

Report on challenges and implications
facing senior personnel engaged at
regional and state levels of emergency
management operation coordination

Dr Christine Owen

University of Tasmania
for the Bushfire Co-operative Research Centre

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Contact Christine.Owen@utas.edu.au

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Executive Summary

Senior fire and emergency services personnel have to manage many complex challenges and these demands are going to increase in the future. In order to understand what these challenges are and potential options for improvement, interviews were conducted as part of the Bushfire CRC funded research *Organising for Effective Incident Management*. The aim of the research was to better understand the information needs and decision-making challenges facing those operating at senior leadership level above the local Incident Management Team so that strategies to move forward can then be identified. These interviews form part of a consultation process that will feed into a discussion (Green) paper of issues confronting the industry and, in collaboration with the industry, into a White paper outlining strategic directions for the future.

This report provides a synthesis of challenges raised in interviews conducted with 54 personnel working above the local incident management level. Telephone or face-to face interviews were conducted using a grounded theory approach. This report discusses the main challenges that were reported and that need to be confronted to manage future emergency events. These include:

Changes in the nature of emergency events and their management complexity

Leaders need to manage emergency events that have increased in their frequency, magnitude and duration and, since the watershed moment of the Victorian bushfires in February 2009, do so in an environment of considerable change. There have been shifts in the political sphere and the relationships between emergency operations, the political sphere and senior levels of government needs closer attention. In addition interdependencies in socio-technical systems have resulted in increasing complexity of managing in times of budgetary constraint, with an aging workforce. Increased attention is needed on fatigue management for sustained operations in protracted incidents. The adversarial nature of post event inquiries has also taken its toll on interest in stepping into critical decision-making roles. In addition, changes in organisational restructuring and outsourcing result in a decline in traditional sources of resourcing (e.g., from local government).

There is a need to strengthen state-to-state resource sharing. This works well on the incident ground but attention is needed to align systems and processes above the IMT so it is easier to share resources at these levels.

The attention required for planning to mitigate emergency events was lagging and the senior emergency managers interviewed perceived they were left to deal with the consequences.

Challenges of governance and institutional change

In the interviews conducted there is a widespread agreement that AIIMS is well established and works well for local operational management of incident response. Above the IMT level however there is less of a systematic approach. Each state has different jurisdictional and governance arrangements in place. There were challenges associated integrating emergency service arrangements across State borders. In

addition State government Departments continue to grapple with the cross-institutional coordination required to address complex multi-sectoral issues needed in emergency management. These challenges are exacerbated due to organisational and institutional change (e.g., local government outsourcing core parts of the business and relying on contractors for plant and operations).

Policy initiatives such as a whole of government all-hazards approach to emergency events had yet to be worked through in practice within emergency services organisations. They have implications for training and resourcing as well as a need to breakdown traditional agency-based (and sector based) cultures.

Understanding, meeting and managing stakeholder expectations

Understanding, meeting and managing expectations of stakeholder communities was a major concern for many of those interviewed. There were perceptions that community and elected representative expectations were increasingly unrealistic and that recent attempts at enhancing community resilience had in fact had the opposite effect leading to declines in community resilience. Leadership was needed from senior levels of government about community preparedness, self-sufficiency in emergency events and a more realistic expectation that in an emergency, response would be to community assets and not individualised personal attention.

Meeting and managing the leadership and capability needs

The demands associated with incident complexity increasing and the changes required in the cultural identity of emergency services personnel, set up new challenges for leadership and the development of capability. In some jurisdictions there has been a concerted effort to develop new leadership programs aimed at relationship management and the non-technical skills of communication, conflict resolution and negotiation in others this was in need of attention. Personnel operating in senior positions at regional and state/national levels were frequently doing so with limited professional development. In particular capability development was needed in non-technical (communication, conflict resolution and negotiation skills) as well as in meta-leadership.

Evaluating emergency response and measuring success

The strategies used to monitor and evaluate the overall safety health of the emergency management system, and whether or not from a strategic perspective emergency management objectives were being achieved, are still in a developmental stage. Given the scrutiny of emergency management processes in post-event inquiries, it is important that those working in senior leadership positions have in place process and outcome measures to be able to assess whether or not their initiatives are on track. Absence of these process and outcome measures represents considerable risk and exposure for emergency services organisations who will continue to be evaluated by external sources (e.g., media) in a post-hoc and arbitrary manner.

The next stages of the research project will be to use the findings, including those reported here, to inform a discussion paper for the industry to consider in terms of strategic options for effective organising at regional and state/national levels of emergency management.

To guide the continued consultation and discussion, five contradictory tensions evident in the stories told by participants are posed as “wicked” questions to highlight the often contradictory nature and trade-offs when engaging in change in the complex multi-sectoral domain of emergency management.

1. In what ways do Australian governance arrangements contribute to fragmentation in addressing emergency management challenges?
2. To what extent might a whole-of-government-all-hazards approach contribute to reduced capacity to manage events?
3. To what extent might increasing expectations contribute to diminished resilience?
4. Are there limits to what can be expected from emergency services organisations and if so, what strategies might be needed for stakeholders to come to grips with those limits?
5. To what extent might approaches to building flexible and adaptive management be leading to structures that are less flexible?

These questions will form the next phase of this component of the research: to consult with the industry about options and strategy for the future.

Introduction

Senior fire and emergency services personnel have to manage many complex challenges and these are going to increase in the future. In order to better understand the nature of these challenges and potential options for improvement, interviews were conducted as part of the Bushfire CRC funded research Organising for Effective Incident Management. The aim of the research is to investigate the information needs and decision-making challenges facing those at senior leadership (i.e., regional/state/national) level so that strategies to move forward can then be identified. These interviews form part of a consultation process that will feed into a discussion (Green) paper of issues confronting the industry and, in collaboration with the industry, into a White paper outlining strategic directions for the future.

The question of what are effective approaches to information flow and coordination is an important issue – particularly where there are many differentiated organisational layers in managing complex emergency events. These include local, regional and state level operations as well as lateral relationships with a multiplicity of other organisational and community stakeholders who are either affected or have a role or responsibility.

The challenges of information flow and coordination in major international emergency events has been well documented (Lutz & Lindell, 2008; Militello, Patterson, Bowman & Wears, 2007; The 9/11 Commission, 2004). Militello, Patterson, Bowman and Wears (2007) for instance, noted “[t]he amount of information sharing that must happen within and outside of the EOC [Emergency Operations Center] is quite daunting” (p. 28); while the 9/11 Commission (2004) in one of their key recommendations proposed that, during future large scale emergency incident management events “information be shared horizontally, across new networks that transcend individual agencies” (p. 418). In part, this was as a result of the casualties due to a lack of inter-agency communication in the 9/11 World Trade Centre attacks. Marcus, Dorn & Henderson (2005) reported on the distinct agency-based culture, silo-mentality and historical rivalries between the New York Fire and the Police Departments that led to critical communication not being shared between the agencies and to fire-fighter deaths, despite the fact that from an NYPD helicopter, police officers foresaw the collapse of the towers and radioed police to evacuate. “The message, because connections had not previously been established, never reached fire-fighters who continued to stream into the flaming structure” (Marcus et al, 2005 p. 42)

However problems with emergency management structures in the US were still in evidence in Hurricane Katrina, where the post event inquiry noted that “our architecture of command and control mechanisms, as well as our existing structure of plans did not serve us well” (Walker, 2006).

