (including emergency, environmental, health, local and state government) and that **their roles changed** in line with the changes in the response focus, clearly created issues with the response and the engagement of the local community and the subsequent impact on older people.

The increasing focus on the impacts of the smoke event on the health of the community saw the event change from being a fire event under the control of the Country Fire Authority (CFA) to a public health event under the control of the DH. The command structures of these two bodies vary considerably. These differences, combined with the fact that the fire event continued at the same time as the smoke event, led to some **role confusion and mixed messaging**. Roles were blurred rather than distinct. One of the most obvious manifestations of this role confusion was the breakdown in communication which occurred during the smoke event, and lead to older residents

reporting having less trust in the emergency response and in the people and organisations at the centre of that response.

1.4   The impact of communication during the event on older people

It was clear from the findings of the Hazelwood Mine Fire Inquiry (convened in 2014 and again in 2015/16) and from the feedback of older residents that there were **challenges engaging with older people and the broader community**. Communication was not well coordinated, at points it appeared contradictory, older community members in particular found it hard to comprehend, and many older people not in residential care or not receiving services, felt disengaged and ignored.

Macnamara (2015) described the Hazelwood event as a 'crisis of communication' and argued that there was confusion between provision of information and real communication and that there was a lack of empathy with the community.

One policy issue which became apparent in the response to the Hazelwood mine fire was **when and how to target older people in the response, including which groups to target**. The focus during the event on older people appeared to be targeted on those people in residential care settings and on those in receipt of services – the perceived most vulnerable and entirely appropriate. Our review of the literature made it clear that it is important to consider the needs of other older people living in the community who may be more at risk than more frail older people who receive regular support and therefore are being monitored. This was backed up in a number of our discussions where older people reported suffering from physical health symptoms or being unable to access supports to get respite from the smoke or to clean their properties. How to access the broader group of older people living in the community was highlighted in the literature as being very challenging. Instead of trying to identify lists of people to be individually targeted, a more successful approach could be to increase engagement activities with the different sectors of the community, including older residents

In addition to engaging the community in a two-way conversation the **messages being shared with older people and the broader community should be appropriate and do-able**. While the Victorian Department of Health (DH) was advising residents to seek respite away from the smoke, including the later message for 'at risk' groups to temporarily relocate, it was apparent from our discussions that the capacity to relocate was closely associated with a number of other factors including access to alternative accommodation, social networks, transport, and sufficient funds.

In summary, it was apparent from this review that the voices of older people - especially those normally robust people not receiving health and community services - were paid little attention during the Hazelwood smoke event. While service providers, with the support of the DH and other agencies, worked hard to ensure that older clients were well supported, there was little thought given to the needs of older people living independently in the community. Poor engagement with the community and with sections like the older cohort, which focused on provision of information through data sheets and alerts rather than two-way engagement, led to confusion and mixed messaging. This undermined the trust placed on them by older residents and the broader community, making it hard for residents to see how much good work was actually being done on their behalf.

The ostensible mismatch between existing policies and the extended and dynamic nature of the Hazelwood smoke event, which prompted the development of policy on the run, was a matter of considerable concern for the community and further eroded the trust of the community in the DH and other agencies.

All the agencies worked hard to support older people during the event, and there are clear examples of going above and beyond expectations. However, we believe that there is considerable work which could be done to improve coordination between levels of government and response agencies and to build engagement and collaboration with older people and the broader community.

While all the concerns arising from this research should be considered in policy and planning for older people in disaster events, in the final section of this report we put the spotlight on **communications and engagement**. The recurring issue arising throughout the research process, culminating in the September 2016 verification workshop with key community and organisational contacts, was the requirement to listen to and include the voices of older people in both preparing disaster event policy and programs and responding to future disaster events.

In the wake of recent disasters, there has been a strong call for qualitative research to explore the insights of older people impacted by disaster events to better understand and to learn from their experience. This study has demonstrated how powerful qualitative research methodologies are and the richness of the data collected.

While we are confident that this report provides valuable insights that will inform future policy development, the Hazelwood Health Study's *Impact on Older People Study Stream* team would be pleased to facilitate a Masterclass for Department of Health and Human Services (DHHS) policy-developers and decision-makers (regionally and centrally based) on this policy review of the impact of the Hazelwood mine fire on older people.

2   Introduction

2.1   Aims and objectives

The aim of this component of the Hazelwood Health Study (HSS) was to assess the impact of the smoke event on older people, focusing particularly on a review of the policy decisions made with respect to older people during the event and community response to these decisions. The objective of this work is to inform best practice for future emergency events.

2.2   Background

Older people are often neglected during emergency events and yet they may be more susceptible as a result of multiple factors including mobility limitations, chronic health conditions, and social isolation. Hurricane Katrina in the US is a telling example of the increased vulnerability of older people, with 71% of those who died in Louisiana aged 60 years or more and almost half of these aged over 77 years (McCann, 2011). Closer to home, the greatest number of deaths and emergency department presentations associated with the 2009 heatwave in Victoria were in people aged 75 years and over (Victorian Chief Health Officer, 2009). Older people are not without resources and resilience, but to stay safe they need well informed plans and targeted resources (Carroll & Loughnan, 2014; Loughnan & Carroll, 2015).

The vulnerability of older people to the smoke event was raised as a key issue in the community consultation sessions in Morwell in May 2014 (Victorian Chief Health Officer, 2014). The HHS is providing a number of ways to respond to this concern, including an analysis of the health and wellbeing impacts (part of the Adult Survey) with follow up in primary analyses of cardiovascular, respiratory, psychological and other outcomes components of the study. This policy review of the impact of the Hazelwood mine fire on older people sought input from older residents, the service providers who supported them during the smoke event, and local and metropolitan decision-makers responsible for translating policy that impacted older people's experiences during and following the smoke event. We hope that this will provide valuable insights into the policy responses made during the smoke event and the learnings from older people, many of who will have had to cope with other traumatic events and so may have insights which can inform policy and practice should similar events occur in the future.

2.3   Key terms

While there are numerous publications which identify older people as being beyond a certain age cut-off, e.g. the World Health Organization (WHO) which generally uses 60 years and older (WHO, 2012), there is no universally accepted cut-off with these age limits primarily used for the purposes of statistical reporting and service eligibility. Given that the current research is assessing the experience of older people, we thought it inappropriate to invoke an arbitrary age limit, and instead involve people who identified themselves as being older.

We made use of a number of other key terms within this review report which are defined below:

- *Robust older people* are older people living in the community who maintain vigour in their later years. They may have health challenges but they fend for themselves (McCann, 2011).

- *Frail older people* are older people living in the community who are frail, are physically and/or cognitively impaired and are unable to comprehend warnings and directions and/or respond in an emergency situation.

- *Service providers* are individuals within an organisation that could be government or non-government that provides first level contact to individuals in the community and has responsibilities for the provision of care and support as well as for coordination and referral.

- *Decision makers* are the people and institutions arranged together in accordance with established policies, to improve the health of the population they serve, while responding to people's legitimate expectations and protecting them against the cost of ill-health through a variety of activities whose primary intent is to improve health (Based of the WHO's definition of Health Systems, WHO, 2016).

Following the Victorian State Election in November 2014, the Department of Health and the Department of Human Services were merged to become the Department of Health and Human Services (DHHS). As the Department of Health was in place during the mine fire period the majority of references in the report are to that department rather than the new entity (unless the reference is to a recent matter such as an updated policy).

2.4 Methodology

This research stream employed qualitative research methodology and involved focus group discussions with key groups in the local community as well as targeted interviews with service providers who were engaged in supporting older people during and following the mine fire event and the decision-makers involved in overseeing the response.

2.4.1 Ethical approval

Approval to conduct this research was provided by the Monash Human Research Ethics Committee (MUHREC) in March 2015 (project number CF15/329 – 2015000158). MUHREC reviews all research involving humans at Monash University to ensure that it is compliant with the 2007 National Statement on Ethical Conduct in Human Research (National Health and Medical Research Council, 2015).

2.4.2 Focus groups with community members

Seven targeted focus group discussions were scheduled in 2015 and advertised in the local media and via flyers sent to key community groups and on display at key locations. This included three sessions for older people, two for families and carers of older people, and two for Home and Community Care (HACC) service users. It was originally planned that all sessions would take place at the Morwell Senior Citizens Centre in the south of Morwell, however it was clear by the third session that recruiting participants was challenging. The decision was subsequently made to run sessions through an alternative location at the Morwell Neighbourhood House, providing a possible catchment site in the north east of Morwell and access to the networks of the Neighbourhood House. While there was some initial success, it again proved difficult to recruit people to the advertised sessions. The focus groups in 2015 yielded a total of 14 participants.

It was apparent that recruiting via open community-based sessions, at times and locations determined by us, was not effective. During this time, we were invited to speak with members of an

older ethnic community group where over 20 older residents participated in a focus group discussion. This highlighted the potential to recruit via existing community groups by asking them to host focus group discussions at their regular meetings and venues. This strategy maximised the chances of accessing participants and reduced the effort required by participants as they were already attending a meeting. An amendment to change the recruitment approach to existing community groups was submitted to, and approved by MUHREC in January 2016.

The revised strategy aimed to identify at least five community groups involving a broad range of participants from across Morwell. We were able to reach this target quite rapidly after approaching a total of seven groups. While two groups declined the request, the other five groups were keen to be involved.

In addition to targeting community groups, the researchers have also spoken with residents at a residential aged care facility in the southern part of Morwell which was evacuated during the smoke event. While the initial intention was to conduct a focus group, the feedback from the Centre Manager/Director of Nursing was that the mobility and hearing limitations of many of the eligible residents meant that a group discussion would be challenging so the decision was made to conduct the session as a series of individual interviews – with a total of 6 interviews completed.

2.4.3   Completeness of the community-based sample

While we were able to involve a large number of older residents in the study focus groups and individual interviews, we were unable to engage with the families and carers of older people, as they are not an easily accessible group. As an alternative, we were able to conduct a focus group discussion with a group of 8 older volunteers who regularly provided support to older community dwelling residents. This group of participants is included with the service provider discussion in the next section. However, these older volunteers also reflected on their personal experiences during the event and these comments were included in the community-based analysis.

We had originally intended to speak with a group of older people receiving Home and Community Care (HACC) services: however, even with the support of service providers we were unable to engage with this cohort. However, we are confident that the discussions held with the general community dwelling older people, including some who were in receipt of HACC services, as well as with residents in an aged care facility, covered a sufficiently diverse range to broadly represent the views of older people.

The combined total of 83 participants, plus the comments from the 8 older volunteers, resulted in a very rich and extensive data set from 91 participants in total, providing excellent coverage across the older community and more than sufficient for us to reach data saturation – the point at which new information is not forthcoming from further interviews.

2.4.4   Interviews with service providers and decision-makers

The second phase involved conducting interviews with service providers and decision makers from agencies and organisations that support older people. In the first instance, an invitation was sent to the Chief Executive Officer (CEO) or a similarly senior executive in the organisation requesting their involvement in the interviews and, if relevant, the involvement of other personnel more directly involved in providing services to older people in a separate interview session. The organisations approached were those most involved in providing support to older people during the smoke event

(i.e. from government and non-government health and community sectors). In order to protect the privacy of individuals, the details of specific organisations are not provided. This resulted in us interviewing 10 people from 7 different service provider agencies, as well as the focus group with the 8 community volunteers (Refer to section 2.4.2).

Seven interviews were held with senior personnel at the local and state level involved in overseeing responses in relation to older people during the Hazelwood mine fire event – the decision-makers.

A summary of the completed focus groups (or interviews) with older people and interviews with service providers and decision-makers and associated numbers of participants is shown in Table 1.

Table 1 - Numbers of participants

Focus group / Interview type	Number of participants
Focus Groups offered at Morwell Senior Citizens Centre on four dates in 2015, participation by advertisement	9
Focus Groups offered at Morwell Neighbourhood House on three dates in 2015, participation by advertisement	5
Older ethnic community group	20
Focus groups run via existing community groups targeting older people	43
Residential aged care facility (individual interviews, not focus group)	6
Focus group with volunteers (mainly older people)	8
Sub-total (older people)	*91*
Interviews with service providers	10
Interviews with decision makers	7
Combined total of participants	**108**

2.4.5   Analytic approach

The qualitative data from the community focus groups were transcribed and imported into the QSR Nvivo Version 10 for thematic analysis (QSR International, 2014). A systematic thematic analysis of the text was undertaken to identify recurring concepts which were organised into themes and sub-themes, as documented by Krueger (2009). The themes from the community focus groups informed the final question schedules for the interviews with key service providers and decision-makers. A systematic thematic analysis of the interviews was then completed and merged with the data from the earlier focus groups.

Key issues emerging from the research literature and the policy context, along with the chronology of key activities during the event, provided the framework for interpretation of the thematic analysis of the qualitative data. A summary was produced, combining the qualitative results with our analyses of the relevant literature and various government policies and plans. These findings were verified and extended through further discussion with key community and organisational contacts at a workshop in September 2016. Subsequently, this report and the accompanying policy brief were finalised.

3   Literature review: older people and disasters

3.1   Overview

A review of the literature on older people and disasters was undertaken to provide context to the investigations taking place as part of this policy review.

This literature review:

- provides a brief overview of the Hazelwood mine fire
- defines key terms including **disaster** and **vulnerability**
- provides the broader context relating to older people and disasters including an increasing frequency of disaster events and population ageing, the demography of ageing, the disproportionate impact of disasters on older people, the evacuation debate, vulnerable older people, and robust older people
- examines emergency response information in relation to older people and disasters including factors influencing responses to information, how to target older people in emergency communications, and responsibility for meeting the needs of older people
- explores the role that older people play in disasters to build community resilience
- draws attention to research and qualitative research methodology to better understand older people and disasters.

Our review of the literature on older people and disasters demonstrates the need for research that examines the impacts of disasters on older people and explores their experiences. The consensus is that it is important to be aware of all the vulnerabilities and how they play out together with messaging to focus on people with chronic conditions, mobility limitations and limited social networks rather than targeting older people as a group. Research findings will inform future policy and practice to support older people.

3.2   Older people and the Hazelwood event

Initially, we provide a brief overview of the Hazelwood mine fire, a significant fire in the Morwell open cut brown coal mine which started on 9 February 2014 and burnt for a period of 45 days until being declared safe on 25 March 2014 (Teague, Catford, & Petering, 2014). The fire started as a result of spotting into the mine from other bushfires in the Hernes Oak and Driffield areas which started on 7 and 9 February respectively. The township of Morwell is in close proximity to the coal mine, with the southern edge of the town approximately 200-300 metres from the fire (Fisher, Torre, & Marshall, 2015). While there was initial concern about the fire directly impacting upon Morwell, the focus of concerns quickly shifted to the health impacts of exposure to the smoke and other toxins associated with the fire event (Fisher et al., 2015; Macnamara, 2015).

The smoke event was recognised as one of the most significant air quality incidents in Victorian history, with the concentration of smoke contaminants reaching high levels (Fisher et al., 2015). Most concerning were the levels of particulate matter with an aerodynamic diameter of 2.5 μm ($PM_{2.5}$) which are able to penetrate deeply into the lungs and are thought to have the greatest impact on health (Melody & Johnston, 2015). $PM_{2.5}$ levels were found to have reached concentrations of 800 mg/m^3, or 32 times the national reporting standard, with the southern part of Morwell exceeding reporting standards on 21 days out of the 45 day period (Fisher et al., 2015). The

area was also exposed to high concentrations of carbon monoxide in the early period of the event. In contrast, with the exception of benzene, there were no other contaminants which approached peak 24-hour concentration levels (Fisher et al., 2015).

There was considerable concern raised within the Morwell community and the broader Latrobe Valley regarding the health impacts of the smoke, resulting in the establishment of multiple community advocacy groups and extensive use of social media which is in line with community responses during previous disaster events (Kulemeka, Sheehan, Thwaites, York, & Lee, 2014; Luft, 2009; Macnamara, 2015; Wood et al., 2015). The health concerns raised by community members included current physical symptoms such as coughing, sore eyes, nausea etc, psychological impacts as well as concern about long term impacts including cancers (Teague, McLeod, & Pascoe, 2010; Wood et al., 2015). Concerns regarding the specific impacts of the smoke event on older people were raised by community members and by health officials, with multiple health alerts during the event referring to 'at risk' groups including those aged over 65 years (Teague et al., 2014). Part of this concern was based upon the fact that Morwell has a higher proportion of older people, particularly in the southern part closest to the mine (Teague et al., 2014). One of the significant events during the 45 day smoke period and the subject of considerable local community interest was the relocation of a Morwell residential aged care facility, with the elderly residents shifted to other facilities in Drouin and Traralgon (Nelson, 2014b; Teague et al., 2014).

The community concerns about the current and long term health effects resulted in the circulation of a petition for a health study which received over 21,000 signatures (Wood et al., 2015). In response to these concerns, the then state Department of Health convened a series of community consultations in Morwell in May 2014 to better understand the concerns of the community. The health issues raised at these consultative meetings, including fears about impacts on older people, formed the basis for the key research questions which the Hazelwood Health Study was subsequently established to address. In parallel, the state government also convened an independent inquiry (the Hazelwood Mine Fire Inquiry – HMFI) to look at the origins of the fire, preparedness and response, and the health impacts (Teague et al., 2010).

