

# Significance of communication in emergency management

Ryan and Matheson endeavour to quantify the importance of communication activities to emergency management.

## ABSTRACT

This paper examines the significance of communication in the field of emergency management through an analysis of reviews and debriefs of Australian emergency incidents and exercises.

## Introduction

Operational success in responding to an emergency might easily be measured after the event in terms of the number of lives saved and properties protected. Media images of fire fighters dousing flames or State Emergency Services rescue boats in action during flood are clear and graphic evidence to the community, emergency managers and politicians that emergency agencies' resources are hard at work. However, the effect of communication activities – or a lack of communication – around the same emergency is harder to measure, and most often such measurement for the purposes of evaluation is not resourced. One effect of this difficulty may be that agency communication teams are being starved of necessary resources because the cost cannot easily be justified by emergency managers in terms of measurable outcomes. Despite this, debriefing sessions and formal reports following significant emergency events often seem to be dominated by issues surrounding communication – both with the media and the community.

This study, which attempts to quantify the importance of communication activities to emergency management, was commissioned by the Emergency Media and Public Affairs (EMPA) Research and Development committee. The results build on the work of Emergency Management Australia and other agencies that review the handling of emergencies and emergency exercises.

The research process involved a comprehensive content analysis of emergency incident and emergency exercise debriefing sessions and reports, spanning 2003 to 2008. The study found that almost 20% of recommendations made in these documents related to improving communication with the community. This is in stark contrast to the arguably small resource base of communication teams relative to their wider organisation.

The term 'communications' in this paper includes communication between: agency-community; community-agency; intra- and inter-agency; and also covers messaging, mediums and technology.

## Research questions:

1. What is the identified significance of communication activities in management of emergencies?
2. How often does communication feature as a recommendation in the post-analysis of an incident or in an exercise debrief?

## Method – content analysis

Content analysis was selected as the methodology for this study because "...it allows unobtrusive appraisal of communications" (Kolbe & Burnett 1991, p. 244). Kolbe and Burnett also maintain that content analysis provides a useful foundation for further research (p. 244).

A disadvantage of content analysis is its susceptibility to the subjective view of the researchers (Kolbe & Burnett 1991, p. 244; Wimmer & Dominick 2000, p. 138), making it difficult to compare studies unless detail is provided of the content analysis development.

For this study a simple, manual content analysis was undertaken without the use of computer software, a desirable approach given the small size of the sample of documents. The following steps were pursued:

1. Formulating the research question (outlined previously)
2. Defining the population in question
3. Selecting the appropriate sample from the population
4. Selecting and defining the unit of analysis
5. Constructing the categories of content to be analysed
6. Establishing a quantification system

(Wimmer and Dominick 2000, pp. 139-50)

## Selection of documents (defining the population) and selecting an appropriate sample

Emergencies and emergency exercises in Australia are usually formally discussed and reviewed once they are complete, with recommendations presented as a way of informing future activity. The documents that emerge from these reviews are generally presented in terms of "lessons learned" (Emergency Management Australia 2004, 2005; Office of Health Protection 2007) and better preparation (Asia-Pacific Economic Co-operation (APEC) 2006; Ellis, Kanowski & Whelan 2004; Smith 2006).

These reviews range in scope and influence: from a report on the debriefing session to those with more of a legal structure and possessing powers such as a national inquiry or royal commission.

This content analysis will examine 12 such documents published since 2003. The following table provides a profile of the documents included in the study.

**TABLE 1.** Nature of documents incorporated into the study

	Generic/ miscellaneous emergency	Pandemic exercise	Bushfire/s	Tsunami
Conference outcomes	1			
<b>State review</b>	<b>2</b>		<b>1</b>	
National review	2	1		1
<b>International review</b>		<b>1</b>		
State inquiry			2	
<b>National inquiry</b>			<b>1</b>	
<b>Sub Totals</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>1</b>
<b>Total (12)</b>				

The documents were sourced by searching Australian emergency agency websites and making requests of the authors' contacts within agencies. A total of 20 documents were considered for this study, but eight were unsuitable for the study: six because they recounted rather than reviewed an emergency and contained no solid recommendations; and two because their focus was communication and communication issues and therefore presented a concern regarding skewed data.