Research has also identified a number of significant coordination challenges which have impacted on the effectiveness of incident management in major complex events. These included: overloaded spans of control, lack of reliable information flow, inadequate and incompatible communications systems, lack of interagency coordination, unclear lines of authority, lack of common terminology among responding agencies, and unclear or unspecified incident objectives (Lutz & Lindell, 2008; Wise, 2006; VBRC, 2010).

It follows then that effective incident management organising must be structured in ways that allow people to effectively share what they know, coordinate their activities/responses, and adjust to the conditions in a way that is both dynamic and suitably responsive. Those operating in senior leadership positions also have a quality assurance role to ensure that the emergency event is being appropriately managed and that there are contingencies in place to call for more interstate and/or international resources if needed. Yet little is known about the strengths and limitations of existing incident management structures above the local Incident Management Team level and the challenges that senior personnel face in providing leadership in emergency management. Furthermore the need to better understand these challenges is becoming increasingly urgent.

According to a recent report by the Noetic Group (Murphy & Dunn, 2012) the context facing senior leaders in the field of public safety and emergency management is much more complex than that historically faced by their predecessors.

Part of that complexity comes from a range interdependencies of social, technical and infrastructure systems that also increase our vulnerability. This is because the impacts of a disaster experienced in one community can affect many others because of our reliance on, for example, energy, transport or agriculture (Boin & 't Hart, 2010). Moreover, demographic changes including changes to lifestyle expectations, domestic migration, and community fragmentation are also increasing community susceptibility, as well as altering local social networks and sustainability of volunteer groups (COAG, 2011).

In addition there have been increases in the frequency, duration and magnitude of emergency events. In February 2011, COAG adopted National Strategy for Disaster Resilience, developed by the National Emergency Management Committee in the context of a disaster season previously unknown. The summer of 2010-2011 saw every State and Territory, except the Australian Capital Territory, impacted by emergency events unprecedented in intensity and geographic spread. These occurred within 2 years of other "unprecedented" events, notably the January 2009 heatwaves where 375 people were reported to have died and the February 2009 fires in Victoria which resulted in 173 deaths, as well as the displacement of thousands of others. These "out of scale" events (Murphy & Dunn, 2012) appear to be what may be considered "the new normal", meaning that they are not outlier aberrations and exceptions to the norm but indications of what can be expected as part of everyday business. These events also illustrate the prescience in Australia's first National Security Statement (NSS) issued by (then) Prime Minister Rudd in December 2008, which stated that, 'climate change represents a most fundamental national security challenge for the long term future'.

The latest detailed assessment of the impacts of climate change in Australia contend that the climate system is changing faster than earlier thought likely which will result in more costly and dangerous impacts (CSIRO, 2010). Australia's average annual insured losses from natural disasters are now already around \$1 billion, mainly the result of floods, hailstorms and cyclones. In the future it is argued that more extreme weather events will result in the significant destruction of more infrastructure and communities. The report *Hardening Australia* (Yates & Bergin, 2009) notes that disasters are thus likely to become larger, more complex, occur simultaneously and in regions that have either not experienced the natural hazard previously or at the same intensity or frequency. For emergency services

and disaster management organisations, this means increased demand for existing response services and the need to provide additional services.

Yet at the same time there is a reduced appetite for failure in communities. The research undertaken by a number of authors (e.g., Bigley & Roberts, 2001; Boin & 't Hart, 2010; Murphy & Dunn, 2012) suggests that communities and their elected representatives are becoming less forgiving about how emergency events are managed with an increasing expectation that community life will not be disrupted. Moreover, public opinion about what constitutes appropriate or poor management of emergency events places decision-making during such events under increasing forensic scrutiny (VBRC, 2010; GWA, 2011; QFCI, 2012).

Having outlined some of the changing trends and contexts within which fire and emergency services personnel work it is important to understand the experiences and perceptions of those responsible for their future management. This is necessary in order to map out the horizons and constraints of a strategic move forward. What challenges do senior leadership identify that will need to be overcome in order to manage emergency events in the future?

Commissioner Lee Johnson observed, in his keynote address to an AFAC/BCRC Conference in 2011, the area of incident management is well defined and supported by the AIIMS framework. In the interviews conducted there is a widespread agreement that AIIMS is well established and works well for local operational management of incident response. However the governance above the IMT in terms of policy and alignment is less systematic. The challenge is to scope out the strategic terrain above local incident management and how these activities connect to broader government needs and the needs of political leaders.

The report proceeds as follows: First, the outline of the methods used in conducting the interviews is provided. The responses senior personnel raised as challenges in the strategic emergency management domain are then considered. Finally, future questions for review and discussion are raised as wicked questions. Based on the idea that these complex challenges are indeed examples of wicked problems, the report suggests that moving forward will require the management of particular sets of sometimes contradictory outcomes and trade-offs. The report concludes by outlining the next steps in the consultation process.

Method

Interviews were conducted with 54 personnel in two phases¹. The process for conducting the interviews was guided by Australian Social Sciences Ethics approved in May 2011 (HH8810). The interviews were conducted using a semi structured approach with the

¹ Currently under development is a third phase of interviews involving Australian and New Zealand members of emergency services, undertaken by Dr Chris Bearman, Central Queensland University with the focus on cognition, decision making and coordination breakdowns, to be released when the interviewing and analysis are completed.

objective of understanding the lived experience of participants. Interviews were thus conversational in tone and intended to draw out personnel perspectives and to be guided by what the participants saw as important.

In the first phase, a sample was drawn from those who responded to a survey examining incident management above the Incident Management Team level in Australia and New Zealand. The survey provided an option for those who were interested in undertaking an interview and a selection of interviewees representing different states; jurisdictions and engagement in different levels of emergency management were selected.

The second phase involved a more targeted focus on personnel who are currently operational and working at state levels.

TABLE 1: NUMBER OF INTERVIEWS

Interviews	N
1 st phase	15
2 nd phase	39
Total	54

Interviews were conducted with personnel from rural fire services, urban fire services, land management agencies, State Emergency Services, as well as those involved in emergency management liaison roles². Personnel were engaged in work across all states and territories of Australia and regions in New Zealand. Interviews were between 40 and 90 minutes in duration and were conducted either face to face or by telephone. Interviewees were sent the ethics information sheet and consent forms and asked at the beginning of the interview if they were comfortable with the interview process, which included audio recording. Only one participant stated that they did not want the interview recorded and in this case notes were taken. Interviews were then transcribed and imported into NVIVO, a qualitative data analysis software tool. Data were coded and the analysis for this report revealed the following findings.