During and following the extensive public submission period for the 2014 HMFI, community members continued to express concerns regarding the health impacts. A local community advocacy group established in response to the mine fire, Voices of the Valley, contracted an independent researcher to undertake a rapid analysis of mortality associated with the mine fire (Barnett, 2014) which found an 82% chance that deaths had increased as a result of the fire. A second analysis conducted on behalf of the DH, also reported additional deaths during the fire period but the wide confidence intervals meant that these authors were unable to confidently attribute this to the smoke event (Flander & English, 2014). These results, along with the ongoing concerns being raised by members of the community led to the reopening of the Hazelwood Mine Fire Inquiry in 2015 to look at a number of matters including whether there was an increase in death rates and how to improve the health of the Latrobe Valley communities (Teague, Catford, & Roper, 2015).

3.3   Definitions of disaster and vulnerability

Before moving on to consider the broader literature regarding older people and disaster events, we needed to define key terms, starting with a definition of **disaster**. While there is no widely accepted definition, most focus on an event which causes a significant disruption to the community, in line with the definition provided by the United Nations Office for Disaster Risk Reduction (UNISDR) website (https://www.unisdr.org/we/inform/terminology):

> A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources (UNISDR, 2007b).

While the Hazelwood event did not have the same level of physical impacts in terms of loss of lives and property seen in other disasters such as bushfires, floods and storms, it was clearly an event which disrupted the community to a significant extent and was beyond the capacity of the community and support agencies to cope – so it is appropriate to consider it as a disaster event.

Donner and Rodríguez (2008) argued that the focus on community-wide impacts in the above definition is simplistic because it fails to recognise the diversity of individuals and that some groups may struggle to cope during normal situations, let alone during a disaster event. Central to this discussion of individual and group factors is the related concept of **vulnerability**, which the UNISDR (2007b) defines as "the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard". These characteristics include age, socioeconomic status, race, gender and educational level. Phillips and Morrow (2007) noted that social science research on vulnerable populations has been slow in identifying these factors and has tended to focus on a single factor rather than recognising that people experience vulnerability through overlapping dynamics. As a result, disasters should not be seen as being indiscriminate or random, as they can have a greater impact on sick, disabled and poorer people and communities (Boon, 2014; Hemingway & Priestley, 2014).

3.4   The broader context

3.4.1   Increasing disaster frequency and population ageing

It is important to recognise that the frequency of disaster events is increasing, with data from the EM-DAT International Disaster Database showing a clear increase in climate-related disasters over the past 60 years (Leaning & Guha-Sapir, 2013). The most recent assessment report from the Intergovernmental Panel on Climate Change (IPCC) predicted that Australia will face more frequent and/or severe bushfires, droughts, cyclones and floods in the future (IPCC, 2013). There is growing recognition of the health implications of global climate change within the field of public health (Costello et al., 2009). Particular attention needs to be paid to the impact of climate change on the health and wellbeing of vulnerable groups including older people (Loughnan & Carroll, 2015).

Parallel with an increasing number of disaster events is a major demographic shift taking place as a result of population ageing, driven by decreasing fertility rates and increasing life expectancy. According to the WHO, the number of people aged 65 years or older is expected to almost treble from 524 million in 2010 to almost 1.5 Billion in 2050, with the largest increases in developing countries (Suzman & Beard, 2011). Within Australia, the population aged over 65 years is projected to show a similar trend, rising from 3.2 million in 2012 to up to 11.1 million by 2061 (ABS, 2013b).

Grouping all Australians aged 65 years and older is challenging, spanning an age range of up to 40 years and including people from very different health, family, economic and social circumstances. The Australian Bureau of Statistics (ABS) provides the following snapshot of the average health and wellbeing of older Australians, drawing on the 2012 Survey of Disability, Ageing and Carers:

- 90% of older Australians were living in private community dwellings with only 5.5% in cared-accommodation
- 53% reported having a disability with 23% requiring assistance with personal activities;
- 87% reported having a long-term health condition (arthritis, hypertension, and back complaints being the most frequent)
- 65% listed a government pension as their main source of income with those with a disability three times less likely to earn a wage or salary
- of those able to access public transport, 39% found it difficult to do so because of mobility issues (ABS, 2013a).

The likelihood of older people living alone also increases with age, peaking at 35% in people aged 85-89 years, as a result of divorce (9.8%), separation (2.4%), and widowhood (26%) (ABS, 2011). The increased likelihood of older people living alone leaves them at greater risk of becoming socially isolated, particularly after the loss of a spouse (Warburton & Lui, 2007). This is often combined with lower socioeconomic status and living in small and substandard housing, all of which are known to increase vulnerability to disaster events (Kinney, O'Neill, Bell, & Schwartz, 2008).

3.4.2   Disproportionate impact of disasters on older people

Until recently, there was little awareness of the disproportionate impact of disasters on older people. This has changed as a result of major events in the last two decades: 1995 Kobe earthquake where 50% of casualties were older, subsequently accounting for 90% of deaths; 2003 Paris heatwave where 70% of the 14,800 deaths were people aged over 70 years; 2004 Aceh tsunami where those over 60 had the highest mortality rates (32.6% in people aged 70 and older), and; 2005 Hurricane Katrina where 71% of deaths in Louisiana were people older than 60 years (Hutton, 2008; McCann, 2011; Rofi, Doocy, & Robinson, 2006; Tuohy, Stephens, & Johnston, 2014b).

The same pattern has been repeated in Australia, with the greatest number of deaths and emergency department presentations associated with the 2009 Victorian heatwave being in people aged 75 years and over (Victorian Chief Health Officer, 2009). The Black Saturday bushfire event which occurred in Victoria shortly afterwards also had a higher toll on older people, with more than half of the deaths being in children younger than 12 or adults older than 70 years (Teague et al., 2010). The 2011 floods in Queensland resulted in 33 deaths with half these in the Lockyer Valley, most of whom were over 50 years of age, with the Commission of Inquiry noting that a number had known mobility limitations (Holmes, O'Sullivan, & Cummins, 2012).

There is also evidence that older people are more vulnerable to the impacts of smoke exposure than the general population. In a study of exposure to particulate matter during the 2003 wildfires in Southern California, it was found that the strongest associations between $PM_{2.5}$ increases and hospitalisation were in people over 65 years of age, with a 10.1% increase in admissions (Delfino et al., 2008). While there is evidence of age-related differences in smoke impacts from bushfires, there is very little published research regarding the impacts of smoke from coal mine fires, with a recent review by Melody and Johnston (2015) having to draw upon existing evidence from related

exposures to indoor domestic coal fires as well as forest fires to estimate the likely impacts of coal mine fires, concluding that there is likely to be an association with increased mortality and morbidity. The authors did not specifically consider the likely impacts on older people, however, given the higher impacts seen with bushfire smoke it seems likely that older people would be more susceptible to coal mine fire smoke.

There are multiple and overlapping reasons for older people being more prone to the impacts of different types of disasters. Around 80% have at least one chronic condition which impairs their ability to respond during a disaster event (Aldrich & Benson, 2008). Smith, Tremethick, Johnson, and Gorski (2009) highlighted the following characteristics of frail older people that can increase their susceptibility to disasters:

- declining health and increased chronic diseases
- limitations in vision, hearing and mobility
- limited access to healthcare resources
- low economic status due to fixed incomes
- limited social networks (Smith et al., 2009, p. 4).

3.4.3 Frail older people – the evacuation debate

The compounding effect of these physical, cognitive, economic and social challenges means that frail older people are likely to having difficulty coping with everyday demands, let alone during a disaster situation (Fernandez, Byard, Lin, Benson, & Barbera, 2002; Pekovic, Seff, & Rothman, 2007).

Much of the attention during and following disaster events is placed on the support provided to frail older people in receipt of services, particularly those in residential aged care settings (Benson & Aldrich, 2007; Elmore & Brown, 2007). McCann (2011) noted that one of the most challenging decisions for the administrators of residential care facilities is whether or not to evacuate, as the risk of being impacted by the event needs to be weighed against the risk associated with transferring people with complex care needs. Evacuation of elderly residents is challenging for a number of reasons, including:

- risk of being exposed to disaster impacts during the transportation process
- more acute health needs of residents compared to the past, meaning that residents are more likely to have significant functional limitations and care needs
- a 2-3 fold increase in falls in the three months following the evacuation
- disruption to sleeping and eating patterns
- challenges in accessing medications (Benson & Aldrich, 2007; McCann, 2011).

The challenges associated with evacuating older people from residential care settings were highlighted during Hurricane Katrina, where 34 residents died in the St Rita's Nursing Home in Louisiana which had opted to shelter in place (Smith et al., 2009). In response to negative publicity regarding these and other nursing home deaths during Hurricane Katrina, there has been an increase in the perceived 'external pressure' to evacuate during future events, which was subsequently ratified by a change in public policy in the United States to mandate evacuation of all 'at risk' facilities in future storm events (Dosa et al., 2012).

While the deaths at St Rita are a stark example of the dangers of not evacuating, there are similarly powerful examples of the risks associated with evacuating during the Katrina event, including an incident where 23 nursing home evacuees were killed in a bus fire while in transit to a new location (Benson & Aldrich, 2007). These contradictory outcomes have led to a considerable body of research by Dosa and colleagues comparing outcomes associated with nursing homes which evacuate during storm events and those which do not. This work started with a study which interviewed administrators from 20 nursing homes that were impacted by Hurricanes Katrina and Rita, comparing outcomes for those that did and did not evacuate (Dosa, Grossman, Wetle, & Mor, 2007). The study found that that evacuation was associated with worse outcomes in terms of morbidity and mortality as well as greater organisational impacts. While it seems likely that there is selection bias involved in this study, with 9 heavily impacted facilities having not reopened by the time of the research and a further 21 facilities declining to participate, it does shed light on the challenges associated with the decision whether or not to evacuate. The study design was replicated following Hurricane Gustav in 2008, and it was found that a much higher proportion of homes were evacuated (in line with the new 'at risk' evacuation policy) and that administrators felt more confident in their emergency responses, but that the evacuations were still associated with an increase in morbidity (Blanchard & Dosa, 2009).

Hurricane Gustav provides a useful example because when the storm front finally made landfall it was away from the predicted area so the evacuated facilities were never impacted by the storm event. An analysis of health outcomes following this evacuation found a 218% increase in deaths for nursing home residents with cognitive impairments, supporting the argument that evacuating frail older people is fraught with risk (Brown et al., 2012). This assessment has been backed up by an analysis of hospital admissions following four hurricane events including Katrina and Gustav, which found an increase in deaths and hospitalisations as a result of evacuation (Dosa et al., 2012), leading the authors to argue against the policy of mandatory evacuations.

Closer to home, the Black Saturday bushfires provided another example of the challenges associated with deciding whether or not to evacuate a residential aged care facility. The Hillview facility in Bunyip in Gippsland was evacuated on 7 February 2009 upon advice that the facility was in the predicted fire impact zone. Hillview had 48 residents, including a 15-bed dementia unit, with 70% of residents classified as having high care needs. The residents were evacuated to a hospital 25km away where they were accommodated overnight before returning to the facility the following day after the fire had passed without impacting the facility. Subsequently, the deaths of four very frail residents were attributed to the "disruption and shock of evacuation. For example, one of our residents simply stopped eating as a result of the trauma" (Teague et al., 2010, p. 62). While the decision was based on the best available evidence and the evacuation was conducted on the basis of considerable planning, it clearly highlights the challenges associated with evacuating very frail older people.

3.4.4   Vulnerable older people – the VPE Register

While it is relatively easy to identify older people in residential care settings or receiving community care services, identifying older people living independently in the community is more challenging. Elmore and Brown (2007) made reference to a survey conducted by the American Association of Retired People (AARP) which surveyed 13 million older Americans and found that many of them

would require assistance with evacuation and would need additional assistance following an evacuation. Similarly, Kailes (2005) noted that terms like 'special needs' are commonly used in discussions relating to disaster preparedness but could conceivably cover 50% of the population, making the term rather meaningless.

The challenges of identifying vulnerable people are exemplified in the development of the Vulnerable People in Emergencies (VPE) Register in Victoria, which was one of the recommendations from the 2009 Victorian Bushfires Royal Commission (hereafter identified as the Bushfires Commission) (Teague et al., 2010), with the initial focus on people older than 70, younger than 12, and/or suffering from an acute or chronic debility. Garlick (2015) critiqued the development of the VPE policy in Victoria, noting that the above definition from the Bushfires Commission results in over one million Victorians being targeted. Garlick noted the need to reduce the scope, leading the policy makers to exclude the young and those currently in care as they can expect to have existing support mechanisms, and to exclude people living in metropolitan Victoria as being less prone to bushfires. In addition, Garlick noted that by placing the responsibility for the VPE within the Department of Health and Human Services, the policy is effectively limited to those people already targeted by DHHS programs and agencies. As a result, the VPE register is unable to access many older people not connected with existing programs.

An informative case study on the VPE was recently presented at the International Federation on Ageing conference by the Director of Emergency Management within the Victorian DHHS (Diaz, 2016). 'Anna' was described as an older person from a non-English speaking background who was suffering from a sore throat and disorientation, and turned up at the local relief centre looking for support. Anna was subsequently assessed, placed on the VPE, provided with respite away from the smoke, and ongoing support through community care programs. This clearly raises the question of what happens to older people in need who don't report to health centres, including those with limited mobility or access to transport?

3.4.5   Robust older people

Having said that it is difficult to identify specific vulnerable groups other than those conveniently located in aged care facilities or receiving community-based services, there remains a need to recognise that healthy older people may require additional support during an emergency event. There is now a considerable body of literature attesting to older people living in the community having been overlooked as part of disaster planning, response and recovery (Caruson & MacManus, 2008; Deeny, Vitale, Spelman, & Duggan, 2010; Tuohy et al., 2014b). In fact, it has been argued that community dwelling older people who are not in receipt of regular services may be more at risk than those living in residential care facilities because there is no agency and often nobody looking after them (Tuohy & Stephens, 2011).

A useful distinction here is between frail and robust older people, with McCann (2011) drawing upon the earlier work of Gillick, to define robust older people as people who, while possibly having some health challenges, are able to fend for themselves during 'normal' times. Robust older people are likely to be forgotten during disaster events, with them considered as part of the general community rather than being specifically targeted. However, during and following an emergency event these previously robust people may struggle to cope as they may develop special needs (medical, psychological and care needs) that did not exist prior to the event, or existing conditions including

mobility limitations may place them at greater risk (Pekovic et al., 2007). For example, Benson and Aldrich (2007) noted the challenges faced by people with diabetes following Hurricanes Katrina and Rita who were unable to access medications and technologies required to function independently.

3.5 Emergency response information

3.5.1 Factors influencing responses to information

In addition to considering the health and support needs of older people during and following a disaster event, we considered what other factors may influence how they respond. In a position paper for the American Association for Geriatric Psychiatry, the high frequency of older people living alone was noted, with the absence of family and other supports considered to be one of the most critical risk factors for adverse outcomes following an event (Sakauye et al., 2009). The same review identified a number of other barriers to older people accessing disaster support:

- stigma associated with receiving aid
- concern about loss of other entitlements
- self-reliance associated with the great depression causing some older adults to feel that others need the assistance more than they do
- difficulty navigating complicated bureaucratic systems
- being accustomed to having a spouse who took care of these things for them
- lack of familiarity with online applications or personal computers
- low reading skills or language barriers (Sakauye et al., 2009, p. 918).

Other factors which can impact on the capacity of older people to be aware of and respond to disaster-related information include health literacy which is the capacity to access, understand and utilise health information, and has been found to be lower in older people (Brown, Haun, & Peterson, 2014). Older people are also more likely to have decreased sensory awareness (hearing, vision etc.) (Neuhauser et al., 2013; Pekovic et al., 2007; Smith et al., 2009) limiting their capacity to receive messages. Access to transport (including capacity to use public transport) has also been raised as a common concern (Benson & Aldrich, 2007; Duggan, Deeny, Spelman, & Vitale, 2010; Hemingway & Priestley, 2014). Often not considered is access to appropriate nutrition, which may need to be tailored to fit specific care needs (Aldrich & Benson, 2008). Pet ownership can also present barriers for older people, either because they are unwilling to evacuate without their pets or unable to take them to relief shelters (Rosenkoetter, Covan, Cobb, Bunting, & Weinrich, 2007; Westcott, 2015). Socioeconomic status can play a critical role in determining how and when people respond to disaster events, with one assessment of the impacts of Hurricane Katrina noting that some older people had been reticent to evacuate because they were waiting on their next scheduled social security and other payments (Jenkins, Laska, & Williamson, 2007). Finally, mistrust of government including emergency advice has come up as an issue in a number of studies in both developing countries and in the United States following Hurricane Katrina (Donner & Rodríguez, 2008; Duggan et al., 2010; Rosenkoetter et al., 2007).