### Selecting and defining the units of analysis

The units of analysis for this study were the recommendations made as part of the review processes after an emergency or exercise. The total numbers of recommendations made in each document varied from five (Asia-Pacific Economic Co-operation (APEC) 2006) to 148 (Esplin, Gill & Enright 2003). Recommendations covered: operation, strategic, technical communication and community communication issues. Recommendations were also termed in some reports "outcomes" (Emergency Management Australia 2003) or "issues for improvement" (Smith 2006) and were not always clearly presented or numbered.

In some cases, recommendations contained a number of sub-points, in which case these sub-points were counted as individual recommendations (see Emergency Management Australia 2003; High Level Group on the Review of Natural Disaster Relief and Mitigation Arrangements 2004 ). This was necessary because the umbrella recommendation in many cases did not contain sufficient detail required to classify it using the methods outlined or because the sub-recommendations within one recommendation were too varied when compared with the themes developed for the study, and each needed to be differently classified.

This approach was then used consistently through all the documents considered.

In order to draw out the recommendations that related directly to communication, the researchers used a number of keywords that were used to define community communication and interagency communication in disaster management texts (Barton 1969; Coppola 2007; Haddow & Bullock 2006; McEntire 2007). These were labels for media and message channels such as 'press' and 'information line' and words that described approaches, such as 'community engagement', 'community information' programs. A third category described target publics such as 'communities' and 'householders'.

The following table details the keyword list utilised:

**TABLE 2.** Keyword list for the study

Channels and messages:	Approaches:	Target publics:
Media	Community engagement	Householders
<b>Press</b>	<b>Community information</b>	<b>Community/communities</b>
Radio (including ABC)	Promote/promotion	
<b>State Emergency Warning Signal</b>	<b>Community education</b>	
SEWS	Education programs	
<b>Call centre</b>	<b>Evacuation (including Stay or Go/Fireguard)</b>	
Information line	Public education	
Website	Information sharing	
Information packages	Community partnerships	
<b>Call centre</b>	<b>Public information</b>	
Warning/s systems		
<b>Communication networks</b>		

The communication related recommendations were sorted from non-communication related recommendations with the following result:

**TABLE 3.** Ratio of communication recommendations to total recommendations

Report	Communication Recommendation	Total Recommendation	Communication recommendations as a % of total
APEC Pandemic Response 2006	5	5	100%
<b>Operation Tsunami Assist 2004-05: Lessons Learnt</b>	<b>2</b>	<b>6</b>	<b>33.3%</b>
Mapping the Way Forward for large-scale urban disaster management in Australia: building on the lessons from September 11, 2001	6	20	30%
<b>Conference Outcomes: 2003 Australian Disaster Conference, Canberra, 10-12 September, 2003</b>	<b>6</b>	<b>18</b>	<b>33.33%</b>
National Pandemic Influenza Exercise: Exercise Cumpston 06 Report, 2007	4	12	33.33%
<b>Natural Disasters in Australia, 2004</b>	<b>11</b>	<b>66</b>	<b>16.7%</b>
McLeod Report, Inquiry into the Operational Response to the January Bushfires in the ACT, 2003	14	61	22.9%
<b>A report of the response to an emergency at Melbourne Airport, 2005</b>	<b>1</b>	<b>9</b>	<b>11.1%</b>
A Report of the Inquiry into the 2002-2003 Victorian Bushfires, 2003 (Esplin)	11	148	7.4%
<b>Debrief outcomes: Significant Victorian Fires December 2005 and January 2006 (Smith)</b>	<b>3</b>	<b>23</b>	<b>13%</b>
National Inquiry on Bushfire Mitigation and Management (Ellis, Kanowski and Whelan)	5	29	17.2%
<b>Westpoint Chemical Fire: Report to the Community, 2008</b>	<b>11</b>	<b>18</b>	<b>61%</b>
<b>Totals</b>	<b>79</b>	<b>415</b>	
<b>Averages</b>	<b>79/415</b>	<b>19%</b>	

