

Just what is the significance of communication in emergency management? An attempt to find empirical evidence by content analysis of reviews and debriefs of Australian emergency incidents and exercises.

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Introduction

Operational success in responding to an emergency might easily be measured in terms the number of lives and properties saved. Media images of fire fighters or State Emergency Services rescue boats in action during flood are evidence to the community, emergency managers and politicians that emergency agency resources are hard at work. Unfortunately, the effect of communication around the same emergency is hard to measure and such measurement not resourced. This may result in communication teams being starved of resources that can not easily be justified by emergency managers in terms of outcomes. Despite this, debriefing sessions often seem to be dominated by issues surrounding communication with the media and community.

This study was commissioned by the Emergency Media and Public Affairs Research and Development committee and investigates suspicions of practitioners that, while communication teams are small, communication is a large component of emergency management that can easily turn into an issue (Rekers, Delaney & Wilson 2008). It attempts to quantify the significance of communication to emergency management. It will undertake a content analysis of a sample of documents that have been produced in Australia as a result of emergency incident and emergency exercise debriefing sessions and reviews from 2003 to 2008 and will measure the number of recommendations specific to or relating to communications against the total number of recommendations.

The term 'communications' in this paper includes agency-community communication, community-agency communication, intra- and inter-agency communication and deals with messaging, channels and technology.

Research questions:

1. What is the identified significance of communication 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.

In this case, Wimmer and Dominick's guidelines for a manual content analysis (2000, pp. 139-50) were used because of their simplicity, which was desirable given the small size of the sample of documents. The researchers decided against the use of computer software for the same reason. These guidelines include the following steps:

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

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

Emergencies and emergency exercises in Australia are usually 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 legal structure and 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.

	Generic/ miscellns emergency	Pandemic exercise	Bushfire/s	Tsunami
Conference outcomes	1			
State review	2		1	
National review	2	1		1
International review		1		
State Inquiry			2	
National inquiry			1	
Sub Totals	5	2	4	1
Total				12

Table 1 - Nature of documents incorporated into the study

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 discarded: 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 and debriefing 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 the 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. 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'.

Channels and messages:

- Media
- Press
- Radio (including ABC)
- State Emergency Warning Signal
- SEWS
- Call centre
- Information line
- Website
- Information packages
- Call centre
- Warning/s systems
- Communication networks

Approaches:

- Community engagement
- Community information
- Promote/promotion
- Community education
- Education programs
- Evacuation (including Stay or Go/Fireguard)
- Public education
- Information sharing
- Community partnerships
- Public information

Target publics:

- Householders
- Community/communities

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

Report	Comm'n recomm'n	Total recomm'n	%
APEC Pandemic Response 2006	5	5	100%
Operation Tsunami Assist 2004-05: Lessons Learnt	3	6	50%
Mapping the Way Forward for large-scale urban disaster management in Australia: building on the lessons from September 11, 2001	5	20	25%
Conference Outcomes: 2003 Australian Disaster Conference, Canberra, 10-12 September, 2003	5	18	27.8%
National Pandemic Influenza Exercise: Exercise Cumpston 06 Report, 2007	4	12	33.3%
Natural Disasters in Australia, 2004	11	66	16.7%
McLeod Report, Inquiry into the Operational Response to the January Bushfires in the ACT, 2003	14	61	22.9%
A report of the response to an emergency at Melbourne Airport, 2005	1	9	11.1%
A Report of the Inquiry into the 2002-2003 Victorian Bushfires, 2003 (Esplin)	11	148	7.4%
Debrief outcomes: Significant Victorian Fires December 2005 and January 2006 (Smith)	3	23	13%
National Inquiry on Bushfire Mitigation and Management (Ellis, Kanowski and Whelan)	5	29	17.2%
Westpoint Chemical Fire: Report to the Community, 2008	11	18	61%
Totals	79	415	
Averages	79/415	19%	

Table 2 - Ratio of communication recommendations to total recommendations

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 unit is covered by a category.

On first pass through, the themes that emerged were:

1. Communication planning and plans
2. Agency/inter-organisation information sharing and relationships
3. Resourcing
4. Warnings and pre-disaster community education
5. Technology
6. Media
7. Community engagement and information

Intercoder reliability was then tested between authors, with the following amendments made.

1. Communication planning and plans
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
6. Warnings and pre-disaster community education
7. Technology
8. Media
9. Community engagement and information during and post-emergency

Results

Almost 20% of all recommendations made in the debriefing sessions we studied related to communication. 79 of the total 415 recommendations touched on the themes that were 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 this country 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 engagement had 12 recommendations, 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) they far outweigh the recommendations relating to the increased provision of communication resources, which, at 3 out of the 79 communication recommendations, were about staffing and technology. The summary of the number of recommendations within each theme is below:

Theme	Number	% total
Warnings and pre-disaster community education	26	32.9
Domestic agency/inter-organisation information sharing and relationships	12	15.1
Community engagement and information during and post-emergency	12	15.1
Media	11	13.9
Communication planning and plans	5	6.3
International agency/ inter-organisation information sharing and relationships	4	5.0
Technology	4	5.0
Resourcing	3	3.8
Communication training, testing and exercises	2	2.5

Table 3 - ratio of communication recommendations to the total recommendations

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 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 (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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