These factors can reduce the capacity of older people to access, understand and respond to disaster messaging. A recent review of communications during the Hazelwood event highlighted a number of these issues and described the event as a crisis of communications, citing a number of other failings including confusing the provision of information with communication, inappropriate messaging

which had too much detail, came too late, and via the wrong formats, and lack of cultural sensitivity or empathy for the affected community (Macnamara, 2015). Recommendations made on how to improve communications include tailoring the messages for lower literacy levels and directly involving older people in the development and delivery of the messaging as well as piloting the communications and evaluating the outcomes (Boon, 2014; Brown et al., 2014). Interestingly, one of the major communicators during the Hazelwood event, Environment Protection Authority Victoria, has accepted feedback that their information was confusing and is actively working to build connections with the community, including their Citizen Science program (Fisher et al., 2015).

3.5.2 How to target older people in emergency communications

While there is a need to consider the interlocking factors that impact on older people's capacity to respond to a disaster event, it is important not to characterise older people as being vulnerable as a group in emergency communications as this may disenfranchise them and reduce their likelihood of attending to important messages (Duggan et al., 2010). This was highlighted in the Hazelwood Mine Fire Inquiry where the commissioners noted that the health alerts targeting people aged 65 years and older were somewhat arbitrary:

> Age alone does not make a person vulnerable to ill health. There is no doubt that many healthy people aged over 65 in Morwell are no more vulnerable than the general population to smoke and ash from the Hazelwood mine fire, and that people under 65 years of age may be more vulnerable than their age suggests (Teague et al., 2010, p. 312).

This tension between being aware of the greater susceptibility of many older people while not characterising them as vulnerable was a consistent thread across numerous presentations at the International Federation on Ageing conference in Brisbane in June 2016 which the research stream leads attended. The conference featured researchers talking about the experiences of older people following the Queensland floods, Christchurch earthquake, Hurricane Katrina, and the Asian Tsunami. The consensus from these presentations and from the research literature is that it is important to be aware of all the vulnerabilities and how they play out together with messaging to focus on people with chronic conditions, mobility limitations and limited social networks rather than targeting older people as a group (see for example Deeny et al., 2010).

3.5.3 Responsibility for meeting the needs of older people

One of the reasons that community dwelling older people have been less visible to those responsible for planning for and responding to emergencies is the expectation that individuals living in the community should take personal responsibility for preparing for an emergency situation and responding appropriately during an event (Tuohy & Stephens, 2011). This is referred to in the United Nations Sendai Framework for Disaster Risk Reduction (UNISDR) as "responsible citizenship" (UNISDR, 2015, p. 16). Interestingly, it has been argued that there has been a shift in the opposite direction in Australia as a result of the recommendations arising from the Black Saturday Royal Commission. According to McLennan and Handmer (2012), the Royal Commission reframed responsibility-sharing away from an emphasis on the self-reliance of at risk communities towards a greater degree of responsibility for government emergency management agencies, particularly when fire conditions are extreme and where vulnerable people are at risk. While they understand the factors which lead to this shift towards shared responsibility with a greater focus on

government, the authors remained concerned regarding how this collective responsibility should be managed.

3.6   Building community resilience

While there are different viewpoints of individual versus collective responsibility, we recognised the roles that older people play within the community in terms of building community resilience and in preparing for and responding to disasters. The building response to climate change initiative provides important examples of how older people have already been involved building awareness and developing responses to a major issue that is impacting the global community. The Green Seniors initiative has been established in the United States and the European Union (see http://www.greenseniors.org/ and http://www.greenseniors.eu/who-we-are/ respectively). In Australia, the Victorian Council for the Ageing (COTA Victoria, 2014) has established the Green Sages initiative which aims to empower older people to take action on environmental sustainability issues; develop education and training programs to build knowledge within the seniors community and enable seniors to play a lead role on these issues in their local communities.

The fact that older people have had a longer life and are able to draw upon their previous experiences, including previous disaster events, supports the argument for involving them in disaster preparedness and response (Deeny et al., 2010; Hutton, 2008). Research suggests that older people may be better able to cope with disasters as a result of their previous experiences. Known as the 'Inoculation Hypothesis' (Adams, Kaufman, Van Hattum, & Moody, 2011; Cornell, 2015), this theory suggests that older people may draw upon emotional reserves as well as knowledge of strategies used successfully in the past. In a multi-year study of the impacts of Hurricane Katrina, Adams et al. (2011) found that older people who had survived the disaster were more positive in how they described themselves and more resilient than younger cohorts. They were able to take a long-range view, drawing on their experiences of 'tougher times'. In contrast, middle aged participants in the study reported high levels of stress and the feeling that they might 'break' under the pressure.

3.7   Research and qualitative research methodology

While there is an emerging body of research which explores the perceptions of older people impacted by disaster events, there has been a strong call for more research to be undertaken, highlighting the capacity of qualitative research to better understand and learn from their experiences (Tuohy et al., 2014b). Tuohy and colleagues argued that using qualitative research methodologies to explore the experiences of older people and make them more visible. In a related article by the same authors (Tuohy, Stephens, & Johnston, 2014a), they explored the disaster preparedness of older people in the context of the Canterbury earthquakes in New Zealand which impacted Christchurch and the surrounding region between 2010 and 2012. The findings highlighted some of the challenges for older people in complying with emergency advice including the 'Drop, Cover, Hold' message which encouraged people to seek shelter under a table or the advice to exit the house during quake events – both of which proved challenging if not impossible for older people with mobility limitations. The participants talked about the importance of social networks, including informal neighbourhood networks which sprang up where residents worked as a team to clean each other's houses in turn. Another study exploring the preparedness of older people to heat extremes (Carroll & Loughnan, 2014) found that older people had a number of simple strategies that could be

adopted more broadly within the community, including building on existing community and support networks to monitor the health of residents during heat events.

On the other end of a disaster event, a recent Australian study has used qualitative methodologies to explore the experience of post-disaster interventions following the 2009 Victorian bushfires and 2010-11 Victorian floods (van Kessel, Gibbs, & MacDougall, 2015). This study, which had a strong contingent of older participants, combined interviews with people who experienced the floods coupled with an analysis of witness statements to the 2009 Bushfires Commission. The findings shed light on the importance of rebuilding community capacity following a disaster event, including the formation of community-based advocacy groups. The findings also shed light on the challenges in providing and accessing interventions in a reasonable timeframe and the complexities of communicating with and within communities, including the importance of face to face connections and the role of social media.

Our review of the literature on older people and disasters demonstrates that there is a clear need for research which examines the impacts of disasters on older people and explores their experiences in the lead up to, during and following the event. Research findings will inform future policy and practice to support older people wherever they live. They should also lay the groundwork for a more collaborative approach to community-based preparedness, response and recovery efforts when the voices of older people are included in the planning and implementation phases.

4 Policy framework for emergency management in Australia

4.1 Overview

The wider policy environment is broadly driven by international directives (UNISDR, 2007a, 2015) to reduce disaster losses of life and of the social, economic and environmental assets of communities – building disaster resilience for vulnerable communities.

In Australia, emergency management is primarily the domain of local and state governments. The Commonwealth Government provides funding support for specific emergency management purposes, but service delivery is the responsibility of state and local governments. Each jurisdiction has its own Emergency Act. At the time of the Hazelwood mine fire, the Emergency Management Act 1986 governed the management of emergency situations in Victoria. The new Emergency Management Act 2013 did not come into effect until 1 July 2014. All levels of government as well as the community sector, private sector and individuals play significant roles in taking action to prevent, respond to and recover from emergencies.

The Victorian Council of Social Service (VCOSS), in its recent, comprehensive report on social vulnerability in emergency management, provided an overview of the policy framework which we consulted while undertaking this review (VCOSS, 2014).

In this section we include our diagrammatic overview (Figure 1) of the key emergency management policies in Victoria at the time of the Hazelwood mine fire and how they intersect. The section concludes with a critical analysis of factors influencing policy in relation to older people in emergencies in Victoria.

We note that all government emergency management policies, procedures and plans are subject to regular, periodic and ongoing review.

4.2 Commonwealth government

In 2005, the Australian Government as one of 168 governments globally, adopted a 10 year plan – the Hyogo Framework for action (UNISDR, 2007a) as a global blueprint to make the world safer from natural hazards. It offered guiding principles, priorities for action and a practical means for achieving disaster resilience for vulnerable communities. The Sendai Framework for disaster risk reduction (2015 – 2030) is the successor instrument to the Hyogo Framework and has a strong emphasis on disaster risk management as opposed to disaster management (UNISDR, 2015).

In 2011 COAG released the *National Strategy for Disaster Resilience* (COAG, 2011). The purpose of the strategy is to provide high-level guidance on disaster management to federal, state, territory and local governments, business and community leaders and the not-for-profit sector. While the strategy focused on priority areas to build disaster resilient communities across Australia, it also recognised that disaster resilience is a shared responsibility for individuals, households, businesses and communities, as well as for governments. It recognised that Australian communities vary in composition and level of exposure to disaster risk.

The *Australian Emergency Management Handbook 2* is a comprehensive guide to community recovery (Australian Emergency Management Institute, 2011). It includes the need to understand pre-existing conditions in a community and the need to understand the needs of vulnerable groups.

National health emergency response arrangements 2011 (NATHEALTH) direct how the Australian health sector (incorporating state and territory health authorities and relevant Commonwealth Agencies) would work cooperatively and collaboratively to contribute to the response to, and recovery from, emergencies of national consequence (Australian Health Protection Committee, 2011).

In 2013 COAG's Standing Council of Police and Emergency Management approved the *National Strategy for Disaster Resilience Community Engagement Framework* to empower communities by connecting with the knowledge and expertise from community development work in order to build the capacity of the sector and demonstrate sound community engagement practice (Australian Emergency Management Institute, 2013).

4.3   Victorian government

At the time of the Hazelwood mine fire, the *Emergency Management Act 1986* (amended 1 July 2010) governed the management of emergency situations in Victoria (Parliament of Victoria, 1986). The new Emergency Management Act 2013 did not come into effect until 1 July 2014 (after the Hazelwood event) (Parliament of Victoria, 2013).

The objectives of this Act are to ensure that the following components of emergency management are organised within a structure which facilitates planning, preparedness, operational co-ordination and community participation.

The 2013 Act brings into line the *Country Fire Authority Act 1958 (Vic);* the *Metropolitan Fire Brigades Act 1958,* and the *Victoria State Emergency Act 2005 (Vic) (Parliament of Victoria, 1958a, 1958b, 2005)*. The objectives of the 2005 Act require each of these organisations to "contribute to a whole-of-sector approach to emergency management [and] promote a culture within the emergency management sector of community focus, interoperability and public value" (Parliament of Victoria, 2005, Section 4A).

The *Emergency Management Manual Victoria (EMMV)* contains policy and planning documents for emergency management in Victoria and provides details about the roles different organisations play in emergency management arrangements (Emergency Management Victoria, 2016a). It contains some references to 'vulnerable people' particularly relating to evacuation.

The *Emergency Relief Handbook* is designed to assist with the preparation of local, regional and state emergency relief plans and operational procedures in Victoria and is primarily for government and emergency relief agencies (Victorian Government and Australian Red Cross, 2013). It was not intended as a guide for planning for single incidents. It brings together the most up to date and comprehensive information available for relief planning, provides guidance for the development of local, regional and state emergency relief plans, provides a series of tools, templates and checklists for emergency relief planning (Section 3.3 defines vulnerable population groups).

The *Victorian State Health Emergency Response Plan 2013 (3rd Edition) – SHERP* (Department of Health, 2013b) is a sub plan of the State Emergency Response Plan (Part 3) (Emergency Management Victoria, 2016b). It outlines the arrangements for coordinating the health response to emergency incidents that go beyond day to day business arrangements. The 3rd edition includes detailed arrangements for regional and state health responses and incorporated more contemporary directions in emergency management – increased focus on the needs of children and on psychological support to prevent long term health impacts. It took into account experiences from significant events such as the Black Saturday bushfires in Victoria (Teague et al., 2010) and the Grantham Floods in Queensland (Holmes et al., 2012).

The Department of Health (now Department of Health and Human Services) has two key responsibilities: (i) to act as the Control Agency for the protection of health and (ii) to manage pre-hospital and hospital responses to emergency incidents. SHERP describes arrangements for the latter. It clarifies who is accountable for command and coordination of the health response and outlines the arrangements for escalating the health response. It describes how available clinical resources are organised and how the health emergency response connects with the broader state and national emergency management response and recovery arrangements.

SHERP is underpinned by 7 principles including:

- **Providing information** (clear, simple information and instructions) to people involved in emergencies.
- **Planning is integrated** (integrating a health strategy and management plan into the incident strategy and incident action plan developed by the Control Agency).
- **Collaboration at all levels** (a collaborative approach resulting in an understanding of each other's roles and a joint contribution to effective coordination and management).

SHERP defines and outlines the fundamental principles of command, control and coordination that apply, including the 3 tiers of control: incident tier; regional/area of operations tier; and state tier. SHERP's relationship to national plans is explained.

Health incident responses are structured around the three tiers of control. Within each tier the Health Commander/Coordinator determines the escalation level at which to manage the incident. At each tier strategic relationships between the Emergency Management Team, the Health Incident Management Team and the Incident Management Team develop incident strategies and priorities.

4.4   Local government

Local government plays an important role in emergency management in partnership with other agencies and through its own legislated emergency management obligations. Councils are not emergency response agencies – they have a long-established role providing support to response agencies and coordinating relief and recovery support for the community.

Under the *Victorian Emergency Management Act 1986 (Parliament of Victoria, 1986)* every municipality is required to prepare and maintain a Municipal Emergency Management Plan (MEMPlan). The MEMPlan is updated every two years and audited by the Victorian State Emergency Service every three years.

The *Latrobe City Municipal Emergency Management Plan (MEMP) 2011* (Latrobe City Council, 2011) was prepared in accordance with the requirements of Section 20(1) of the Emergency Management Act 1986 and developed by a multi-agency committee.

The aim of the MEMP is to detail the agreed arrangements for the prevention, response and recovery from all emergencies that could occur in the Latrobe City. It includes:

- implementing measures to prevent or reduce the causes or effects of emergencies;
- managing arrangement for the use and implementation of municipal resources in response to emergencies;
- managing support that may be provided to or from adjoining municipalities;
- assisting affected communities to recover following an emergency; and
- complementing other local, regional and state planning arrangements.

The *Gippsland Regional Emergency Response Plan* identifies the emergency response and coordination arrangements for response to emergencies in the Gippsland Region which includes six municipalities. The objectives of the plan include identification of control and support agencies for different types of emergencies; coordination of arrangements for the use of regional resources in support of the emergency response plans of specialist agencies; identification of support available from adjoining regions and support available to adjoining regions.

4.5   Emergency management in Victoria

Figure 1 provides an overview of our understanding of the key emergency management policies in Victoria, and how they intersect. The over-arching policies do not make explicit references to older people and this only takes place in the more targeted *Emergency Preparedness Clients and Services* and *Vulnerable People in Emergencies* policies (as highlighted at the bottom of the figure).
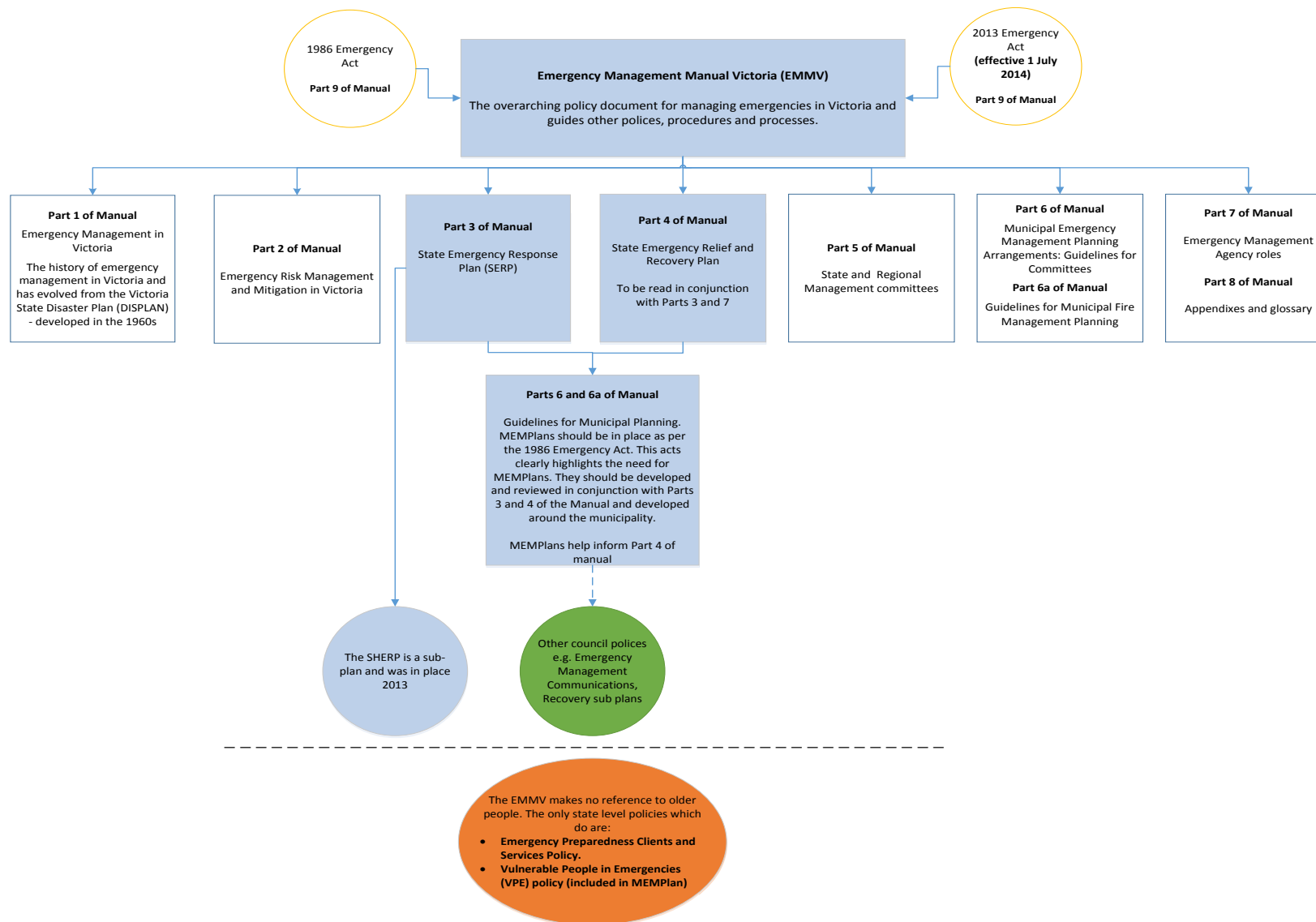
Figure 1 - Overview of the Emergency Management Manual Victoria and intersections with other policies

4.6   Older people in emergencies - factors influencing policy

In Section 3 we identified how over the past decade there has been a growing awareness of the magnified effects that disasters have on older people as losses, displacement, poor health and social exclusion may act as cumulative and interactive stressors that can lead to anxiety, depression and other illnesses.