Findings

This report is a synopsis of the five main challenges reported by interview participants. These include:

- changes in the nature of emergency events and their management complexity
- challenges of governance and institutional change

² Conducted by Steve Curnin as part of his PhD

- understanding, meeting and managing stakeholder expectations
- meeting and managing the leadership and capability needs
- evaluating emergency response and measuring success

Changes in the nature of emergency events and their management complexity

One aspect that has been changing is the nature of and duration of events which adds to their management complexity. In 2001, for example, the fires in Victoria ran for three weeks and it was at this time that the term “campaign fire” was first used. Personnel reported being grateful that the fires did not run for longer because the resource pool was just about exhausted. Now fire seasons across the country start earlier, run for longer and many have increased in their intensity. In addition the floods have increased in magnitude:

The amount of floods that we’ve had – The Bush fires in 2009. They go in cycles. But how big is the next one going to be, you know? And how prepared are we for it? [The ones that are] going to really test us – they’re only going to grow. We need to be conscious of what’s going to happen. The events are going to be more severe, I think they’re going to be more protracted. - More significant events more often. I mean it’s alright to get one a year but I mean we had the first storm of the century back in 2000 and I think we’ve had about five since.

Given the interdependencies discussed earlier, there is a concern to ensure that changes in one part of emergency management organisation do not negatively impact on another part:

We’re moving in the right direction but you’ve just got to be able to ensure that what you’re doing is right. You’ve got to investigate the impact of change that you do on one area, on another area because without testing it and without knowing the whole picture, you could be adversely impacting on another area. And things are changing so rapidly.

All of the interviewees commented on the level of change that has occurred (and continues) since the watershed moment of the Victorian bushfires in February 2009. However those in senior leadership positions that have had to manage the major catastrophic events thought that there were also shifts in the political sphere and government that needed closer attention. Changes in the number, duration and intensity of events have consequences for how such events are managed:

Things have changed; fundamentally changed. The paradigm has changed about large scale operations. I’m not saying it’s good or bad. But if sometimes we are slow to sniff the wind, you’ll get caught right out and as we’ve seen, many of my colleagues have lost their job around Australia. So, and they’re the scapegoats. That’s part of the difficulty we’ve got. People in a volunteer level who put themselves up as leaders or incident controllers at various layers who you know, get scarred by the incident but then get scarred by the investigation or coronial or whatever the process that comes in on top.

The comment highlights that attitudes toward and expectations of emergency services personnel have shifted and suggests that continuing to operate in ways undertaken historically will no longer be necessarily acceptable. In major events it is inevitable that there is political attention and engagement. It is important to ensure that there is good communication and understanding between Government and elected representatives of communities:

There is a failure within emergency management in its broadest sense, to understand that political strategic interface and how it affects us because we're very, very comfortable with our [internal emergency management] operations where we're doing our bit. And there's not a lot of engagement or involvement with the political chain because it's "business as usual". Even quite large incidents can be regarded, as that, but once you start to get a multiple, or very, very large scale or catastrophic type events, particularly in Queensland, we saw very powerful engagement of the former Premier and showing very direct political leadership in probably a way that most jurisdictions haven't seen.

The interviewee goes on to suggest that these shifts are not necessarily recognised or accepted more broadly in the industry, in part because of the insularity that sometimes characterises emergency services operations and the level of comfort such personnel have with traditional modes of operation.

Managing simultaneous events also add to the complexity, particularly if they are different types of events (e.g., floods as well as fires). This results in considerable fatigue and resource management challenges and a need to change or at least moderate the "can-do" culture typical in some emergency services agencies:

The protracted incidents- we've had to change our culture. Once upon a time it was the trait of a good leader – to start the incident, finish the incident and still be there. [The last man standing.] But you can't do that anymore. We have to be mindful of the clock – "you've been here for too many hours or too many days, time to move over". It's something that's more acceptable these days.

Recognising one's limitations and the need to step down is now an important component of managing protracted events as well as placing increased attention within agencies on developing better fatigue management systems for all involved. In addition unintentional fatigue occurs with the level of change and demands placed on personnel currently operating within agencies as the following participant from an urban fire service notes:

I think one of the challenges is keeping up with the pace of change. ... So we have a system where you're on call after hours, so you know, you're at home and every few weeks you're on call. So we're now seeing people at a senior level who are on call almost all the time. So managing or sharing that work load or allowing people to have a life outside of emergency management world is difficult.

The demographic changes and changes to socio-technical systems discussed earlier in the introduction are also impacting on the way emergency services organisations can do business. In addition, the demographic changes affecting communities outlined earlier are also taking their toll on the resource base within emergency services organisations:

We now have a situation where most of the people who are in emergency management type roles tend to be 40+ and there is very little interest I would have to say from the people who are coming into the organisation or into a lot of the organisations to do emergency management roles if they don't have to. So, and the more risk that the people see that they are personally exposed to and the Royal Commission didn't help in terms of the adversarial nature of it, that impacts on whether people feel like they want to do it.

The adversarial nature of post-event inquiries was noted as increasing the risk of a risk averse approach that can sometimes create its own problems as well as the need to come up with ways of suitably protecting people who are qualified and experienced when they are managing with incomplete information and under difficult circumstances, as the following interviewee explains:

The other thing I think is that there needs to be some legislative changes. IMT and Incident Controllers, when they're given a formal letter of appointment need some protection. There is protection under various bits of legislation but the system – and they've been very lax in following up with the legal definitions and backup. We've adopted this system, we've been training people, we've got the confidence in people, and people have been undertaking these jobs for a very long time. Now people are scurrying for cover ... when realistically there needs to be some legislative protection for people who follow and manage and, you know, not somebody who has done the courses but hasn't actually practised but somebody who is practising, is working at that level, has undertaken incidents and managed incidents, they need that legislative backup. And that's what is scaring people off.

At the same time other related organisations like local government are being asked to step up, traditional sources of labour and plant reserves are not at the levels that they used to be. Economic impacts of organisational restructuring and labour force outsourcing mean that there are not the same employment relationships that can be relied upon:

I think the days of where you have a municipal emergency co-ordination centre, you have MEC running where they all get together and they find out the local resources from Council, those days I think are finished because Council's don't have the resources anymore that they used to. It's all contractors.

There is also a sense of keeping up with the level of change means that it is difficult to get sufficient time to look further ahead rather than at what's on the immediate horizon:

So 10 years out? We don't even look 5 years; we're always flat out trying to get to next season. And that's an issue for us.