## Constructing content categories

Once the communication recommendations had been drawn out, researchers then attempted to develop mutually exclusive categories (Wimmer & Dominick 2000, p. 145), or themes, in which the recommendations could be grouped. The categories must also be exhaustive (p. 145), ensuring that every recommendation is covered by a category.

The themes that emerged (ensuring intercoder reliability through testing between authors) were:

1. Communication planning and plans (i.e. strategies that allow agencies to communicate with target stakeholder groups and/or outline a departmental process for communication during incidents)
2. Communication training, testing and exercises
3. Domestic agency/inter-organisation information sharing and relationships
4. International agency/inter-organisation information sharing and relationships
5. Resourcing (e.g. staff, budgets, equipment)
6. Warnings and pre-disaster community education
7. Technology
8. Media (usually concerned with mass media)
9. Community engagement and information during and post-emergency

## Results

Almost 20% of all recommendations made in the reviews studied related to communication. 79 of the total 415 recommendations reflected the themes developed during the content analysis. Of these, 60 recommendations (14% of the total recommendations) had some impact on the jobs of public relations practitioners within emergency services. (To put this into some perspective, one emergency services department in Australia says on its website that it employs 7,700 full time and part time staff, but employs between 18 and 24 communicators: that's between 0.002 and 0.003% of the total staff).

The theme that tended to preoccupy reviews was warnings: 26 of the 79 recommendations, or 33%, related to warnings and pre-disaster education.

During-disaster and post-disaster communication and community engagement had 12 recommendations (15%); this is despite the concern about communication training and plan testing getting only two mentions.

Adding these two categories together (because of their prevalence in the work of public relations practitioners) we can see that nearly half of all communication-related recommendations refer to a need to increase and/or improve information delivery and community engagement. This is in contradistinction to the number of recommendations relating to the need for increased provision of communication resources, which, at 3 out of the 79 communication recommendations, were about staffing and technology (and, further, all three were contained in the one review (McLeod 2003, pp 235-7)).

The summary of the number of recommendations within each theme is below:

TABLE 4. Ratio of communication recommendations by theme to total communication recommendations		
Theme	Number	% Total
Warnings and pre-disaster community education	26	32.9
<b>Domestic agency/inter-organisation information sharing and relationships</b>	<b>12</b>	<b>15.1</b>
Community engagement and information during and post-emergency	12	15.1
<b>Media</b>	<b>11</b>	<b>13.9</b>
Communication planning and plans	5	6.3
<b>International agency/ inter-organisation information sharing and relationships</b>	<b>4</b>	<b>5</b>
Technology	4	5
<b>Resourcing</b>	<b>3</b>	<b>3.8</b>
Communication training, testing and exercises	2	2.5

## Conclusion

The methodology used in this research makes it difficult to replicate the study, and therefore puts a question mark over the validity of the findings. However, in a field in which measurement is not resourced or undertaken, this study provides us with a starting point from which we can further investigate the significance of communication activities in successful emergency management.

The data generated by this study shows a significant disconnect between governments' desires to improve emergency management in Australia and their commitment to actually doing so. Up to 20% of the flaws in emergency management in the past six years relate to one field that often comprises of one person, or for larger emergency organisations, less than 2% of total staffing (e.g. Department of Emergency Services 2008; NSW Fire Brigades 2008; State Emergency Service 2009). This must signify chronic problems with staffing, resourcing and/or training in that field and deserves further, more quantitative research.

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