At the time of the Hazelwood mine fire in early 2014, emergency planning in relation to older people was focused on residential care facilities. However, most older people in Australia (94%) live in private dwellings and not in residential aged care facilities (ABS, 2013c). For many older people home is where they feel safest and in disasters there are often older people who refuse or are unable to evacuate. Older people often live on low incomes with pensions and allowances as their principal source of income (VCOSS, 2014).

The Victorian Bushfire Royal Commission's Final Report into the causes and circumstances of the 2009 bushfires said that the state government, municipal councils and families should recognise the specific needs of vulnerable people, who might need early warning, assistance or separate consideration, in their emergency planning (Teague et al., 2010). It recommended that the state should introduce a more comprehensive approach to evacuation focussing on assisted evacuation for vulnerable people who require support.

In response the DHS and DH jointly introduced the *Vulnerable People in Emergencies (VPE) Policy* in November 2012 (subsequently updated by the now merged DHHS in May 2015) (Department of Health and Human Services, 2015b). This policy supports emergency planning for vulnerable people and the development of local lists of vulnerable people to consider in an emergency. Its definition of a vulnerable person is someone living in the community who is frail and/or physically or cognitively impaired and who is unable to comprehend warning and directions and/or to respond in an emergency situation. They may also be identified for inclusion on a Vulnerable Persons Register if they additionally cannot identify personal or community networks to help them in an emergency.

In addition to developing the VPE Register, the DH and DHS (now DHHS) worked/s with the health sector to prepare for, respond to and recover from emergencies that impact or affect health sector agencies and the health of Victorians.

In September 2012 the *Victorian Department of Health Emergency Preparedness Clients and Services Policy – Summer 2012-2013* was released (Department of Health, 2012). This policy described the responsibilities and considerations for emergency planning and preparedness taking into account recommendations from the Victorian Bushfires Royal Commission (2009) and the Review of the 2010-2011 Flood warnings and Response. It aligned with the overarching direction in Victoria's emergency management arrangements and complemented existing emergency management resources applicable to specific hazards or broader emergency management planning.

This policy applied to all Victorian Department of Health clients and services (i.e. department owned or managed facilities, department funded facilities and supported residential services regulated by the department). It covered Acute Health, Aged Care, Mental health and Integrated Care. It outlined the role of the Commonwealth, the role of the Department of Health and the role of the health and aged care sector and included a section on emergency management planning guidance.

The policy was replaced in September 2013 by *Department of Health Emergency Preparedness Clients and Services Policy* (Department of Health, 2013a) as part of the annual review process. This was the policy that was in place at the time of the Hazelwood mine fire. It sought to achieve a consistent sector-wide approach to emergency management planning, taking into consideration the local environment, conditions and resources so that services are well prepared in advance of external hazards and can promptly act in response to these when required.

The services to which the policy applied were explicitly defined as facility-based acute care (hospitals and health services), residential services (aged care, mental health and alcohol and drugs), community-based services (sub-acute services delivered in the home, HACC and related services, in-home services, aged-care day programs, community managed mental health services, alcohol and drug services and community health programs). Its relevance extended to private/non-government hospitals and residential aged care services. Roles and responsibilities were described in greater detail than in the 2012 policy with specific reference to the residential aged care sector. As well as guidance for emergency management planning it included an additional section on emergency management resources.

While it contains similar policy advice for the health and aged care sector as in 2012, the 2013 policy specified in the roles and responsibilities section that "service providers are responsible for implementing actions immediately when they become aware of a risk or actual emergency…and should not wait for emergency notification or advice from the department"(Department of Health, 2013a, p. 10). This was not in the 2012 Policy. This policy, in turn, was replaced in November 2014.

The Department of Human Services had 'sister' policies - *Department of Human Services Emergency Preparedness Clients and Services Policies* released in 2012, 2013, 2014.

In May 2015 the (new) Department of Health and Human Services (DHHS) replaced the 2014 *Department of Health Emergency Preparedness Clients and Services Policy* with the *Department of Health and Human Services Emergency Preparedness Clients and Services Policy – health and aged care sector* to reflect the establishment of the DHHS (Department of Health and Human Services, 2015a).

5   Hazelwood mine fire: Chronology of events

5.1   Overview

In this section we provide our understanding, as a chronological overview, of the key events which took place during the Hazelwood mine fire event, highlighting the shifts in focus during the extended event (Table 2).

In theory, the CFA would manage the response to the fire. VicEPA, DH, DHS, DEECD and LCC would respond to the health and environmental impacts and lead recovery efforts. VicEPA and DH were the key agencies responsible for providing the community with information about smoke and ash and DH/DHS set up initiatives to provide respite and relief for the community.

In this event, the CFA, in partnership with other emergency services and agencies, led the response to the bushfires and the mine fire and led the engagement with the local community in the first instance. As the event continued, public engagement shifted from a focus on the fire event to a focus on exposure to the smoke and other pollutants with the VicEPA requested to undertake extensive air monitoring from day three before issuing the first smoke advisory notices. As the scope and possible duration of the smoke event became apparent the Victorian Department of Health (DH) increased their public engagement, issuing the first health alert on day 5 of the event.

This increasing focus on the impacts of the smoke event on the health of the community saw the event change from being a fire event under the control of the CFA to a public health event under the control of the DH. The command structures of these two bodies vary considerably, with the CFA using a localised model centred on a local incident controller and the DH having a centralised model geared up to respond to state level challenges such as disease outbreaks with the Chief Health Officer ultimately responsible for decision making and communication. These differences in command structure, combined with the fact that the fire event continued at the same time as the smoke event, led to confusion and mixed messaging.

In addition to the CFA and DH, other agencies were required to play a key role during the response and this response was complicated by the extended duration of the event. In a more common emergency event such as a bushfire, the CFA is responsible for managing the fire, DH and other health agencies responsible for addressing health impacts, and local government responsible for recovery activities. In a bushfire event these components are reasonably distinct and all the agencies are very experienced at providing the appropriate support. This was not the case with the Hazelwood event where concerns about the smoke event increased over time and LCC was attempting to support the community at a time when the DH had general responsibility.

Table 2 - Chronology of events

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
Week 1: 9/10 Feb – 16 Feb 2014				
9 Feb 2014 **Evening**	Morwell surrounded by bushfires and fire well underway in the Morwell open cut mine (subsequently called the Hazelwood mine fire)			✓
	Decision to close all preschools & child health centres in Council area	LCC	Carinya Early Learning Centre also closed	
11 Feb 2014	All services re-opened except Maryvale Crescent Preschool	LCC	Very close to the mine fire – remained closed until 24/2 then relocated to Moe	
	Re-opened centres advised to run indoor programs and monitor fire-related conditions	LCC	In order to understand environmental consequences	
✓	Request to establish extensive air monitoring program	From State Control Centre (SCC) to EPA	Data provided to DH over course of event so that Chief Health Officer (CHO) can make health assessments and provide advice to SCS and the community	✓
	EPA officially engaged as a support agency	SCC	Dr Paul Torre – primary Science Officer to provide scientific support in response to the mine fire. Determined air monitoring required immediately with monitoring of $PM_{2.5}$ a priority. Station up and running and capturing data by the evening of 12/2.	
	Low level smoke advisory issued pursuant to the joint EPA/DH Bushfire Smoke Protocol	EPA	Did not contain any specific info about adverse health risks from a coal mine fire	✓
Late evening	Firefighting in the mine suspended	Incident Controller	After a report that several firefighters had presented to a hospital	

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
12 Feb 2014	State Emergency Management Team (SEMT) advised that mine fire could burn for at least a month	Craig Lapsley (Services Commissioner)	Department of Education and Early Childhood Development (DEECD) raised issue of impact of air quality on schools and children's services close to the mine	
12 Feb 2014	Full assessment of what was required for air quality monitoring conducted. EPA staff instructed to hire hand-held CO_2 monitors and to identify portable CO_2 monitoring equipment	Dr Torre		
Evening	Hourigan Road air monitoring station capturing data		CFA and EPA conducting monitoring from 12/2 with DustTrak monitors to give indicative readings of $PM_{2.5}$ During Week 1 EPA unable to provide DH with validated rolling averages for carbon monoxide and $PM_{2.5}$ levels. DH have access to indicative data from EPA plus DH own general observations re visibility	✓
13 Feb 2014	DustTrak monitor installed at Morwell Bowling Club and $PM_{2.5}$ monitoring commenced	Dr Torre/EPA Incident Commander	CHO told the HMFI Board that the initial health response was focussed on smoke from bushfires not the mine fire	✓
	First health alert issued: high levels of smoke can aggravate existing heart/lung conditions, irritation to eyes, coughing/wheezing advised that children, the elderly. Smokers and people with pre-existing illnesses are more sensitive to effects of breathing $PM_{2.5}$; to avoid prolonged or heavy outdoor physical activity	Chief Health Officer		✓
	Decision that mine fire should have a Hazardous Materials overlay applied	Craig Lapsley		

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
13-14 Feb 2014	Monitoring carbon monoxide in the community begins with hand held monitors at schools, aged care facilities and child care centres	EPA	No significantly elevated reading obtained	✓
14 Feb 2014	Health Management and Decontamination Plan issued to provide protection to firefighters against carbon monoxide exposure	Incident Controller		
	Community meeting: Fact sheet on health effects of mine fire distributed– info on the smoke, potential effects and general advice. Stated that during extended very smoky conditions sensitive individuals should consider staying with friend/relative outside smoke affected area	Incident Controller DH		✓
15 Feb 2014	Meeting – agreed to issue a 'shelter in place' warning to local residents	Incident Controller, Scientific Adviser, Public Information Officer	CFO advised of the intended notification – DH to provide a risk assessment but this was not provided until after the alert was issued	✓
	Work commenced on a carbon monoxide protocol to provide guidance to officials and the community about elevated levels of carbon monoxide	EPA and DH	Realised Bushfire Smoke protocol not effective – new decision-making tools required to inform public health advice	
	Additional alerts and community information sheets start to be issued	DH	Re potential adverse health effects	✓

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
✓	Low and high level advisories pursuant to the Bushfire Smoke protocol continue to be issued for the duration of the first	EPA	Confusion	✓
Midday	Record elevated Carbon monoxide readings recorded in Morwell	CFA HazMat technicians	South of commercial Road, Morwell Police Station	✓
13:00 hrs	Watch and Act Alert issued to a number of Morwell residents (Indoors immediately; close windows/doors/vents; seek further info via radio	CFA	DH not involved in final decision to issue this alert. CHO did not agree – considered it unhelpful as sent a very concerning message to the community that was not necessary	✓
Late afternoon	Easterly wind change		Dispersed the carbon monoxide	
18:45 hrs	Watch and Act Alert downgraded. Residents sent text – can go outside and open doors and windows			✓
15-16 Feb 2014	High indicative carbon monoxide readings observed			
16 Feb 2014	Summaries of indicative data of PM$_{2.5}$ provided	EPA to DH & Regional Control Centre		
	Visibility in Morwell less than 1 km; level of smoke unprecedented and unexpected; very high levels of PM$_{2.5}$	Dr Torre		
	Elevated spot readings of carbon monoxide recorded in the community	CFA		
Evening	Advice that EPA had recorded elevated carbon monoxide and PM$_{2.5}$ readings	Dr Torres to DH		

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
Evening	Determination that no action was required that night	DH		✓
During first week	Face masks distributed to some members of the community	local community organisations and St Vincent de Paul		✓
Week 2: 17 Feb to 23 Feb 2014				
17 Feb 2014	Community health alert updated to include pregnant women in the 'at risk' group	CHO	Evidence that lower birth weight babies may occur where mum exposed to fine particles over a sustained period	
18 Feb 2014	Community Meeting at Kernot Hall		Not well managed – highlighted the depth of community concern about effects of smoke	✓
	Morwell Neighbourhood house commenced community meetings		To provide local community with information	✓
	Planning commences for possible relocation of schools and children's services	DEECD	Following communication with CHO	
	Decision to undertake air monitoring at all schools and children's services in Morwell	DEECD		
	Monitors installed in Morwell East and samples sent for analysis	EPA		
19 Feb 2014	Validated data available on carbon monoxide levels in east Morwell	DH from EPA		
	First regular data summary of $PM_{2.5}$	EPA to DH & CHO		
	Local GPs contacted to discuss any increase in demand they had observed	DH		✓

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
✓	Community respite centre established in Moe	?	Relief from smoky conditions – psychosocial support (Red Cross); fire information (CFA and Police); health and environment information (Ambulance Victoria and EPA); child friendly spaces, tea, coffee, snacks	✓
✓	Free bus service Morwell to Moe and offers of taxi vouchers to some residents	LCC		✓
20 Feb 2014	Commercial Road Primary and Sacred Heart Primary relocated			
21 Feb 2014	Respite payments of $500 per household made available	DHS		✓
	Health assessment centre established at Ambulance Victoria's centre in Morwell	DH		✓
	Dedicated microsite web page for Latrobe Valley and the mine fire launched on EPA website	EPA		
21–24 Feb 2014	PM$_{2.5}$ levels recorded at Bowling Club exceeded extreme level			
22-23 Feb 2014	Carbon monoxide levels recorded at Morwell Bowling club classified as very poor			
Week 3: 24 Feb – 2 March 2014				
24 Feb 2014	Further health alerts issued and information sheets about use if rainwater, cleaning and face masks	DH	Published online and distributed via traditional media and stated that residents needed special P2 face masks. People with heart/lung disease advised to seek medical advice before using face masks	✓

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
25 Feb 2014	Community members in 'at risk' groups advised to stay temporarily outside smoke affected areas; other community members should consider a break away from the smoke; avoid outdoor activity	CHO		✓
	Website specific to mine fire established	DH		
26 Feb 2014	All preschools in Morwell and Carinya Early Learning Centre closed	LCC		
26/27 Feb 2014	Significant decrease in air quality triggering the $PM_{2.5}$ Health Protection Protocol			
By 27 Feb 2014	All government run children's services had closed			
	$PM_{2.5}$ levels recorded at Morwell Bowls Club exceeded extreme level and very poor carbon monoxide levels	DH & EPA		
28 Feb 2014 Morning	Meeting to discuss proposed relocation advice	CHO, Chief Commissioner of Police, Craig Lapsley EPA CEO, CEO LCC	Supported CHO's recommendation that 'at risk' residents in Morwell south of Commercial Road should consider relocating	
	Residents over 65, pre-schoolers, pregnant women and people with pre-existing respiratory or CV condition located in Morwell south of Commercial Road should temporarily relocate	CHO		✓

DATE	EVENTS	RESPONSIBLE AGENCY	COMMENTS	IMPACT ON OLDER PEOPLE
	At same time relocation payment announced	DHS		✓
1 March 2014	Residential Aged Care Facility in the southern part of Morwell evacuated with residents moved to facilities in Drouin and Traralgon	Facility	Decision was deferred until after the relocation advice from the CHO the previous day	✓
Weeks 4 – 12: **3 March to 28 April 2014**				
From 7 March 2014	Second respite payment of $500 made available	DHS	Same eligibility criteria that applied to the first payment	✓
	Second relocation payments available	DHS		✓
From 14 March 2014	Third relocation payments available	DHS		✓
17 March 2014	Relocation advice lifted	CHO	All children's services and maternal and child health centres resumed normal operations on 24 March	
22 April 2014	All schools and children's services in Morwell cleaned and staff and children back		Start of Term 2	
	Commitment to a long term health study into potential adverse health effects	DH / CHO		✓

6 What we heard: Integrative analysis of the data

6.1 Overview

A significant component of this policy review of the impact of the Hazelwood mine fire on older people was informed by voices of older adult members of the Morwell community (both living in the community and in residential care), their service providers, and those decision makers with responsibility for influencing and interpreting policies which had direct impact on older people. This constituted the qualitative data collected.