One of the consequences of increasing event duration and complexity has been an increased need to look for support from across state borders or even internationally. There have been some inroads into making this process easier but as the following interviewee comments, there is still some way to go, particularly when resource sharing involves others working above the Incident Management Team level:

I reckon one of the biggest challenges; we're always going to have these major events across Australia and across the world really but mainly across Australia and it stretches the local capacities so quickly. And to try and get some other agencies or other States to come in and assist, is a real struggle, – it takes a good couple of days to actually understand the processes you know, even the locations, the buildings, the facilities– the structures. AIMS has gone some way to assist in that [BUT] I reckon really the next challenge over the next you know 10 years, is to try and get us all operating on similar systems, similar technology, you know, that side of things. So, to basically be able to assist that surge capacity so if there was a cyclone up in Queensland, that we could deploy people to assist with, not just on the ground, like the on the ground stuff is pretty easy. It's the same. It doesn't matter if you've got a house flooded in Victoria or Queensland, it's still the same. But it's more about trying to integrate with their incident management teams, their State teams and trying to understand their structures, and every organisation does it differently. Every facility is different across Australia and I reckon that's crazy.

The convergence of systems that are tightly coupled (i.e., consequences in one have immediate effect on another) is also double edged. On the one hand such connectivity is important for efficient inter-operability but on the other hand it also increases the vulnerability of emergency services operations:

I think the consequences of some of, you know as technology gets more advanced and we build clever and bigger things there's sometimes a bigger risk for those things to go wrong.

For some involved in the emergency management sector tighter coupling required for inter-operability represents a larger risk because it removes other contingency options and encourages an over-reliance on the technologies supporting information sharing. Should these break down for any reason personnel are then exposed if they do not have alternative sources for accessing information.

There are also concerns based on demographic changes in population shifts that concern some leaders in terms of resourcing in the future, particularly in terms of reliance on future cohorts of volunteers:

Depopulation of the rural areas. The drift of the cities. ... You're still going to have big fires in the bush. [But] You won't have the resources, you won't have the people there to deal with those fires but those fires can do huge damage to water values, to agriculture, they can run and run and run, become these mega fires that people talk about, – huge fires that are infrequent but catastrophic and incredibly expensive to deal with and we're going to get more of those with climate change and with fewer people to deal with them. So, your fire fighting is either going to become more expensive cause you'll be aerial fire fighting or you're just going to have to be prepared to accept much greater damage bills .

The result is likely to be a shift in terms of what might be achievable with limited resources. A related tension is the recognition that additional resources are not going to be available, particularly in the current economic climate of budgetary constraint. While events are

becoming more intense and run over longer periods and are more complex, emergency services agencies are also required to do more with less:

One of the things over the next five years as a minimum, we're going to have to do more with less. With the constraints going on in every State, resourcing is going to be impacted so the current budget's being slashed in every location.

Given the increasing expectations and demands placed on emergency services personnel (discussed below) these changes will have to be proactively managed if expectations are to be realistic about what is achievable with the resources available.

The nexus between operational and political decision-making

Policies and plans discussing a whole-of-government all hazards approach frequently note the need to also connect planning and response. Yet for the participants interviewed this connection is not adequately addressed in action. The attention needed to provide planning to mitigate emergency events was lagging and the senior emergency managers interviewed perceived they were left to deal with the consequences:

We're expected to arrive on the day of the disaster and somehow hold back the waters, stop the catastrophic mega fire and we can't do it. And then we get blamed because the town planning or the building infrastructure laws were not enforced and people build on the flood zone and the local council caved in to the developer and all of that.

This disconnect between attention to planning for emergency event mitigation is of particular concern to participants who discussed the inequities in funding, noting that every dollar spent in mitigation is worth every cent, given what it might save in response. Those interviewed found it frustrating to be held accountable, in part, for the lack of foresight or courage needed by others in spending on mitigation, as the following interviewee explains:

You know, we've got portable levy banks now that we might put up at [name of town] and guide it around and do whatever but the Mayor of [name of town] – they built three temporary levy banks that cost X million over the last two odd years. So if you'd have given them the money to build a permanent levy bank two years ago – problem solved. Unless it was an absolutely super-duper flood but, and that's a fundamental failure. We're the ones that end up getting held accountable for the failures or omissions of others.

What the discussion also highlights is the increasing interdependence between emergency management, political decision-making and government policy.

Challenges of governance and institutional change

The structures of governance within and between jurisdictions are underpinned by various state legislative arrangements empowering different agencies with their authority and responsibilities. This approach has meant that each state has different approaches, though all share a common challenge emerging from the history of government development.

In their paper, Howes Grant-Smith, Bosomworth, Reis, Tangney, Heazle, McEvoy and Burton (2012) noted that the Australian system of government was shaped by a constitution drafted by a group of colonies who, in the late 1890's, were reluctant to cede power to a new national government, which also included responsibility for managing emergency events.

Those interviewed in many respects reflected the sometimes uneasy relationship between the state and the Australian government in terms of emergency management. The National Security Statement noted that while emergency management is primarily a matter for the states and territories, the Australian Government's role in crisis coordination and disaster response, undertaken by Emergency Management Australia (EMA) is much more passive in the face of disasters than, for example, the role played by the Federal Emergency Management Agency (FEMA) in the United States (NSS, 2008).

Some interviewees suggested what was needed was a national approach, though others did not support this view:

If we could have much more of a national emergency management structure, [then] there's greater potential for sharing resources as required. So if we're on similar systems or at least compatible systems and we knew what we were calling a particular item, be it IMT personnel – which we're now a long way towards with AIMS – or a medium tanker versus a large tanker, I think there's a hell of a lot of potential in that and I know they've [previously] gone down that route. But whether it was the difficulties [that] overcame the group or whether there wasn't the political will to set the compromise.

Longer term? I think the major barriers in Australasia are the State systems. So we've got individual States going off all doing their own individual thing, we don't actually have a really good common platform. If I was to tear it up and write it all over again, I'd have a common, national, Federal government emergency management system and I would have the States aligned underneath that. All providing common systems, common purchasing platforms, common protocols.

Some state governments have attempted to redress the silo-mentality problem by developing policy which emphasises all-hazards, whole-of-government approach to manage emergency events, which is in line with the National Strategy for Disaster Resilience (2011). However those interviewed expressed various concerns that while an all-hazards approach might sound good in principle, it presented challenges in practice, as the following interviewees discuss:

The whole of government perspective. So when an emergency happens, there's an expectation on the emergency services/the control agency that's in charge of it, to solve everything. Not just worry about sending fire trucks and rescue vehicles and boats out, it's actually to co-ordinate and nurture the fixing of all the associated problems to do with it. So it's actually, you know, the power, everything that keeps a community going, is now part of the picture.

I suppose bringing up that governance and legislation as well: - Are we a land manager trying to be an emergency response organisation? Or the other way around? Because at the moment I suppose if, we've got part of the business trying

to be a land manager and part trying to be an emergency response organisation, so normally we'd lose X amount of days or per year going and doing fire work. If we start to then go, well actually our guys are going losing that plus X amount for floods, X amount to HAZMAT or the rest of it, what impact does that have on the business?

There are also issues that need to be addressed at a state-to-state government level:

I don't think there's been one incident where the State has been at a level of crisis where we haven't required capability from other States. So if we know that that's needed into the future then how is that going to set our priorities when budget is allocated at a State level. I think it's a huge challenge, financial is a huge challenge so, you know, I would like to, from an AFAC point of view, white paper, that directional, that's where we're heading in the next 10 years. Can we actually get to that point?