The analytic approach used to complete systematic thematic analysis of the transcribed texts is described in section 2.4.4 of this report.

A framework derived from key issues emerging from comprehensive reviews of the published literature on older people and disasters and relevant policy documents, and a chronological overview of key events that took place during the mine fire event, was used to interpret the thematic analysis of the qualitative data. The framework represented four interlinked headings that provide insight into the impact that the event had on older people at the time and beyond.

1. The nature of the event
2. Policy-driven responses
3. Targeted communications
4. Outcomes of the event

In this section, we provide summaries of what we heard. These are supported by small, representative samples of selected quotations from a vast repository of qualitative data that was collected through focus groups and interviews.

6.2 The nature of the event

A key trend emerging from the reported experiences was that the Hazelwood mine fire was different. It was an event that neither community members nor decision makers, including service providers, had experienced before. Across the board, respondents felt that it was a 'unique' emergency. Fires are phenomena the Latrobe Valley community has dealt with many times in the past. However, the defining characteristic of this fire was the ongoing smoke and ash event that posed the concerns for the community, as well as leaving the decision makers and service providers ill-equipped for such an event.

6.2.1 Uniqueness

Older community members described how the event was different to the bushfires that they had experienced in the past and was unexpected.

> *I think at the start, everyone was a bit confused because all of a sudden, we've had big bushfires around here right, but this was something DIFFERENT* [emphasis added]*. This was a mine fire you know, and you wouldn't think it would ever happen.*

Service providers and decision makers noted the uniqueness of the emergency and the subsequent challenges that it posed.

It became 'what sort of emergency was it?' and it kind of evolved, you know, is it a standard fire emergency, or is it an environmental hazardous or hazchem [hazardous chemicals] *type of emergency, or, and is it, a more community anxiety emergency, you know, which was an unique aspect and this sort of lack of trust in government which permeated, which made it even more challenging and unique.*

6.2.2 Characteristics of the event

The event was different due to the smoke, ash, air quality, and the duration of the event.

Smoke

Older community members described the smoke as a major pollution event, which varied due to wind speed and direction, with one participant describing it has a *big black mass*.

And you had to actually stay inside. I had to stay inside quite a few days there, you just couldn't go outside, the smoke was that bad.

Service providers reported of their clients:

The general conversation was the same…they knew something wasn't right, and the smoke was different, and it was different, I've never smelt anything like it, or tasted anything like it.

Ash

The ash associated with the event was also reported by the older people and continued to be a concern long after the event.

The house was absolutely FULL [emphasis added] *of ash it was coming up through the floorboards through the windows through the gaps in the windows it didn't matter what you did.*

Air quality

The air quality was also reported by the older participants, particularly the smell and the particulate matter, the PM$_{2.5}$. One participant described it like sand hitting your face.

It was like sand on a windy day. Sand on the beach on a windy day hitting your face, that's what it was like yet you couldn't see anything with the naked eye.

The duration

All these factors associated with the event were compounded by the duration of the event.

The main challenge here was just the grind of the duration and that's what people talk about, the fact that it felt like was never going to end.

6.2.3 Preparedness

It was reported by older people that the community, particularly the decision makers, were not equipped nor prepared for such an event.

Now I know you know that there are such things as DISPLAN [disaster plan]*, you know if you have a flood or a bushfire, they seem to be able to handle that, but I don't know whether that sort of showed up here, it was something new and probably the difference was they didn't know what exposure, you know that the smoke and other pollutants would be.*

Decision makers acknowledged that they were ill equipped for such an event, particularly with protocols to guide evidence based decision making.

> *It was quite challenging because it became unprecedented in terms of what we currently had and how to adapt that in terms of providing evidence based, you know, good advice to the community…so I think we were challenged at every level.*

And:

> *I was very aware that, for a long period of time, the department was working in an environment where there weren't, like it wasn't like we had that protocol sitting up on the shelf and you could just pull it off the shelf.*

Service providers described not having plans in place for such an event, and subsequently, no-one knew how to manage it.

> *I think that the whole thing with the Hazelwood mine fire was that no-one knew how to manage it, you know, this is not a bushfire, it is not going to go away, it is just going to go on doing its own thing.*

6.3 Policy-driven responses

The nature of the event and its uniqueness was an important factor for those responsible for making decisions in response to the event. What was evident from discussions with decision makers and service providers was the complexity of multi-agency involvement during the event. Some, reported that the multi-agency contribution posed many challenges, particularly for local decision makers, whereas some service providers described the agencies being well coordinated. Decision makers reported lack of information to aid their decision making, as well as the failures associated with the distribution of information and the lack of evidence and plans/protocols on which to base decisions (which contributed to the lack of preparedness for the event). Within the policy context, there was a range of procedures and plans that were followed, particularly for the decision makers, but in some instances there were no policies and plans for such a different type of event.

An assortment of roles and responsibilities were described. Older adults in the community reported their opinions of these roles. One of these was a perceived lack of support from local government (Latrobe City Council). However, as the event was declared a state emergency, local government officers were restricted in the extent they could be involved. Community expectations and managing these expectations was also a challenge for both decision makers and service providers.

Older people were supported during and after the period of the mine fire if they were in receipt of care and support services in the community or lived in residential care. While older adults were often referred to as 'vulnerable' or 'at-risk' in the messages sent to the community, the 'robust older people', those not receiving services, were not so well supported. Rather, they tended to be bundled up with the broader community.

6.3.1 Complex multi-agency involvement

The complexity of multiple agencies involved in the event posed challenges for the decision makers.

> *I think the challenge (pause) with the event probably was the sheer volume of agencies involved. You know, it was no longer just a fire event, it was a fire event in a mine so it*

involved that department, and then it involved the EPA and then it involved the Department of Health and you know, I just think that any time you are tapping into multiple sources of bureaucracy that than brings with it a range of challenges.

It was suggested by some service providers that multi-agency complexity meant that no one agency really knew what the other was doing.

I think this was the first time that we have had an event that needed SO MANY [emphasis added] *agencies on the ground, but the reality was that one arm didn't talk to the other hand, you know, this one doesn't know anything about engaging this way, and this one does it differently over here and I think that's why to me it was just like a miss mash of the perfect storm of, communication hell, like (laughing) where do you go to from there?*

Other service providers reported good coordination between different agencies.

I think from an organisation's perspective, I'm really happy with the organisation's response and how that's all gone, I think the, what happened with the ambulance service and the way all the, the emergency services as such came together was excellent. You know, the hospital, the local hospital and us and the ambulance service, we all came together as one, and we were able to work in conjunction, and help the community come through a really torrid time, and it was all done, really voluntarily on people's own time. We were working out of our own hours and volunteering our time to do that, and it just really went well, and we were all different clinicians, you know all coming together, doing the same job, and it was really good to see.

6.3.2   Sources of information for decision-making

Decision makers obtained information from a variety of sources including the government and agency websites, face-to-face meetings and regular teleconferences.

So the Victorian government website was big for us, and then the weekly meetings we had with the mine fire operators themselves and the Department (of Health), when they were talking, so a lot of guidance from them cause the, like I said we had the hospital involved, the shire involved about what we were going to do, communication plan and all those things. That was probably the main things, and the radio, but mainly through the Department.

While most decision makers reported regularly receiving information, some would have preferred it in a different format, and others expressed that they had failed in how they passed on that information.

I was getting that intelligence, but it wasn't as systematic and as high quality as I would have liked, and I think the other, just going back to this issue of the dual state and regional team thing going on, some of that information was being you know, prepared for and supplied to the Chief Health Officer, but not necessarily being supplied to the regional health incident management team. So, a lot of the systems, a lot of the departmental processes are geared towards supporting the Chief Health Officer and that is the position, you know, who has the power and authority in the system to make, make stuff happen, and that power and authority doesn't really exist in the role of regional health coordinator, in the same way.

And:

> *A key failure was that we did not brief our field operators. We literally handed them or emailed them, whatever it was, written tools, fact sheets, a printed fact sheet and we relied on them to read and understand and be able to you know, verbalise those tools to their constituents whoever they were or their clients. Not once do I think anyone with any public health expertise gave anyone a verbal briefing about any of this material, and so there probably was a lot of people up there in the field, whether that be riding the train with the CFA crew or at the relief centre or a HACC worker in the field you know, there's lots of examples of people being in the field, probably working with material that they didn't have a high degree of confidence in talking about. I'm not saying they didn't trust the material, I'm saying they didn't have the background workup to feel confident to talk about it in a confident manner.*

6.3.3   Evidence for decision-making

One local decision maker reported a lack of evidence or plans/protocols to support decision making.

> *No one had the evidence or the robust evidence base sort of protocols at that point, so that was quite tricky, and you know is one of the things I think is a bit of a learning…it was quite challenging because it became unprecedented in terms of what we currently had and how to adapt that in terms of providing evidence based, you know, good advice to the community, when there was probably a bit of a vacuum…you know, safety sort of points for some of the exposures, so, I think we were challenged at every level.*

6.3.4   Policy context

Decision makers referred to different polices or emergency management plans available to follow, particularly at the state level. These included the State Health Emergency Response Plan (SHERP), a state plan of the Emergency Management Manual of Victoria (EMMV).

> *So there were the two key policies in our case, the SHERP, the State Health Emergency Response Plan, and the Clients and Services Policy that we can draw upon for guidance, and under the SHERP, you know, we established fairly quickly a regional health incident management team, which linked back up to the state health incident management team, the state health coordination arrangements etc. and that was, you know the main, probably coordinating point for us with our agencies, with ambulance and you know, other service providers to try and sort of coordinate out activity.*

Some decision makers described a feeling of angst across the departments and service providers due to the perceived lack of clear policy.

> *Because the emergency services have such a devolved model, I think they were a bit surprised that we didn't have a devolved model…even though this was a new incident for them as well, but they probably still had some standard operating procedures they could enact, and of course because we didn't a have protocol to do with, you know, $PM_{2.5}$ and you know, so they were wanting things, and they were wanting it five minutes ago, not, you know in the time it was taking so I think that caused them (pause) angst across departments and service providers.*

At the local council level the Municipal Emergency Management Plan was reported as becoming defunct as the state plan took precedence.

> *What we found conflicting was that we* [Council]*, the emergency management plan we have, has been audited, has been well thought out, there's been lots of local input into it…and the emergency management plan that we had, just went by the by. It was not followed at all*. *In that, the state were asking us to do things that we had no control over or should have had no input into if you like. We wanted to run with our plan, but it didn't fit with what they were doing because there was a conflict between what they were doing and what the plan was saying…the issue we're dealing with here is that the Municipal Emergency Management Plan was not followed in this instance and I think there is a big difference between going out there and giving people a ready to read 'this is what local government does in an emergency' because in many respects local government, didn't have the opportunity to run with the plan the way the plan is read. So you know, local government has quite clear roles to play in an emergency.*

For services providers, it was a case of following normal emergency policy and procedures.

> *I guess we probably just worked under what we normally do, and with maybe emergency management policies and procedures.*

Or developing new plans:

> *I developed, because we didn't have a plan for a natural disaster, we actually developed a procedure*.

While for another:

> *Bushfires weren't even on our emergency plan*.

Decision makers reported the challenges associated with the policy context at the time.

> *I think, everyone had the best of intent, I think everyone was literally doing what they could within the current policy environment, and current standard operating procedures, and in fact were even breaking through some of those and challenging those to sort of try and, be even more agile, and I think there was a lot of work done very quickly, and people working probably twenty-four seven, even in our own department, with you know, international support in many cases to develop protocols on the run, which were un-precedent, to sort of you know, try and actually, you know, I guess come to terms with this as quickly as we could. So I think there was great intent, but I think this was a fairly unique and challenging, disaster basically.*

6.3.5   Where do older people fit?

'Vulnerable' older people and older clients in receipt of existing care and support services at the time of the mine fire were included specifically in the Victorian 'Clients and Services Policy' and the 'Vulnerable People in Emergencies Register'. These two polices ensured that people who were receiving care and support services in the community or were deemed 'vulnerable' were supported during the event.

> *A majority of our clients are over the age of sixty-five, and the largest cohort that we deliver services to is the eighty plus years.*

Robust older people who were not in receipt of services nor deemed 'vulnerable' (this term was used by the Chief Health Officer when referring to people over 65 years but not reflected in policy)

were not supported specifically. However, some decision makers did describe how rules were 'bent' to ensure all 'vulnerable' people received the care that they needed.

One service provider described his/her interpretation of the role of the Vulnerable People in Emergencies Register.

> *They are classed as vulnerable persons if they have no support, so it is all based on assessment. We have a lady in Moe who is actually on it, but she has no supports, she has got no contacts, she's got multiple health conditions and if there is an emergency situation she has got no-one to assist her, so she is on it. We had one lady…who was on it, she didn't want to be on it, she felt she could survive without it, but again she was unsupported, she was unable to access the community independently, was in a real high fire risk area, survived our Black Saturdays, so yeah, it is more about the assessment and then we pop them on the register.*

One decision maker described how the VPE Register did not ensure that all those that needed support would get it – it was interpreted as very restrictive in its application.

> *I don't actually know whether they used the register. I'm sure they would have. It's a continually involving thing, probably the most tortuous policy issue I've ever have been involved in. The thing about, the thing about the register is, it is designed really, it is really only designed to assist in evacuation and to, you know cover people who have no other supports or means of assisting themselves in the event of evacuation. That is what's it original aim was, it came out of the Black Saturday Royal Commission. The commissioners, I'm sure had no idea, how to scope or implement, and it was intended to be used by police in the event of an evacuation being required. Now since then, so it is limited, the number of people on it is intentionally limited to those who really have no other means of support, no neighbours, no family that could assist them if need be.*

Some decision makers loosened the rules to provide the support that was required by community members.

> *I have got a feeling that we were liaising with the Commonwealth about availability of respite beds and how, how that would be considered in terms, of you know, whether people had had an assessment, because you have to have an assessment to get into respite, and we came to some agreement about you know, the commonwealth I think loosened the rules a little a bit, providers could take people and worry about the ramifications afterwards.*

Older people in residential care were supported within the facilities. Managers of the residential care facilities reported that older people within the facilities experienced little impact.

> *In terms of effects, we managed it very well and our staff managed it very well. We didn't have anyone who was really affected, like I said it was more staff.*

6.3.6 Roles and responsibilities during the event

State level – Department of Health and Emergency Management Victoria

Across the discussions with the decision makers, service providers and older adults, the issue of roles and responsibilities at the time of the event were mentioned, although they were not always clear. The roles and responsibilities at the time were determined by the type of emergency or event.

> *The Emergency Management Branch organised or the Chief Health Officer. In this case, the Chief Health Officer was the lead but supported by emergency management, and depending on the incident it would be Emergency Management in the lead or the Chief Health Officer.*

A health incident management team was established that included the service providers.

> *We established fairly quickly a regional health incident management team, which linked back up to the state health incident management team, the state health coordination arrangements etc. and that was, you know the main, probably coordinating point for us with our agencies, with ambulance and you know, other service providers to try and sort of coordinate out activity.*

Local level – Latrobe City Council

As the event was considered a state event, the council as decision makers, had a very little role, although local government decision makers felt that they should have had a greater role and there was frustration at the local level, as described below.

> *I had a level of frustration in that, local government knows its own community. You know, so, there could have been a higher level of advice taken from local government as to how to manage the community, than what was taken. You know, the focus was purely on the incident rather than managing the fall-out in the community, managing the recovery in the community if you like, from day dot, and I think local government, could have had a far greater role in that. We have a relationship with our community, these people from Melbourne or whatever do not have a relationship with the community.*

Local government officers were restricted by the information they could provide as it was seen as a responsibility at the state level, under the auspices of the incident controller.

> *I know during the state arrangements, you know what it is we were committed to communicate about is really limited. You know were not able to, you know, were not able to communicate about the event, that's up to the incident controller and all those other sorts of rules and regulations.*

The restrictions posed on local government appeared to fuel negative perceptions of Latrobe City's role and responsibilities in the event by the older adults in the community. One described Council as passengers:

> *Also the role of local council needs to be defined. They tended to be passengers in this whole incident as well.*

And:

> *We basically felt abandoned by the council, or well I did, they all left town.*

Service providers expressed concern that the decision makers weren't aware of their roles, nor were there clear guidelines on who was responsible for what.

> *What was going to happen, and I guess at my level, I understood it to be, this has not happened before and different authorities don't know what their particular responsibility or response action should be, the coordination between them, be that the EPA, CFA, local*

government, state government, that silence was quite eerie, in that early period I think, that's when, I think because people are used to bushfires.

Residential care facilities

It appeared that there was confusion between the decision makers and the residential care facilities about who was responsible for what, particularly to the decision making around evacuation. Ultimately the decision to evacuate was the facility's decision.

> *My only advice was the decision is yours to make. I can only reiterate the Chief Health Officer's advice, but it is your decision, you know but you will need to consider that decision in the face of expectation of community and family members of residents you know, which is a big. I'm sure they were considering those risks, you know there is always the risks if they chose to stay and the Chief Health Officer said "everybody over the age of sixty-five", you know, they would be facing, you know calls from family members going "what the hell are they still doing in there"?*

6.3.7   Managing community expectations

The complexity of the event, particularly the long duration, went against what seemed to be the community's expectation regarding response to emergencies and associated dissemination of information. Decision makers described the challenges of meeting community expectations, but also indicated that they did the best that they could do.

Expectations

Based on previous emergencies, decision makers expressed that the community had a certain level of expectation of the response to such an event.

> *There are many people who look back and say, you know, it wasn't communicated effectively enough to the community, or the decisions weren't made earlier enough, or whatever, and that may be true, but I think, it's also true to say that, the community expectation, possibly again in hindsight, were greater than probably the capacity to respond to them*.

And:

> *And the expectations of the community were becoming more and more apparent in terms of them wanting, different information and more information than what we would usually provide, and almost assurances and guarantees around you know, health impacts and safety and you know, what they should be doing*.

The best we could do

Decision makers reported that they did the best that they could do.

> *I think with what we knew at the time, what we had at the time in terms of tools and processes, evidence if you like, in terms of strategies and our standard operating procedures and policies, you know, I think we did everything that we could, we thought we were doing, you know as a department and as a whole of government apparatus if you like, to respond appropriately, but you know, I think, there was you know, still difficulties in expectation and what was being delivered…and I don't think we have quite reconciled that.*

6.3.8   Response to the event

During the event, older adults who were in receipt of care and support services in the community were monitored with client checks, while those in residential care were supported within each facility. Some older adults in the community not receiving services reported being door knocked, and as part of the 'Vulnerable' category with respect to their age (over 65), they were advised to relocate. However, for some this was difficult to do, due to lack of access to alternative accommodation, transport, or funds including difficulties accessing financial assistance due to restrictive eligibility criteria. Other provided services for older people included respite centres, the health clinic, masks, and free transport. Post-event, cleaning was offered to help clean-up homes, and once again, eligibility restrictions impacted on the success of this response, while others had concerns regarding potential insurance claims.

Monitoring older people receiving care and using services

Decision makers and services providers described how they checked their older clients on a regular basis which may or may not have increased support to them during the event.

> *I think because probably, it helped because we had that regular contact with them, and you know we had information brochures and that, that they got us to hand out and that as well, so, I guess, and their support workers were still going in, like we were still providing our services, so they still had that contact which was probably another reinforcement for them as well. So, like we really didn't come across anyone who was overly distressed, about the situation.*

Service providers reported steps to ensure that all existing clients were checked.

> *I mean the welfare checking was more around all our clients first. We checked every single client, that was the direction that came from me to check whether or not they needed any assistance, who was around, what their plan was. We offered support, financial or linking them into formal supports or respite, whatever was required to get them out of here for the time, you know, that the smoke was happening.*

> And:

> *At the same time, the Latrobe City Council, who managed council HACC in the areas, were very active in monitoring their clients, and they were liaising with us about you know, whether they needed assistance or that, whether they needed financial assistance to do that.*

Service providers were providing clients with assistance to relocate, however, the process of relocation was not quite clear.

> *Yes, that was the confusing bit, so, we were told you need to offer these voluntary relocations, but when it comes down to it, who funds it. Yeah, that was confusing.*

The residential care facilities put procedures in place to protect the residents from the smoke.

> *So then we put into place the procedures to do that, block gutters, turn off the air-conditioning systems, notify everyone that that's what had to happen, obviously then we put into place our procedures as far as notifying more senior management.*

Clients already receiving services were also provided with assistance to clean their homes.

> *I think anybody that was already getting home help did get it* [house cleaning service].

Services offered

Older adults living in the community and not receiving care and support services reported people door knocking to provide them with information, but there was confusion about the scope of the door knocking, with some participants indicating that only certain areas received the door knocks – pending on which side of the invisible line they lived.

> *They did door knocks and most of the people who did the door knocking were volunteers from out of town.*

And:

> *And the door knock only happened on the imaginary wall side - the south side.*

This perception that the door knocking was limited to the south side was contradicted by the council interviewees.

> *As I said, we initially went out and knocked on our own clients, we know that they were frail older otherwise they wouldn't be getting the service from us, when the door knocks then started happening to the whole community*

Respite centres were established in centres away from Morwell to give people a break from the smoke and light refreshments and free transport were provided.

> *Pakenham and then Narre Warren and sometimes Traralgon, Moe set up a respite centre, the council set up a respite centre in the town hall, we went down there two or three times a week and then went they made the trains free.*

And:

> *I know it was used, but not heavily used, and I think, I think that was a failure to communicate the intent of what they were there for, and how people could access them. I think that was you know, I, you know, I remember Latrobe City sort of just saying "Oh well they're getting used a bit but not as heavily as people thought they would be".*

Older people described how masks were distributed and they were described by some as useless.

> *Well I mean why didn't they issue masks to people, I mean decent masks not those cloth things, I mean surely somebody could have been on the ball a lot quicker and when did they come out? Two or three weeks after the event.*

Older adults in the community, as part of the 'vulnerable' group, were advised to relocate. However, a number of older adults described the difficulty in finding somewhere to relocate to, the cost associated with relocation, and while relocation grants were not available to everyone. Some older adults in the community were offered a home to stay in, but the processes of securing the home was a complicated process.

> *We were offered a free home somewhere. It took so long to go through the paper work and stuff someone else snatched up the house (laughing) so lucky we had a friend in Frankston that gave us their house for a week so.*

Service providers also described it has a complicated process**.**

> *A couple, but not a lot, but we were getting offers of holidays houses from all over the place, and because we weren't taking that, so many people were ringing us from outside the valley saying, "I've got this holiday house, and my local neighbourhood house, I didn't know who to ring so, I go to my neighbourhood house or I thought I would ring you" so we would get all the information from them and feed to up to at that point was, the council food chain we were dealing with and we would have these people ring back and going "nobody's rung me, we've got a holiday house here for somebody" you know, how that was coordinated or how people signed on to it, and how they actually managed to go to somebody's holiday house, but I know it was a nightmare on the ground.*

Older adults reported that it wasn't necessarily easy for people to relocate due to lack of transport or even employment obligations. Expense was also a reported factor.

> *I got a message on my mobile…it told me to evacuate and I ran around and I'm thinking 'where do I go and how do I get out of here' because I've got no car.*

And:

> *None of us had money…were waiting for the next pension day. So even if we were able to go somewhere we didn't have the money.*

Older people described the financial assistance that was made available for relocation, which didn't allow for too many days away from the community.

> *We went to DHS, talked to the nice lady. She gave us the one pre-paid five hundred dollar card and we went to Lakes Entrance. You can only stay in Lakes Entrance so long on five hundred dollars.*

Those who did relocate went to a variety of different places and for different lengths of time.

> *I'm fortunate in the sense that my son and daughter-in-law own a holiday home in Inverloch and I removed myself to Inverloch for seven WEEKS [emphasis added].*

And:

> *We stayed in Morwell but we went out every day.*

Ambulance Health Assessment Centre and Mine Fire Health Clinic

A health assessment centre was set up at Ambulance Victoria Morwell, and later, as a recommendation from the 1st Hazelwood Mine Fire Inquiry, the mine fire health clinic was established at Latrobe Community Health Service in Morwell to address the ongoing health concerns of the community. Some older adults reported using these, although service providers reported that community members felt that visiting the mine fire health clinic was *a waste of time*.

Decision makers described how the health assessment centre was established in response to the SHERP's function to mobilise health resources in an event.

> *The decision was made to set up a community health, you know a monitoring, I forget what they called it, the ambulance run, you know clinic, so that, that was about putting resources into the community, to (pause) you know, to response to that need.*

LCHS described the mine fire health clinic services.

> *So basically what it is just, so we do a health check, we get all there details, any issues that they might have, health issues, and that's recorded and then if they need any referrals, so often they do need to be followed up with their GP, they might need a lung function test, which they need to go to their GP to have a referral, and we have all the, if they feel like the need some counselling, so we can do all the referrals for that as well.*

Older people described using the health assessment centre.

> *We went straight to the ambulance station and had a check-up.*

Service providers reported how a community members described the clinic as a waste of time.

> *Sometimes and feedback that we've had from people that have been referred to the mine fire clinic is that it was a waste of time because there just making calls for them to go back to their doctor.*

Post-event clean up

Older adults wanted their homes cleaned following the event, and described the service that was offered. Once again, the process to obtain such assistance was confusing and poorly coordinated. Eligibility criteria existed, and only those who were already in-receipt of services, had particular health conditions, or lived in specified areas were supported in the clean-up. Some older adults described the cleaning process as *terrible*. Those not eligible had to use their home insurance – if covered and approved by the insurer.

> *I got it twice because I complained. The first time was three young ladies from Townsville and the second one was a bloke and his missus, the bloke that was when I got the house washed down on the outside because they didn't do that the first time.*

The older adults described eligibility for the cleaning service.

> *Because we were aged pensioners and because of our health we were eligible for it* [house cleaning]*. They came in how many, about four?* [Talking to husband]…*a couple did the outside windows the others did the inside*.

Service providers described the clean-up process as being confusing.

> I*t was a bit confusing, and where they could get the, hire the cleaner, the vacuum cleaners for, you know, that was really quite confusing for me, obviously my clients as well, as to who was managing that program**, you know the clean-up of it.*

A service provider described how the community was given a 'bucket' containing basic cleaning items to use to clean their own homes.

> *And the bucket became a symbol of the, insult I think, of, "We've smoked you out, put your health at risk, not told you how to manage it or what's going on, said that you were safe, and then we said we weren't really too sure, maybe if you're pregnant, old or young you better get out, maybe if you've got an important job you better get out, but you know important enough, so have a BUCKET"* [emphasis added].

Older adults not receiving assistance to clean their houses had to seek compensation through their insurance – which was a difficult task leading to the council organising for an insurance consultant to be available to support people making claims.

> *My grandmother was able to go through her insurance company and paid like that* [demonstrating quickly]. *My dad on the other hand had that much trouble he had to end up going with, I think there was someone at the time that could help with the insurance problems*.

6.3.9 Eligibility for offered services

Although services were offered, older adults in the community indicated that certain eligibility criteria were imposed for them to receive the assistance. Eligibility was restricted to those on healthcare cards, pre-existing health conditions, and where they lived – the invisible line. There were also inconsistencies in who was and was not eligible.

> *So then when we came back we tried to get some more, because I couldn't breathe I really could not breathe I couldn't (pause) hold my eyes open or anything, but we didn't qualify because we lived on the far north side.*

And:

> *I know somebody and she was told she was (pause) too young to get and she is two years older than me (pause) and I got it.*

And:

> *And people who were genuinely actually entitled to it they didn't get it, and people that weren't entitled, they all get it especially young people*.

Service providers further described the eligibility criteria.

> *Some people really struggled with, who had pre-existing health conditions, just working out where they could go, if they could work out how to access the grant that, if they lived on the right side of the line, and then how to get out to Inverloch, find a place, afford it, then what to do when things were no better a week later*.

6.3.10 No response to the event

Older community members described how they felt there was no action taken particularly in the early stages of the event, often sourcing support and assistance themselves without much response.

> *And I was very much surprised that, that in the early stages there was no action being taken.*

And:

> *I called the number, but they not answer and I ring that one, ring that one I say bugger that I'm just not going to ring.*

6.3.11 Should the town be evacuated?

Older adults within the community felt that the community should have been evacuated.

> *Whereas I felt that people should have been evacuated right from at the start, just from my perception…I couldn't see how anyone with a lung disease could cope in that environment.*

And:

All that part (across of the fire) of Morwell should have been evacuated straight away.

One service provider also felt that the town should be evacuated.

Absolutely they should have. I will, I have said that many times, and I know that was a word they weren't allowed to use, they had to use relocation instead of evacuation, and many times we were kept waiting for people because they were in relocation meetings, but I think, I don't think anyone was brave enough to make that decision, at the end of the day.

Others spoke of the risks associated with an evacuation.

I mean people's expectations I think are, you know a lot of people wanted Morwell to be evacuated. I mean to evacuate a town of fourteen thousand people is a massive logistic thing which has all sorts of risks associated with it as well, and all sorts of displacement or sorts of other psychological stress that goes with it, so I think there is a "be careful what you wish for" aspect to it in some ways, and evacuating residential aged care facilities, we know from experience that, that's very traumatic to residents.

6.4 Targeted communications

Communication at the time of the event, particularly from metropolitan and locally-based decision makers had a direct impact on older adults in the community. The lack of evidence-based information for the community, inconsistency in what information was being delivered to the community, and delays in communicating information had negative consequences.

6.4.1 Communication of information to older people

Older people in residential care and in receipt of care and support services were provided with information by service providers, but it wasn't always taken up.

So we had flyers and things like that, so we had made up packs at the time that went out with all the nurses in the cars that they were able to hand out to clients, that were about cleaning, about respiratory safety, about all of those sorts of things. A lot of the time the clients weren't interested, they were just throwing them back to us, "I don't need this rubbish, it is the same rubbish that is on the telly. The same rubbish that that women is pedalling us, it all lies" and so on and so forth. So a lot of the stuff came back to us, but we did have a lot of information that flowed, however, a lot of it wasn't taken very well. In my opinion it was, a little bit complex and double up, so the flyers did double up a little bit, and people were frightened, and you can hand people a lot of information when they're frightened and they will only take in small amounts, and I think that is what happened. And there was a lot of scare mongering as well. There was a core group of people who decided that this as a really good opportunity to get on their soap boxes and they did.

Community meetings were another avenue to provide information to the broader community.

I remember carrying this pile this high of pieces of written information to…a community meeting held at Kernot Hall, famous community meeting held at Kernot Hall, people coming in, not taking them, other people coming in and putting all of their information on the table …there would have been two hundred people at the meeting, and people might have picked up twenty copies or something. And you know, frankly our time would have been much

> *better spent, aside from the community meeting, I would have happily done it myself, got on my bike and literally gone around that suburb of Morwell and stuffed that stuff in people's letter boxes, and we needed to get much more, grounded in our tactics, around comms and engagement, and I think we, you know we failed to do that, really.*

The incident control centre was responsible for delivering the information to the broader community.

> *He* [incident controller] *made a call on the advice, the best information he could make at that point in time, but I think that was when we lost the community's trust…people had said "no, you're no expert" and then the call goes out not twenty four hours later "Stay in your house, carbon monoxide". I don't think we ever recovered from that point, to be honest.*

One decision maker at the local government level reported that information they received would not have helped reduce the fears held by the community.

> *I was involved from a regional perspective, so I was getting information on a weekly basis, plus I was getting email updates. The concern I had though was that, that information and those updates did nothing to allay community fears, there was nothing in there, there was nothing I could pass that would give some relief to anybody. It was the same old information we were getting day after day after day, "There's nothing wrong, nothing to worry about, nothing wrong, nothing to worry about, nothing wrong, nothing to worry about" and that's from people either in Traralgon or in Melbourne. They weren't in Morwell, trying to breathe this rubbish.*

Some service providers reported that their delivery of information to the community was hindered by the conflicting information that they were receiving.

> *I couldn't interpret what I was seeing to be able to tell people, then at the same time I was on, as I mentioned the community recovery committee, I was getting a lot of information early on when it was still CFA lead from that, it was constantly changing, what they were saying, It's safe", 'it's probably safe", "its ok" "There's something called PM$_{2.5}$ fine particles that are way out of control", "No they're not", "yes they are" There was a lot of conflicting information as well.*

Older adults in residential care facilities described how they were informed.

> *Oh, I heard a little bit on the wireless, but there was, there was a bit of publicity about it, but we didn't hear a great deal really. We didn't really get that informed.*

They were also provided with information from the facility managers.

> *I think they were probably quite insulated from the whole situation to a degree and then the fact that we would then say to them look this is what's happening and we did a couple of announcements in our dining rooms just to keep them a bit updated on what was going on and I think they just went about their daily business really.*

Although decision makers and service providers reported how they provided information to the community, older adults in the community (all were <u>not</u> using care and support services at the time of the event) reported the different sources that they used to get information from family, the radio, messaging alerts, the paper, and the TV.

> *My daughters were keeping you know, in communication with me.*

And:

> *I was getting more from my son in Queensland.*

Lack of information

Older people described a lack of information, they didn't know what was going on, while others described the uneven distribution of information.