There are also some particular challenges that need to be overcome between states, as the following interviewee noted:

I think what you should be looking at is how each State is going to be actually responding to a crisis and what their relationships are to the adjoining States. How they react with those adjoining States and how they work at a local level to respond to an emergency that is taking place. [for example] when the Brisbane storms hit the year before last at Christmas, we were sent up to Brisbane and first of all they said, well you're SES you can't use the chainsaws, we have to wait for Queensland Fire and Rescue to come to use chainsaws. You can't have your red and blue lights going because only police are allowed red and blue lights. ... There was a huge tree down across the highway and our guys were cutting through a tree that was 5 foot through I suppose. And we parked our cars either side of the tree on the highway and put the red and blue flashes on to let people using the highway know. Police came up and said we will arrest you if you don't turn those flashes off. You're not an emergency service.

The challenges discussed however, are not just ones based on Commonwealth-State or State to State relationships but also derive from tensions between administrative areas of responsibility. According to Howes et al (2012), state governments have, traditionally divided up their responsibilities into discrete areas (e.g., emergency services, the environment, public health, infrastructure etc.) which have had the consequences of leading to silo mentalities within organisations and sometimes horizontal rivalries guarding responsibilities and resources (Howes et al., 2012). The practical implications are highlighted in the following comment:

I have yet to see an emergency management structure that's based around resource coordination, planning and sharing of information where the [agency] lines don't matter. It's easier to comprehend emergency management if you draw your little office on a place on a map and say "well here's our area of jurisdiction".

I honestly think that the emergency arrangements we have in [name of State] are based around multi-agency think-tanks of decision-makers from health, education, energy, fire services, police and so on. But, the administrative groups that form

emergency management teams then tend to dominate the logic of how incident management is structured. And they tend to organise themselves around the boundaries that control their parameters – their organisational parameters. ...And the agencies try to make the paperwork look like it works but I have not yet seen it work effectively across lines drawn on maps – across agencies and across administrative boundaries.

One of the other aspects of engaging an all-hazards whole of government approach has been to widen what is called an emergency with some positive impacts in terms of changing organisational cultures away from viewing an emergency event as the province of the “blue shirts”:

The all hazards bit is the other bit that worries me But the perception of some agencies is that [a heatwave] is not an emergency. I’m not quite sure on what definition that’s not an emergency but some people have suggested that’s not an emergency because it doesn’t involve [traditional] agencies.

However, an all-hazards approach has had other unintended consequences for resourcing as the following NSW interviewee explains when discussing the impacts of a change in legislation that involves all agencies being required to be notified whenever there is any kind of pollution spill, (including sewerage overflow) within 60 minutes of the event:

Now whilst that sounds great on paper, the issue we’re having now is information is coming in and the only real number in New South Wales for an emergency is 000. So we’re getting calls to 000 and we don’t have a filter system that allows us not to respond. So if you call us, we come. We’re fairly unsophisticated when it comes to that. So you call, we come. So the problem is we’re now responding to incidents that we never used to respond to because they weren’t necessarily of any significance to us.

Like a backlog of sewerage that goes into stormwater was never normally a reportable incident to the New South Wales Fire Brigade [but] the law now makes that incident reportable and because there’s no other reportable mechanism, .. So, the phone call now comes to the default which is 000, – they call the fire brigade and then we now [have to] respond to this sewerage overflow incident –we’re now taking people off line that could be - your house – could be on fire.

In another respect an all-hazards approach has been important to get some agencies who do not see their core business as involving emergency events but who nevertheless get called upon in major events (e.g., Education; utilities), to recognise their responsibilities:

So, liaison type people have to move with the Jones’s and catch up. So, ok, well I’m a gas company, I don’t have emergency management people. Sorry you do. They have to exist. There’s an expectation that people will come and they’re the right people and that they’ll be trained. So we have to get a strategy together at least where someone takes on the responsibility for training, providing the standards for training in emergency management – we need to readdress that.

The changes in governance arrangements and post 2009 attempts at clarification have also drawn attention to the need to build closer relationships with those agencies/authorities. The convergence needed with the police services was another area that was a concern for some interviewees.

For me I guess, ideally I would like to see much closer and tighter alignment between law enforcement and emergency services. It's converging but still some way away yet and I think that's an enduring problem that we need to address. A lot of that is culture.

Part of the difficulty is, we have spent a lot of energy trying to get the Police nationally to join us and at various stages [it's been really frustrating]. I think they have a view of AIMS or incident management from the Police point of view [which is very similar to AIMS] but people are so hung up on terminology and what this means and that means. It's unbelievable.

These differences between agencies also impact on other community and stakeholder relationships.

Understanding, meeting and managing stakeholder expectations

Understanding, meeting and managing expectations of stakeholder communities was a major concern for many of those interviewed. In this context communities are intended to mean members of the general public, their elective representatives and their public servants in government. For some, the main concern was in understanding what communities wanted from emergency services organisations:

We've not listened and monitored the communities' expectations as well as we should have. We've sort of hidden behind our agencies legislation and said, well this is what we have to do, we're doing something, but that's actually not what the community want necessarily in, you know warnings and providing them information.

There is an acknowledgement that more needs to be done in servicing community information needs in particular:

The first one is the community expectation is just growing and growing and growing. We've got iPhones and we've got all this wonderful technology available publically domestically and I think, I could understand them turning around and saying, so why can't you do a better job?, there's all this great tech around now. It's not like the 1970's when maybe there was nothing.

In their review of the outcomes of disasters such as the Victorian bushfires, the Queensland floods and the Perth Hills fires in Western Australia, Howes et. al., (2012) note that there are repeated references to the need for better community engagement and communication and a more recent call for shared responsibility.

While acknowledging the importance of this message, there is, however, disquiet among senior leadership on what constitutes shared responsibility and whether the expectations of the public are unrealistic, as the following comment illustrates:

I mean one of the elephants in the room seems to be this expectation that we will come and fix it all. I mean at what point do we need to recognise that there's some community expectations that need to be managed?

More recently attention has turned to the concept of resilience as one that may enable a more integrated and proactive approach. However, as Howes et. al. (2012) note, one of the problems is that there is not a common understanding of what constitutes resilience and that there are different perspectives on what this means. From the point of view of those managing in emergency service organisations, resilience has within it a tacit assumption that the organisations will provide for and meet the communities' needs:

How do we reduce the expectation on the community that we're going to feed them and water them and look after them every second of the day when we don't have the resources to do that? That's a huge challenge and I think we're only just starting to see the tip of the iceberg there.

There was still the expectation in not only in the bush fires but in the flood that, "why wasn't there somebody knocking on my door telling me that you've got to get out, you've got to get out". "Why wasn't there somebody telling me that the water's coming down the hill and it's going to take this path?"

Expectations of personal and individualised servicing will be impossible to deliver, given current budgetary and resourcing constraints"

"This is what it looks like, it looks like you're looking after yourself for a short period of time" and the community assets, being police, fire, ambulance and others "they will do what they can to best effect for the whole community but not for your house or you individually". I think the earlier we get that sort of message if that's where we're going, I can't see where else we can, the sooner we get the message out at a high level the better.

There was an expressed concern that the efforts of governments have been contradictory in their outcomes when it comes to the notion of community resilience:

We're trying to get the community to be more resilient when in one hand governments are giving them money to make them less resilient. So I think that's one of the things that's probably going to bite us more than anything. We're expecting them to be more resilient especially in an urban context where they're expecting that since they've paid their levies, they should be serviced and that becomes very difficult for us as an organisation and I think as a State.

For many emergency services personnel interviewed there was a perception that increasing community expectations had actually led to a decline in community resilience:

We have tried to...to clearly state that, "don't expect us to be there, we cannot be there every time". So trying, we talk about making the community more resilient but I think what we've actually done is probably the opposite.

For the personnel interviewed there is a need to be more proactive in managing expectations and to acknowledge that community resilience should mean self-sufficiency:

This has been flagged in a range of areas and the New Zealand model of 72 hours of self-sufficiency and others have got it as well. I think it's an imperative because if we end up with another emergency, let's touch wood and hope we don't, but if we get another Black Saturday tomorrow, there's still not going to be enough fire trucks, there's still not going to be enough ambulances, and it would be awful if we still lost 173 people.

Moving public opinion was identified as needing a concerted government effort and political leadership:

I think that's a huge challenge because it's not going to be a politically nice message. We need to change that and unless it comes from the top down, it's almost prime minister and premier saying, "Hold on, all of the research is saying we're not going to get enough [resources], we can't afford enough, we're going to have to look after ourselves to a degree".

Also noted by interview participants were differences between urban and rural populations in terms of both perceptions of resilience and expectations:

That leads into the resilience question. I perceive rural people have got much better resilience. They know that there isn't an ambulance around the corner. They can't just ring 000 because I'm hot - but we get those calls in Melbourne. [Rural] People are prepared to look after themselves and an emergency is an emergency when I can't cope with it anymore. Whereas in Melbourne, it's quite different. An emergency is when I don't want to cope with it and I call somebody else. So I think the community expectations is a problem and it's leading into a lack of resilience particularly in the metropolitan areas - that is my experience.

However, attempts at enhancing self-reliance are also undermined by mixed and sometimes contradictory messages which both emergency services organisations and the government have historically provided. The following interviewee discusses the mixed messages provided by governments and emergency service organisations in the way some emergency events have been managed and the way self-reliance is undermined:

But that doesn't always happen or quite often it doesn't happen unless we tell people that they've got to be self-reliant in the case of flooding but here's [name of emergency service] with a couple of helicopters that are on permanent stand by and so of course the minute there's a flood anywhere, they're filling them up with milk and bread and going around doing air drops to houses. So on the one hand you tell people to be self-reliant and on the other hand what you're actually demonstrating is there's generally no need to be self-reliant, we will come and fix things up for you and you also generate the capacity for resentment, aggravation and argument if a person happens to be one of the few who didn't have the helicopter arrive and drop the bread, so why did it go down the road and it didn't come here?

Part of the conundrum stems historically from the high pedestal on which the public has held emergency services personnel and the tacit acceptance of this position by agency staff, as the following interviewee observed:

I think we probably had some expectation ourselves that we would be the heroes, you know, we do these wondrous things and make it all better but the reality is you can't stop some of those fires, you can't stop the water.

It can be argued that this “hero worship” has set up a popular cultural identity that has contributed to these increasing and unrealistic expectations as the following quote illustrates:

And it's also been something that emergency service organisations have talked about – on the one hand, we started out by people believing that the Fire Service would save you no matter what. And I guess in places where the SES is more high profile, the SES will save you with their flood boats or what have you. Now we've moved to the idea that we can't have a fire truck in everybody's drive way so you people are going to have to do your bit, look after yourselves.

The demands associated with incident complexity, increasing expectations that need to be managed and the changes in cultural identity, set up new challenges for leadership and the development of capability.

Meeting and managing the leadership and capability needs

The NOETIC Group report (Murphy & Dunn, 2012) represents a recently collated focus on lessons learnt studies and post-activity reviews for a range of emergency management events. It concluded that:

After examining several disasters, it is clear there has been a lack of resources and insufficient attention given to training. The Noetic Group found that response training for routine accidents is effective at all levels. However, this is not the case for novel or 'out of scale' disasters (p.7).

The Bushfire CRC funded research project *Organising for Effective Incident Management* concurs with this conclusion though has also identified the improvements in contextual learning, human factors and leadership education that are occurring within the industry (Brooks, 2012). Interview participants also noted the improvements that have occurred recently in training and exercising.

I think we're getting better at it, so I think the glass is half full, it's not half empty. I think we're improving and I think we've just got to keep following the path of more regular meetings with all the other agencies and exercises, and not just table tops

The following comments from participants elaborate on some initiatives as well as remaining challenges that need attention in the future. Part of the challenge identified by those participating in the interviews is because the ways of organising above the Incident Management Team level are still in flux:

Well, all of our training is going to have to undergo some fairly radical revision I expect. Now I'm not trying to cry wolf, I'm not yet clear on what all the changes are going to be that will be needed. We've got to wait for the structure to bed down so that we, there's no point going out and training people in new structures and then having to go back to them six months later and say, well it was a good idea but it didn't work terribly well.

For a number of interview participants the emphasis needed to shift from technical skills toward relationship skills as the following comments highlight:

I can't speak for all agencies but there's only one entry point [to our agency] and that is as a recruit fire-fighter. So you've virtually got to start at the bottom and work your way up. There's no lateral transfer in which means all that early development stage is very important. All our early development stage is all technical. It's what I call IQ and not EQ.

I: Right, meaning?

Intelligence, you know, we don't spend enough time on emotional intelligence, developing emotional intelligence. And everything to be a fire-fighter is technical training as to what do you do in that incident. Purely that incident you know. And it's not till later that we start to realise that there's more agencies involved to bring an incident to a successful conclusion than just us and we all get wrapped up in our own little worlds because of that early rote training, that you'll do this, you know, it's a command situation you know, I just, I think we've got to enlighten our people on other agencies at a very early stage in their careers and emergency management instead of our own agenda and obligations.

In some jurisdictions there has been a concerted effort to develop new leadership programs aimed at relationship management and the non-technical skills of communication, conflict resolution and negotiation:

... the CLM course we've been running – a lot of that's about challenging individuals both in an EQ sense about who they are as people and how they react to other people. ...Really, how you interact and treat respectfully people and deal with them rather than you know, the hard science or the technicalities of fire fighting, ... if you're a good leader people are going to want to work with you and for you to get the job done and that's all communication.