> *There was a great deal of disappointment and all of that disappointment is summarised in what we started out conversation this afternoon with – THE LACK OF COMMUNICATION [emphasis added] telling us what on earth was going on.*

And:

> *Oh except for the fire alerts from the CFA and the occasional TV statement that was about it … local paper was about it. There wasn't much information, we looked on the internet there was only a little bit of information.*

And:

> *I think probably the first and foremost part of it was that fact that we didn't know what the hell was going on.*

Delays in communication

Older adults living in the community, service providers and decision makers all made comment about delays in sharing information, particularly about the decision to relocate.

> *Their reflections to me are that formulating a message between numerous state agencies that had a degree of accountability for the community took a very long time. So then that messaging was just so slow for the community in a time, when in an emergency you need to be communicating constantly.*

And:

> *Look I think for me, it should have come earlier in relation to if you want to leave , then you leave, if you are an old person, I think it should have come earlier for the more vulnerable, you know people who are healthy, different story probably, but for the oldies.*

6.4.2   The role of the media

Media played an important role in the event –as a conduit for information and how the event was portrayed to the wider audience - broader Victoria and Australia.

> *I was just surprised that media reports initially and when the mine fire started "oh it all going to be ok. It's only going to be a week" but a week turned into two weeks and then three weeks and so on, and they seemed to be me to be making a lot more light of the situation than seriously how bad it really was. The impact it was really having on people, I don't think that was fully reported to the general public. It you didn't live here you didn't really know how bad the impact of it really was.*

And:

Now I was travelling past just down to the newsagent on the main street area towards Commercial Road…there were people handing out these masks. They walked down in-front of the TV cameras and then went back and handed back the masks. And I thought 'you have to believe what is on television'.

A resident in a care facility stated:

I thought the media wrapped it up more than anything.

6.4.3   Information to service providers

The Department of Health was the main source of information for service providers but several felt that it was not representative of the situation.

It was just the Department of Health stuff and then our organisation, it comes into our organisation, I don't even know who gets it from our organisation, but it gets put up on the intranet, so and we were then getting email from our managers and so they were obviously directed from the Executive to ensure staff were aware of this, so it would come through via an email channel as well, so we were getting it from email and intranet, and it was pretty much just forwarded from the Department of Health information and just guide us to, to follow our policies and procedures, formal emergency type situations.

And:

Well for me it was about this [showing a piece of paper]*, every week they would come in with this piece of paper (laughing) and we would talk to this bit of paper like, and I know agencies are somewhat limited, but someone clearly printed something out and they go this is what we are talking about today" the issue with that was, the communities questions and concerns weren't on that bit of paper.*

There were conflicting reports about communication of advice coming from residential aged care providers.

You know in the end I had to ring the command centre and I'm going put me in, who is the police officer whose in charge because I had two cops out the front saying "oh yeah you can evacuate" I'm like NO [emphasis added] *the command centre is actually saying 'don't evacuate' whose giving these guys order?*

Other residential care facilities particularly felt well informed and supported in their decision making.

But I guess that was reassuring to know that you've got that sort of support sitting here, and the communication overt the next few days I thought was quite good to. It was appropriate but not over the top.

6.5   Outcomes from the event

Older people described the different impacts that the event had on them, including heath impacts, immediate and long-term. Older people were reported as being stoic, particularly compared to the younger adults in the community, while also having implemented a range of strategies to address

the smoke event. Broader impacts of the event included damage to homes, the impact on local business and on pets.

6.5.1 Impact on service delivery for older adults

As a result of the smoke event, service providers reported services either being stopped or changed to protect both the health of service users and the staff. For some it was business as normal, with some service providers expressing concern for their clients.

Services ceased or changed

In some instances services ceased or where they could be, they were changed.

> *There was a lot of things that happened as well for our clients to, so, things where some clients actually might come into the community service here to do an exercise program or something like that, they were cancelled or ceased during that time, because it was not safe for people to be out travelling. So things like that were stopped and people were actually staying in their homes and phone calls and things like that were made so that people didn't have to get out and move around in the environment quite so much.*

Decision makers also reported service providers ceasing or changing how they provided services.

> *Initially our concern was "how do we continue to still deliver services that are required?" and so personal care and meals, well I mean people just can't go without those two things, we cancelled you know, respite care not knowing how long it would go on for, we cancelled that. People are not going to die from not getting respite, over what we thought would be a short period of time, and obviously home maintenance, we cancelled as well. So it was just putting in core services and monitoring the clients. So the meals on wheels volunteers, the people that deliver the meals on wheels, very much, they were tasked with, just checking "How they are going? How they are coping with it?"*

Staff to provide services

The event also impacted on the availability of staff to provide services and there were reports of individuals working beyond requirements. Flexible work arrangements were available for staff.

> *I think you are conscious of it all the time when you go to the clients. You are concerned about them as well because you do get attached to them when you're doing the same rounds and that, you know you feel 'how are you, what's happening' because a lot of them don't have family here and you might be the only one they see.*

And:

> *I mean we were like the postie we work through heat, and rain and you know snow wherever it is, and fires, I mean this coal fire affected everybody I'm sure, and we still did our job because if we didn't – who would?*

And:

> *So we had to be very flexible with how we worked and that was for staff safety. We had a number of staff that have, like health conditions as well that we had to be aware of to, so some of the staff that were able, to work in the office, that do work in the office were*

relocated as well. So, there was a lot of things that went on, sort of within the organisation as well as within the program.

6.5.2   Health

Concerns at the time of the event

Older adults in the community described a range of health effects that they associated with the event. These included headaches, the impact on their lungs and increased respiratory problems, nosebleeds, itchy/sore eyes, poor sleep, and mental health concerns, including anxiety as described by the service providers.

> *I couldn't go out for a few days because it brought on my asthma, really bad, and I had to be really careful all the time, because my doctor was checking me all the time. But what it's going to do me later on I don't know. I don't know. No one knows. No one knows what's in the future.*

Service providers reported the health and other impacts on older adults in the community.

> *It wasn't only people's health it was their wellbeing living in an area where you've got ash, where your house is dirty…you know you can't have your clothes out, you just can't live normally. It made it made living terrible.*

Service providers also reported the anxiety that the event provoked in older people.

> *We saw changes in their behaviour, so, you know, mild manned, polite gentleman, were angry, and aggressive and confused and, I hadn't really thought about it until we started talking about it, and now, there were a number of times when I was here in the office with a couple of older people in the community, just calming them down and trying, and they were confused, and they were tired, they weren't sleeping, so, and they were struggling to breath and they were very stressed.*

Decision makers noted the concerns that older people had about their health at the time of the event.

> *So a lot of the stuff I was hearing was more (pause) how do I say, people were more concerned about the smoke for sure, so concerned about what that might be doing to them because it was a bit more heavier that what they had been used to. So that was one concern, like really heavy smoke, and you know, even in your eyes and even when you went, because we were here, so even in your eyes you could feel it in the main street and stuff.*

Some older adults, however, had no concerns at the time of the event.

> *It didn't worry me.*

> *It didn't bother me.*

> *It didn't worry me whatsoever.*

This was also remarked on by service providers.

> *We were still providing our services, so they still had that contact which was probably another reinforcement for them as well, so, like we really didn't come across anyone who was overly distressed, about the situation*

Current health concerns

Older adults reported at the time of the discussions health concerns that they were still experiencing which included breathing problems, headaches, and nosebleeds.

> *I was personally very affected by it and since those fires my COPD has maintained a worse condition.*

Future health concerns

Older adults living in the community expressed concerns for the future.

> *But what it's going to do me later on I don't know. I don't know. No one knows. No one knows what's in the future.*

Decision makers also acknowledged community anxiety about future health impacts.

> *I think there is some ongoing sort of anxiety around some aspects. Obviously a lot people are anxious about the long term impacts on their health, people are still anxious about things like ash in roof cavities.*

6.5.3   Stoicism – part of living in Morwell

Older adults in the community were often reported as being stoic, by the older adults, service providers, and decision makers. Their stoicism was often compared to younger adults and related to their past life experiences.

> *It's part of human nature, 'I'm all right, I've got my own vacuum cleaner, the house is not too bad'.*

And:

> *I suppose that, the age group that we are working with, they are pretty stoic, they sort of get on with it, and they just deal with it as it comes, they don't sort of, get up in arms about things too much.*

And:

> *They were incredibly stoic, we had to delve to find if they really did need something, even if it was us just going and doing the shopping for them, so they didn't have to go out, you know, and I think, honestly, it was the older members of the community that weathered the event far better than the younger members of the community.*

Service providers and decision makers described the older adult population as being more stoic than the younger adults.

> *If anything, we were having issues with the younger generation or the middle aged people because they weren't, and this is awful, it's not meant to be bad, but they weren't entitled to anything so felt like they were caught in this catch twenty-two situation, they didn't create it, but they were left with the after effects, so that's probably where I got most of my feedback.*

Older adults themselves described their stoicism as part of living in Morwell, context with other events, and having no other choice.

> *It wasn't to the point where it was unbearable or anything, and you knew it was happening so you put up with it.*

6.5.4   Strategies for smoke

Older adults described a range of strategies that they implemented at the time of the event, ranging from closing door and windows, wet towels and bowls of water with lemons in it or just simply staying at home. Some even went to other towns to complete their shopping.

> *I chose not to shop in the central part of Morwell during it. It was just too unpleasant.*

Service providers described the strategies that their older clients had put in place.

> *They were pretty resilient so they, sort of, quite a lot of them had their units all set up, you know, they had bowls of water, and they had the old, you know the old fashioned way I guess of doing things.*

As did decision makers.

> *One older woman, when we questioned her, she said "darling it was just like when my mum had the coal oven back in England and all I would do was what she did" and she had sliced lemons floating in a bowl on her table in warm water, you know, so they were rather stoic.*

6.5.5   Families and friends

Service providers reported the support to older people offered by families.

> *Like when I rang they would say, "its already, we're under control, we're at our families or you know, I've just gone to my friend in Traralgon" that sort of stuff. So I don't actually think I relocated anyone, to a, like a respite facility or accommodation that was then funded through the mine fire sort of funding, they were, yeah it was all sort of, self-managed.*

6.5.6   Broader impacts

Older adults, service providers and decision makers described the broader impacts of the event. This included the broader impact on people's homes, including house values, facilities, including residential care facilities, pets, vehicles, and local business.

Homes

Older people expressed concern over their houses.

> *People worried about their houses and things like that as well, about the damage it was doing to their houses.*

Concerns for the impact that the event had on house prices was also reported.

> *Property prices are down, people can't get the prices they paid in the first place, so that is a major depressing concern.*

Local business

Older adults described the impact on business.

> *That was the other cost that nobody has taken into account was it, the loss of work that was around this area, I mean no one was ever compensated for that. What about all the shop*

owners, no one was buying anything, all the businesses, no one could do anything, you couldn't work outside, it was impossible.

Decision makers also acknowledged the impact that the event had on businesses.

I think financially, like straight away it was pretty tough on the local businesses, the small ones. So do you remember, they had, they were giving credit cards away or cards away to go and spend at the big shops and stuff, and a lot of the small businesses got upset saying "Why aren't these cards being given to us?" because it would have really helped them.

Vehicles

The impact on vehicles was also described by older people.

Another thing that has happened to me is the health of my car…the paint is stripped, it's also happened to [name] old car and it's happened to [name] car and because it's happened to me I do take notice as I'm driving around.

Pets

Older adults also reported the concerns that they had for their pets.

A lot of these disasters they happen everywhere, they just did not care about the animals…you get a flood a fire or anything "oh no just let them burn"…forgetting about that these, people are very attached so there going to stay there.

6.6 Summary of qualitative findings

We have been able to gain a comprehensive understanding of the experience of the smoke event on older people and the efforts put in place to support them from focus groups held with older people and local community members, interviews with representatives of services which supported older people during the smoke event and with local and state-based decision-makers. In the next section we bring it all together by combining what we heard with our analyses of relevant literature and various government policies and plans.

7 Bringing it all together

7.1 Overview

This review explored the impact of the Hazelwood mine fire on older people living in the Morwell community in the context of the policy-driven decisions made at the time. By combining the results of the qualitative analyses – what we heard ([Section 6](#)) with our analyses of the published literature ([Section 3](#)), the policy context ([Section 4](#)) and the chronology of the event ([Section 5](#)), we have been able to gain an understanding of the experience of the smoke event on older people and the efforts put in place to support them. These findings have important implications for policy direction and may usefully inform best practice to improve preparations for and responding to a future event.

In this section we present a pre-emptive summary of these findings, as discussed with and confirmed by key respondents, using the following four broad thematic headings:

- The impact of the Hazelwood mine fire event on older people.
- The impact of policy-driven decisions made at the time on older people.
- The impact of the jumbled roles of emergency personnel and agencies on older people.
- The impact of communication during the event on older people.

The final section builds on these important findings of the impact of the Hazelwood mine fire on older people living in the Morwell community, which in many respects are generalizable, with considerations for policy and planning for older people in future disaster events.

7.2 The impact of the Hazelwood mine fire event on older people

7.2.1 Older people's diverse experiences of the event

It is clear that the Hazelwood smoke event was one of the most significant air quality events in Victorian history (Fisher et al., 2015) and had a significant impact on older people and the broader community (Macnamara, 2015; Teague et al., 2014; Wood et al., 2015). Our discussions with older residents showed that there was considerable diversity in terms of the impacts of the smoke event, with many older residents reporting a wide array of physical and psychological symptoms at the time, and some reporting ongoing symptoms as well as concerns about long-term health impacts. Conversely, other older residents reported being minimally impacted by the smoke event and that it was no worse than previous smoke exposures, including previous bushfires and planned burns as well as the annual exposure to high smoke levels when briquette heating had been the norm. The diverse range of responses that we received during the focus groups discussions may be because we talked with an array of groups and included older people who were not receiving health and social services and who received little or no support during the smoke event.

Discussions with service providers tended to reinforce the stoic and robust nature of older residents, with service providers reporting that while some of their clients did raise concerns about the smoke, the large majority were not overly concerned about the health impacts, but were adopting strategies to reduce the smoke entering their homes. It may be that the observations by service providers that older people were generally untroubled by the smoke event was because service providers were largely consulting with those receiving their services, who would have felt confident that help was available should the need arise.

7.3   The impact of policy-driven decisions made at the time on older people

7.3.1   A unique event?

There was almost universal agreement in the discussions with service providers and decision makers that the Hazelwood smoke event was a unique occurrence which was beyond the scope of existing policies that had been developed for bushfires and other emergencies. This was echoed by older residents who felt that the various agencies were unprepared for the mine fire and the resultant smoke event. Why the agencies weren't prepared is a matter of considerable debate, with the first Hazelwood Mine Fire Inquiry (HMFI) report noting that bushfires are a regular feature of Victorian summers, that coal mines, including those in the Latrobe Valley, are prone to fire events and are challenging to respond to, and that Morwell is in very close proximity to the mine (Teague et al., 2014), all of which had been identified in the Latrobe City Fire Management Plan 2013-2016. This situation is best summed up by the HMFI report which noted that "Contrary to suggestions that the Hazelwood mine fire was the 'perfect storm of events', all of the factors contributing to the ignition and spread of the fire were foreseeable. Yet it appears they were not foreseen*." (Teague et al., 2014, p. 20). The inquiry did recognise, however, that the event was "by far the biggest and longest" mine fire that has occurred in the Latrobe Valley (Teague et al., 2014, p. 62).

7.3.2   Absence of evidence regarding the health impacts of coal mine fire smoke

One of the challenges faced by the Victorian Department of Health (DH) and other agencies during the smoke event was the lack of a strong evidence base regarding the impacts of coalmine fire smoke events, including impacts on sub-groups such as older people. This dearth of evidence has been highlighted in a recent review of the literature (Melody & Johnston, 2015). This review found that there was little or no peer reviewed evidence of coal mine fire smoke health impacts, but evidence from other types of smoke exposures was available to conclude that coal mine fire smoke exposure is likely to lead to increased mortality and morbidity, including possible respiratory, cardiovascular and cancer outcomes. Melody and Johnston (2015) noted that the lack of evidence on the short and long-term impacts of exposure to coal mine fire smoke hampered the public health response. Interestingly, the lack of evidence seems to have been used to allay rather than increase concerns, with the Chief Health Officer using absence of evidence to support the argument that no long term health impacts were expected (Charalambous, 2014).

A number of respondents from the general community and from service provider representatives felt that the community should have been evacuated early into the event, and that the voluntary relocation advice that was issued on 28 February came too late. However, our review of the literature made it clear that the decision to evacuate or temporarily relocate a community or sub-sets of that community is incredibly challenging, especially for frail older people with chronic health conditions (Benson & Aldrich, 2007; Dosa et al., 2012; Smith et al., 2009). So the DH faced a very challenging situation, having to weigh the concerns of the community against the risks of a major community relocation effort in the absence of clear evidence.

While the challenges facing the DH and other decision-makers at the time were considerable, in hindsight it does seem that the focus on evidence-based decision making generated considerable angst within the community. This is exemplified by the following statement from one of the older residents:

> *I was surprised at* [the Chief Health Officer's] *assessment of it of being 'a minor importance' where I thought, I thought she dropped the ball. I got the impression that 'well there's no evidence, there's no written evidence, so you know, I can't, I can't say look people should get out' and she didn't go, go on what was going on, rather than just the lack of evidence.*

Had the Melody and Johnston (2015) review been completed prior to the Hazelwood event, it is possible that the decision-makers would have released the advice to temporarily relocate earlier into the event and avoided some of the concerns raised by the community.

7.3.3   Policy development on the run

There was a clear thread through the community, service provider and decision maker discussions regarding the mismatch between existing emergency policies and the extended, dynamic and uncertain nature of the Hazelwood mine fire event. An early policy change which took place during the fire event and was the subject of considerable community concern at the time, was the development of safety plans to protect firefighters from exposure to carbon monoxide, with the local media reporting that firefighters felt like they were "being treated like guinea pigs" (Nelson, 2014a). The HMFI report provided a comprehensive review of another protocol developed during the event, this time aimed at protecting the health of community members. The $PM_{2.5}$ health protection protocol was developed on 25 February 2014 (over 2 weeks into the fire event) (Teague et al., 2014). This protocol, combined with advice to the Chief Health Officer that the mine fire was likely to burn for at least two more weeks and that $PM_{2.5}$ levels were expected to exceed standards for three days, lead to the decision to recommend that vulnerable groups including older people temporarily relocate (Teague et al., 2014, p. 346). Interestingly, the DH sought a rapid peer review of the protocol the following week which resulted in discrepant feedback from the expert reviewers – highlighting the challenges of trying to develop policy under emergency conditions (Teague et al., 2014, p. 345).

This development of policy on the run and the resultant change in health advice to older people and other at-risk groups to temporarily relocate, coming as late as it did in the event period, was a source of annoyance for some older residents, as exemplified by the following:

> *Residents weren't advised to do anything in those initial stages...I was disappointed over, it was later in the piece that the advice came out 'Residents in Morwell's Southside should relocate'. Which was a confusing announcement to make really from a policy point of view, yes relocate – How? Where? What assistance? How might we do that? So I was concerned over that.*

In addition to developing new policies and protocols, there were issues in the way in which existing policies interacted, such as the Municipal Emergency Management Plans (MEMPlans) which all municipalities are required to develop based on local response to the key principles of the Emergency Management Manual of Victoria (EMMV). In the case of a major event such as the Hazelwood mine fire, these MEMPlans are overridden by the state level plan, relegating local council to a minimal but supportive role. This approach may be suitable when responding to short sharp disaster events such as bushfire, allowing councils to take a more active role once the emergency has passed. However, in the current example of an extended duration which was impacting a community this approach resulted in clear issues. Regardless of this, service providers, including Latrobe City Council (HACC services) did their best to work with the DH, to meet the needs of older

people already in receipt of services, with examples of support schemes being used as welfare checks, provision of information (though not necessarily in the best way), and targeted support.

7.4 The impact of the jumbled roles of emergency personnel and agencies on older people

7.4.1 Shifting roles

One of the 'unique' challenges of the Hazelwood event was the extended duration, with one older resident noting that "*it just dragged on and on and on and on…I didn't think they were ever going to get it out to tell you the truth".* The emergency response continued over a 45 day period, with the public focus shifting from the response to a complex of fires which initially directly threatened the Morwell community to an ongoing fire largely restricted to the mine site and threatening state electricity supplies, and to a long term emerging smoke health threat. These shifts, coupled with the fact that multiple agencies were involved (including emergency, environmental, health, local and state government) and that their roles changed in line with the changes in the response focus, clearly created issues with the response and the engagement of the local community and the subsequent impact on older people.

The chronology of the Hazelwood event included in this report gives a useful overview of the shifts that occurred during the event (Section 5). The Country Fire Authority (CFA), in partnership with other emergency services and agencies, headed the response to the bushfires and the mine fire and led the engagement with the local community in the first instance. As the event continued, public engagement shifted from a focus on the fire event to a focus on exposure to the smoke and other pollutants. The Victorian Environment Protection Authority (VicEPA) was requested to undertake extensive air monitoring from day three before issuing the first smoke advisory notices. As the scope and possible duration of the smoke event became apparent the Victorian DH increased their public engagement, issuing the first health alert on day five of the event, including advice that the elderly may be more susceptible to smoke impacts. This was the first public reference to older people during the event. However, service providers had been actively supporting their older clients from the start of the event.

7.4.2 Role confusion

The increasing focus on the impacts of the smoke event on the health of the community saw the event change from being a fire event under the control of the CFA to a public health event under the control of the DH. The command structures of these two bodies vary considerably. The CFA used a localised model centred on a local incident controller. The DH had a centralised model geared up to respond to state level challenges such as disease outbreaks with the Chief Health Officer ultimately responsible for decision making and communication. These differences in command structure, combined with the fact that the fire event continued at the same time as the smoke event, led to some confusion and mixed messaging as discussed in 7.5.1.

In addition to the CFA and DH, other agencies were required to play a key role during the response and this was complicated by the extended duration of the event. For instance, in a more common emergency event such as a bushfire, the CFA is responsible for managing the fire, DH and other health agencies responsible for addressing health impacts, and local government responsible for recovery activities. In a bushfire event these components are reasonably distinct and all the agencies

are very experienced at providing the appropriate support. This was not the case with the Hazelwood event where roles were blurred rather than distinct. As concerns about the smoke event increased over time, a council and others were attempting to support the community at a time when the DH had general responsibility for the event. While it is apparent from our discussions and from the submissions to the HMFI that all agencies worked extremely hard to support the community during this time, it is also clear that there was a lot of confusion and uncertainty about which agency was responsible for what. One of the most obvious manifestations of this role confusion was the breakdown in communication which occurred during the smoke event, and lead to older residents reporting having less trust in the emergency response and in the people and organisations at the centre of that response.

7.5 The impact of communication during the event on older people

7.5.1 Challenges of engaging with older people and the broader community

As outlined in the chronology of events provided with this report, the first communication from the DH was a health alert issued on 13 February, some four days after the start of the mine fire, which made reference to groups likely to be more sensitive to the smoke impacts, including the 'elderly'. Alerts continued to be released by the DH, VicEPA, and the CFA over the next six weeks. The HMFI drew attention to the arbitrariness of saying that people aged over 65 are 'at risk', with previous disaster researchers highlighting that messaging like this risks disenfranchising older people, reducing the likelihood of them attending to critical emergency messaging (Duggan et al., 2010). It was clear from the findings of the HMFI and from the feedback of older residents that:

- this communication was not well coordinated
- at points it appeared contradictory
- older community members in particular found it hard to comprehend
- many older people not in residential care or not receiving services felt disengaged and ignored.

Macnamara (2015) described the Hazelwood event as a 'crisis of communication' and argued that there was confusion between provision of information and real communication and that there was a lack of empathy with the community. One of the core themes expressed by older local residents was dissatisfaction with the communications coming from the DH, with the Chief Health Officer perceived as an outsider who had no real understanding of the impacts on the community. Older residents also noted that other experts came down for the day or, if they had to stay in the Valley, opted to stay in Traralgon or other towns less exposed to the smoke, leaving some residents saying that it was acceptable for them to be in Morwell, but nobody else wanted to be there.

Another example of the confusing and sometimes poorly directed communications was the messages regarding supports for household cleaning, with a number of older residents expressing confusion about what was available, and who was eligible. There was a sense of both amusement and consternation regarding the provision of the now infamous cleaning kit, known now as 'the bucket', containing basic cleaning supplies and which some felt added injury to insult.

7.5.2 Targeting older people in an emergency response

Another policy issue which became apparent in the response to the Hazelwood mine fire was when and how to target older people in the response, including which groups to target. The focus during

the event on older people appeared to be targeted to those people in residential care settings and on those in receipt of services – the perceived most vulnerable. There was considerable local discussion regarding the evacuation of aged care facilities with facility managers working closely with local health officials. The literature review highlights the challenges associated with evacuating facilities and the need to do so in a carefully coordinated manner. The experiences of the facility closest to the mine were particularly telling, with an initial decision to evacuate the facility on the first day of the mine fire being overturned by facility management because of awareness that the evacuation was likely to put the residents at much greater risk than the mine fire. Interestingly, the facility was subsequently evacuated on 1 March, only after the Chief Health Officer released an alert the preceding day advising people aged 65 years and over or with chronic health conditions to temporarily relocate. As outlined in Section 4 of this report, current Commonwealth and Victorian state policy makes it clear that such decisions are the responsibility of facility management. However, it seems that the facility wanted to wait on formal advice from the DH – suggesting that there was still confusion regarding who is responsible for such decisions.

In our discussions with service providers and decision makers, it was apparent that there was a strong focus on providing additional support to people already receiving services – based both on the fact that these people had already been determined as needing supports and because they were an identifiable group. All the service providers, with the support of the DH, used this as an opportunity to check on older residents, monitor their wellbeing during the event, and provide some information about the smoke event. A key example here are the visits that were made by council staff to all their Home and Community Care (HACC) clients which provided the model for the door knock visits of all Morwell homes and was lauded by the HMFI (Teague et al., 2014). This is in contrast to the perception of some community members that the council were absent during the event, which is perhaps a reflection of the council personnel being unable to be as proactive and visible as they would have liked because of the emergency responsibility lines placing them under the control of the DH (as discussed in 7.3.2 and 7.4.2 above).

While targeting older people in residential care or in receipt of health and community services was entirely appropriate, our review of the literature makes it clear that it is important to consider the needs of other older people living in the community. It indicates that older people who are not receiving services may be more at risk than more frail older people who receive regular support and therefore are being monitored (Deeny et al., 2010; Tuohy & Stephens, 2011). This was backed up in a number of our discussions with older residents, where older people reported suffering from physical health symptoms or being unable to access supports to get respite from the smoke or to clean their properties. While the messaging from the DH correctly recognised that older people were potentially more vulnerable, issuing alerts for 'at risk' groups, namely "people over 65, preschool aged children and those with pre-existing heart or lung conditions" (Teague et al., 2014, p. 325) was problematic, labelling all people over 65 years as at-risk is arbitrary and risks disenfranchising robust older people, making them less likely to attend to important emergency messages.

How to access the broader group of older people living in the community was highlighted in the literature as being very challenging. The development of the Victorian Vulnerable People in Emergencies (VPE) register highlights these challenges. Garlick (2015) provided a critical assessment of the VPE, noting that it has largely ended up as a list of people already on other lists. This has been exemplified in the case study of 'Anna', an older Morwell resident not previously in receipt of

services who turned up at the relief centre on day 12 of the event with a sore throat and disoriented and was subsequently placed on the VPE, provided with respite away from the event, and assessed for ongoing support needs (Diaz, 2016). This clearly raises the question of what would happen to people who don't report to health centres, including those with limited mobility or no access to transport? Instead of trying to identify lists of people to be individually targeted, a more successful approach could be to increase engagement activities with the different sectors of the community, including older residents.

7.5.3   Providing advice to older people

In addition to engaging the community in a two-way conversation the messages being shared with older people and the broader community should be appropriate and doable. While the DH was advising residents to seek respite away from the smoke, including the later message for 'at risk' groups to temporarily relocate, it was apparent from our discussions that the capacity to relocate was closely associated with a number of other factors including access to alternative accommodation, social networks, transport, and sufficient funds. For example, while a number of older residents reported moving to their holiday homes for weeks or more, most did not have the option and so felt trapped. In the spirit of community sharing, there was an attempt to set up an informal register of vacation homes that Morwell residents could make use of, including one belonging to then Premier Napthine, but the logistical challenges associated with this meant that the well-intended scheme was not continued. One local resident who participated in our discussions did take up the offer of relocating to a home in Traralgon, only to find that the home was unsafe and she had to return to Morwell. Interestingly, one of the health service agencies was able to make use of existing community care respite opportunities to provide their clients with time away from the smoke – but again, what about those not already receiving services?

7.6   Summary

It was apparent from this analysis that the voices of older people - especially those normally robust people not already receiving services - were paid little attention during the Hazelwood smoke event. While service providers, with the support of the DH and other agencies, worked hard to ensure that older clients were well supported, there was little thought given to the needs of older people living independently in the community. Poor engagement with the community and with sections like the older cohort, which focused on provision of information through data sheets and alerts rather than two-way engagement, led to confusion and mixed messaging. This undermined the trust placed on them by older residents and the broader community, making it hard for residents to see how much good work was actually being done on their behalf.

The apparent mismatch between existing policies and the extended and dynamic nature of the Hazelwood smoke event, which prompted the development of policy on the run, was a matter of considerable concern and further eroded the trust of the community in the DH and other agencies.

All the agencies worked hard to support older people during the event, and there are clear examples of going above and beyond expectations, such as the door knocking of older HACC clients which laid the groundwork for community wide door knocks. However, we believe that there is considerable work that could be undertaken to improve coordination between levels of government and response agencies and to build engagement and collaboration with older people and the broader community.

While it is not appropriate for us to make formal recommendations, the final section of this report builds on these important findings of the impact of the Hazelwood mine fire on older people living in the Morwell community, which in many respects are generalizable, with a number of considerations for policy and planning for the needs of older people in future disaster events.

8 Considerations for policy and planning for the needs of older people in future disaster events

8.1 Overview

While all the concerns arising from this research should be considered in policy and planning for older people in disaster events, in this final section we put the spotlight on communications and engagement. The recurring issue arising throughout the research process, culminating in the September 2016 verification workshop with key community and organisational contacts, is the requirement to listen to and include the voices of older people in both preparing disaster event policy and programs and during future disaster events.

8.2 Communications and engagement

The consistent focus was on communication and engagement, reinforcing the statement that the event was a 'crisis of communication' (McNamara, 2015) more than anything else. From the older person's perspective, disaster event communications policy should draw on the evidence now available around the criticality of:

- who is delivering the message
- how the message is delivered
- who is being targeted
- communication with older people to build and maintain confidence and trust.

8.2.1 The criticality of who is delivering the message

- The need for consistency among spokespersons - respondents felt that there were too many voices, and that the various spokespersons were rostered on a rotating basis and so had no chance to build local knowledge and engagement.
- Spokespersons need to be seen as part of the event – so either use a local person (much preferred) or if an external person then they need to be seen as staying in/with the community.
- Preference for local government to take the communications lead, regardless of whether they actually have the responsibility – the older community looks to their local council.
- Age-relevant spokespersons – a 20 year old carries little weight with the older cohort; include older people or known senior health professionals as support speakers.
- Make use of existing community groups involving older people to seek advice from and to disseminate information.

8.2.2 The criticality of how the message is delivered

- Ensure that roles and responsibilities amongst and between agencies involved are known and understood in order to reduce anxiety and confusion among the elderly.
- Avoid presenting the elderly in an unfairly negative light.
- Engage with the older community – two way conversations showing empathy and understanding rather than talking to a leaflet and citing previous reports
- Provide information that is comprehensible and do-able.
- Avoid conflicting communications and mis-information.
- Provide simple and helpful emergency information via social media from a clearly-identified trusted source.

- Avoid leaving an emergency information vacuum which may be filled by less-informed respondents.

8.2.3 The criticality of who is being targeted

- Awareness of all the vulnerabilities of older people and how they play out together - e.g. focus on people with chronic conditions, mobility limitations and limited social networks rather than targeting older people as a group.
- Awareness of the needs of the 'robust elderly' who are not receiving health and social care services and so may be in greater need during an emergency event where normal routines and services are disrupted.

8.2.4 The criticality of communication with older people to build and maintain confidence and trust

- Actively communicate what has changed, the protocols in place, changes in agency structure, relevant new policies and procedures, mitigation and prevention strategies.
- Make use of existing community groups involving older people to disseminate information.
- Make use of disaster management exercises to involve agency personnel and community volunteers and engage with local media.

8.3 Analysis of the interaction of the various policies, protocols and programs relating to emergency management and older people

A detailed inter-agency "older persons' in emergencies" policy, protocol and program analysis was beyond the scope of this research and we suggest that there is a considerable amount of policy work required. However, a number of considerations that emerged as part of the initial work undertaken in this study may provide a useful guide.

Considerations around:

- the continuation of regionally-based, inter-agency disaster event planning, particularly regionally based activity and regional/central interactivity
- shared knowledge and understanding of roles and responsibilities of the agencies and service organisations involved
- local government responsibility for communications in events given their advantages in their region's community affairs
- an understanding about and inclusion in policy of evidence-informed decisions around evacuation and relocation of older people in disaster events.

8.4 Qualitative research and older people and disasters

In the wake of recent disasters, there has been a strong call for qualitative research to explore the insights of older people impacted by disaster events to better understand and to learn from their experience. This study has demonstrated how powerful qualitative research methodologies are and the richness of the data collected.

While we are confident that this report provides valuable insights that will inform future policy development, the Impact on Older People Study Stream team would be pleased to facilitate a Masterclass for DHHS policy-developers and decision-makers (regionally and centrally based) on this policy review of the impact of the Hazelwood mine fire on older people.

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