Some participants noted that there had been a lot of attention on training in the lower ranks of the agency but limited systematic focus on training above the IMT level. One commented that personnel working above the IMT were frequently relying on their own IMT-related training, despite many not having worked at that level for up to five years. This raises the issue of refresher training and professional development to provide a more contemporary support (since even IMT training has moved on considerably over the last five years) as well as an opportunity to develop new skills in influence and negotiation. These would also provide opportunities to redress what some participants called the “command and control” type of culture to one of influence. This was particularly important at a state level:

An effective officer builds a really quick relationship with their counterpart and explains in terms they can understand and creates a rapport with them and things work. Other people adopt this really command and control type attitude that “you can't come in here [or know that] cause this area is mine” and it just sets this chain of like interpersonal conflict that puts everyone at risk.

... I mean we have, I mean a lot of middle managers in emergency services aren't very good at building relationships, they're not very good at influencing and getting outcomes out of situations and they rely their rank and their position in the organisation to get things done by basically, you know, that sort of bluster and that's really, it disempowers everyone and actually very rarely actually gets the results you want.

Capability was also needed to be developed across agencies, in what Marcus, Dorn and Henderson (2005) called "meta-leadership". In discussing terrorism preparedness in the US they asked the question: If leadership, as traditionally understood, is working to build the capacity within organizations, then what different brand of leadership is necessary to get beyond that silo thinking to achieve the cross-agency coordination of effort required? It was observed by a number of participants that more attention was needed in across-agency training in order to facilitate the relationships needed as well as the skills required:

In our syllabus for us as a fire agency, you know, all our syllabus' are concentrated on our legislation and our regulations and our tasks, you know. I think we've got to look at the broader picture of emergency management.

These challenges extend beyond agencies. Training needs to effectively engage personnel from multiple jurisdictions so that they can effectively work together. In the following quote the participant is discussing the challenges associated with fire and police coordination:

The largest hindrance that I had was working, where I [was] trying to convince a policeman who happens to be in charge of his area, that you know, things need to be done. Because they've got a different view point and a different focus on how they handle their emergency situation. So they look at it from a police point of view whereas our sole role is floods and storms, so we're completely trained in our specialist role and – very hard to put it in words, the lack of understanding from both sides of how the system works on the other side [but] we are working through this at the moment.

The challenges of maintaining workforce capability in an all-hazards environment was also noted. Some participants expressed concerns noting that it was difficult enough to ensure personnel were training within their own current competencies, particularly for extreme events:

It's going to get more and more difficult for the first responders to involve or evolve into this multi hazard environment. I even know now from running fire stations. If you really wanted to keep the skills of the people on the fire station floor up to speed with you know, the structural environment, the bushfire environment, the hazardous materials environment, the technical rescue environment, it's really, really difficult even to keep people skills up to where we want them within the fire environment.

There were also concerns about the training and capability implications of an all-hazards whole of government approach as suggested by the following participant:

Those but the guy on the ground who's got to deliver the front line service, it's getting harder and harder. And I think that's the real fear that I have with this approach to all

hazards multiagency, is that the people who have actually got to do the job are going to get stretched.

For others there was a need to keep up with the broader organisational and structural changes occurring as well as a concern about what was actually being learned within them:

The speed of change over the last couple of years has been monumental. You write it, you talk about it, you link in with the other agencies, you think about what you're going to do, you put plans in place, and you do exercises. It's all well and good until the first shot is fired, until it actually happens. And then, then you really need to learn and embed the learning ... We'll do an exercise, we'll write a report and people will say, that's nice, that's finished, what do we do now? Hang on. What did that teach us? I don't know...

In part, the challenge highlighted in the comment above is to ensure the right skills are being emphasised within leadership and capability development. As was argued earlier in this report, incidents are becoming more complex, and large out of scale events may involve a set of problems that had not previously been experienced. Under these circumstances what is needed is a focus on managing the unknown rather than technical skills.

In a related research component within the Bushfire CRC funded *Organising for Effective Incident Management* research project, a review of training pathways for personnel above the IMT has been conducted (Brooks, 2012). That report suggests improvements can also be added in the following areas that may in turn support the challenges identified:

- Integration gaps (effective linking of formal training pathways with exercising, assessment and role performance), including the three stages of non-technical skills training (awareness raising, practice and continual reinforcement).
- A need to review, assess and possibly develop new 'rules-of-thumb' or 'quick strategies' for coordination above the IMT to counteract this complex, dynamic and uncertain environment.
- A need to train 'at the edge of chaos' (Renaud, 2010) to be more effective when coordinating out-of-scale events.
- A need to design advanced courses on decision-making that acknowledge the literature on practical and critical thinking.
- Improved approaches to assessment.

Evaluating emergency response and measuring success

It is contended that part of the role of state-level emergency management is to evaluate the quality of the emergency response and to measure whether or not the efforts at regional, and local levels, including on the incident ground are working appropriately. Research conducted as part of the *Organising for Effective Incident Management* research project has indicated that the strategies used to monitor and evaluate the emergency management objectives and their achievements from a strategic perspective are still in a developmental stage.

In a national organisational survey, completed by 206 emergency services personnel (79 working at a regional, state or national level³), a question was included that sought advice on what evaluation mechanisms were in place to know whether or not the objectives for the incident were being achieved (Owen, 2012). The results are presented in Figure 1.

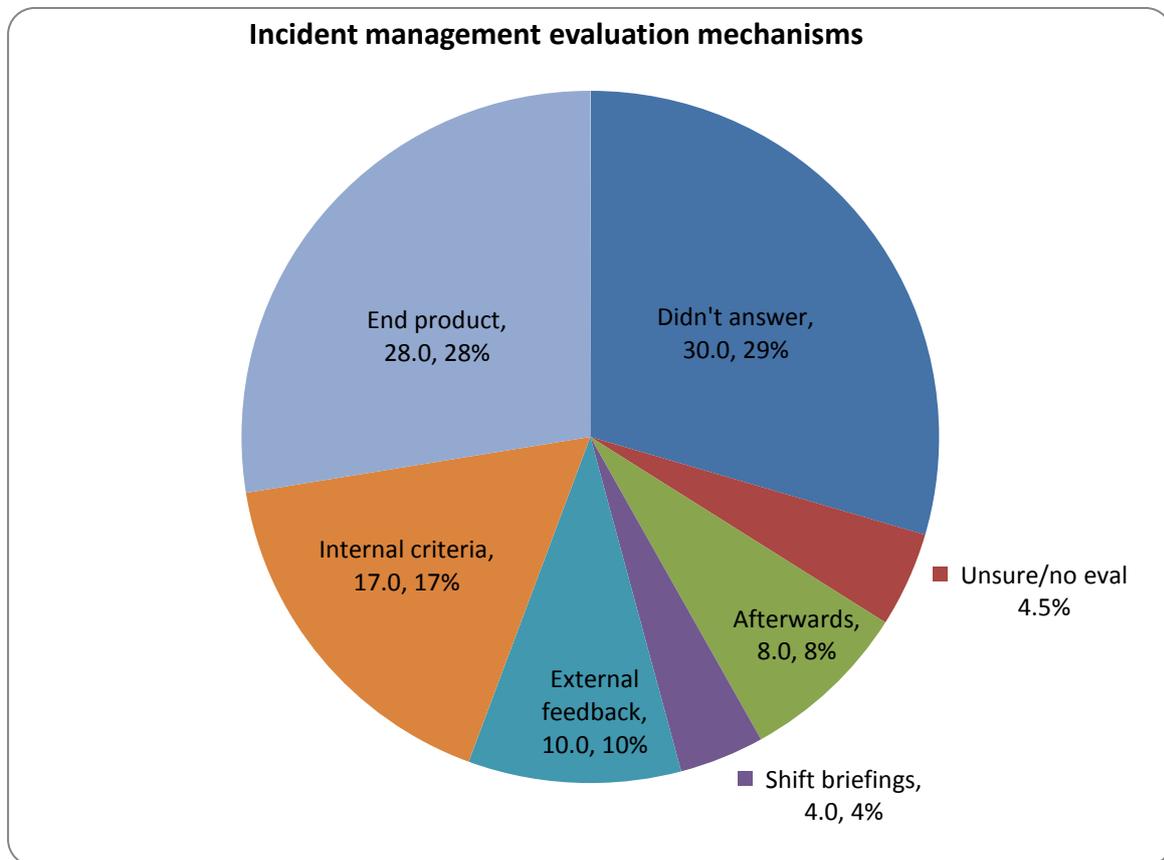


FIGURE 1 INCIDENT MANAGEMENT EVALUATION MECHANISMS AS REPORTED IN THE NATIONAL ORGANISATIONAL SURVEY

It is interesting to note that close to 30% (n=57) of participants did not answer the question. It can be speculated, then, that those persons might be grouped with the 4.5% (n=9) who stated that they were either unsure or did not believe that any evaluation took place. The figure also shows that 8% (n=16) of participants explained that the evaluation process occurred after the event in after-action reviews. There were 20 (10%) participants who commented that their evaluation measures were based on the feedback of others. There were 21% of participants who stated that some form of evaluation occurred during the event, either in briefings (n=8; 4%) or through assessing key indicators (n=34; 17%). Of concern are the 56 participants (28%) who conflated evaluation of progress with the outcome. Comments such as “the job got done in the end” or “we pulled it off” illustrate the thinking of

³ New Zealand

some of these participants. These findings, however, highlight a particular risk. If the job was successful, then participants deemed that they performed well. However, in many industries this has been found to be a flawed process (Dekker, 2006; Hollnagel, Woods & Levensen, 2006). The outcome might have been successful despite risks and unsafe practices being undertaken. Conversely, all the best measures and processes might have been in place and performed well but the outcome might have still had negative outcomes because of the nature of the event.

Given the scrutiny of emergency management processes in post-event inquiries, it is important that those working in senior leadership positions have in place process and outcome measures to be able to assess whether or not their initiatives are on track. Although the question was not specifically asked in the interviews (these findings were identified in post-interview analysis) there are some comments that indicate some of the challenges faced by personnel that will need to be overcome in the future, in building capacity to measure and evaluate emergency management progress and success.

For some interview participants the role and purpose of the state/national level of an incident centre was of concern because the activities occurring therein seemed to be additive rather than adding-value (i.e., adding up how many resources are on a particular incident ground). Comments were also made about how the reports produced at state level contain such details which almost force people into micro-managing and ticking boxes:

At a state level we got caught up trying to determine if what was listed as four fires was actually one and what the fire should be called. Doing this takes us off task and forces us into the detail.

There were also challenges in relation to how the current technologies in use can support gaining a more strategic longer-range view rather than emphasising immediate activity:

Situation seem to just concentrate on filling in the product information rather than thinking ahead [product requirements] also push people into filling in boxes and living in the present.

Participants reported the need to assess the information collated on the management of the incident to ascertain if statutory obligations were being met and that there was compliance with procedures. Activity at state/national levels also needed to ensure that the appropriate command and control arrangements were in force particularly with community warnings. This issue was of particular concern given the challenges previously discussed:

Are we delivering the right messages to the community?

Finally there were concerns expressed about some technological system changes in centres to electronic media and away from previous ways of operating. The way in which information systems may support the tracking of processes to provide a snapshot of level of activity indicating health of system (e.g. lags between requests and completions) or to make visible potential pressure points in incident activity (number of 000 calls unanswered), is still under development in many centres:

The change to the electronic management support function means that we can all access lots of stuff but what does it all mean? I think we've become less targeted in our focus than it was in the [paper-based] past.

Part of the challenge may be that, historically, the roles and responsibilities of functional areas above the IMT have duplicated or mirrored the AIIMS structure. As discussed in the introduction, the AIIMS structure has been found to work well at a local operational level. However a different context is required (and thus different roles and responsibilities are needed) to develop a more strategic approach:

Basically what we've done here is, and I think other jurisdictions have, is you sort of reflect upwards the key [AIIMS] functions and the person in the room here mightn't be the incident controller but they're a co-ordinator or whatever, you still have to have all the [functional] areas. But I don't think we've nailed it yet.

When these issues were raised at a recent meeting with senior personnel it was noted that many measures applied to evaluate the success or otherwise of emergency management efforts were applied arbitrarily by media, the community or politicians:

Somebody else does it and they do it on our behalf. The measurement on Black Saturday was deaths but that measurement was not applied when they had the fires in Western Australia – then it was houses burnt.

While we have a range of output measures that are probably available to us, they're not tightly integrated, they're not reported on and we're certainly not getting to the level of measuring the outcomes of an incident.

At the meeting it was noted that how success is currently measured is externally applied to agencies rather than internally driven and that there is a need to attempt to influence what those measures might be.

Conclusions and implications

The purpose of this paper has been to report on the challenges and concerns identified in interviews with 54 senior personnel operating at regional and state/national levels in Australia and New Zealand. This is one part of a suite of research activities occurring within the Bushfire CRC funded research project *Organising for Effective Incident Management*.

The next stages of the research project will be to use the findings, including those reported here, to inform a discussion paper for the industry to consider in terms of strategic options for effective organising at regional and state/national levels of emergency management.

The findings discussed here raise implications for what might be the appropriate steps to address the challenges identified. Five key questions emerge from the interview findings presented here to conclude the paper and inform future discussion:

1. In what ways do Australian governance arrangements contribute to fragmentation in addressing emergency management challenges?

2. To what extent might a whole-of-government-all-hazards approach contribute to reduced capacity to manage events?
3. To what extent might increasing expectations contribute to diminished resilience?
4. Are there limits to what can be expected from emergency services organisations and if so, what strategies might be needed for stakeholders to come to grips with those limits?
5. To what extent might approaches to building flexible and adaptive management be leading to structures that are less flexible?

The questions are posed as “wicked questions” to highlight the often contradictory nature and trade-offs when engaging in change in a complex multi-sectoral domain.

These “wicked questions” will be used as a basis for discussion to inform the next consultation phase. This will contribute to a discussion paper on strategic options and directions for the industry to move forward in effective incident management organising at regional, state and national levels.

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