

Reduction of stress and trauma in the delivery of disaster recovery services:

The users decide—an exploratory study of the effects of delivering disaster recovery services

Background

Storms and flooding which occurred suddenly and without warning on the night of 9th March 2001 affected a number of locations in south east Queensland including parts of Brisbane, Sunshine Coast, Gold Coast, Caboolture and Logan, and disrupted the lives of many people. It resulted in the deaths of two people. More than 500 individuals and families sought help from the Department of Families, and many more approached other agencies. There is little evidence in the literature of consumer feedback on the quality of disaster recovery services, in particular how promptly services are delivered and how appropriate these services are following such events.

Therefore it was decided to focus an exploratory research project on those people who had received financial relief assistance paid under the Natural Disaster Relief Assistance scheme (NDRA), and had interacted on a personal level with Department of Families staff following the above storm. As NDRA relief payments are means tested and have specific eligibility criteria, the group selected was in effect a sub-group of the total of those sustaining material loss as a result of the storm.

Introduction

The idea for this research emanated from three sources.

Firstly, a desire to obtain feedback from consumers as to the effectiveness and efficiency of the disaster recovery services they received from the Department of Families during the 9 March 2001 storms and floods. This is in keeping with the Department's policy of continuous service improvement. It also reflects a commitment to the development of a strong evidence base for policy and practice, and acknowledges that consumer evaluation is essential to both.

Secondly, a need to establish a valid and reliable instrument that could be used following disaster events to regularly monitor the quality of service provision,

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as well as a need to learn more about the research issues confronting any future work in this area.

Finally, to begin examining disaster recovery experiences from the perspective of what actually helps people affected by the disaster event to develop resilience, and how this knowledge can lead to ensuring better prepared communities with increased capacities to deal with possible disaster events. Overall, the study arose from a commitment to build the knowledge base in disaster recovery to ensure best practice.

From a brief review of literature, there is little reported on support given to individuals following a disaster, and in particular their response to the event in terms of lifestyle changes and personal reaction. Specifically in this context, Buckle's work (1998, 1999, 2000) is the most geographically relevant and recent contribution. In particular, his work on redefining the concepts of 'community' and 'vulnerability' offers much in helping us to change the current welfare orientation of some of our service delivery strategies. The present approach traditionally sees the recipient of a service as 'dependent' and of limited 'functioning ability', and reliant on external 'specialist' service providers who are the experts in determining what is best for the recipient. That another perspective can be entertained in

developing changes in service strategies to offset this approach is supported by McMillen & Fisher (1998). In developing a scale to measure beneficial life changes after negative life events, they draw on a body of literature which shows that negative disasters '...natural, technological and criminal...' (McMillen & Fisher, 1998 p. 173) sometimes generate positive psychosocial life style benefits. Two examples of these benefits are '...more faith in people...' and '...a sense of neighborhood closeness...'

If this is the case, then it is important to learn when, and to whom this occurs, since it may well be valuable in the development of intervention training for disaster recovery staff. It could help us to reassess our concept of how services are delivered: more positive skill enhancement based on self-learning principles (as opposed to didactic instructional material), which could be made available with other information before and immediately after a disaster.

It is therefore important that we learn ways of how to best research the provision of assistance following a disaster. The people affected are not a homogenous group, they may be only temporary incapacitated by the 'event', but it may be traumatic enough to affect memory of what services were provided, by whom and when. These are all-important factors in evaluating service delivery and the planning and provision of future services.

Methodology

In undertaking the study it was decided, using a sampling method, to examine the perceptions of some of the people affected in relation to their experience of service provision. In addition an attempt was made to assess if, after the event, problems still persisted. It was also planned to gather individuals' recollections of the event and the impact the storm had had on them. Because of the differential nature of the damage to property and the varied intensity of the storm within the geographical area, it was decided to

obtain a purposive sample taking these factors into account.

Instrument

A personally administered questionnaire was used, since it was recognised that respondents would probably need to ventilate their experiences relating to the storm and its consequences. Also, since this was an exploratory pilot study in order to develop a more comprehensive data collection instrument for future use, it was felt this approach was more appropriate. Open-ended questions were designed, pre-tested and modified. These related to the service requested, when received and from whom. Overall measures of satisfaction were gained and opinions sought as to what changes to service provision would be advantageous, including the kind and form of information needed before and after similar disaster events.

In addition to basic socio-economic data, including country of birth etc, two additional sections were included. These related to psychological and physical behaviours before and after the storm, and the extent to which the incident had changed the respondent's experiences concerning personal and social contacts.

The first section was explored with a simple questionnaire used in the Chamberlain et al (1974) study after the Darwin Cyclone. This asked whether certain physical and psychological behaviours existed before the storm and whether these persisted after. A scoring system of 1-6, with 1 indicating no evidence of behaviour and 6 indicating a very strong positive change of the behaviour since the storm, was used.

The second set of questions arose from the work of McMillen & Fisher (1998) into the perceived positive life changes experienced after negative events. Their work, based on literature which indicates that people often report benefits from negative events they have experienced, developed a scale with 8 sub-scales, which explores the effect a nominated event has had on a person's life. For example, its effect on the persons perception of their 'faith in people', 'lifestyle changes' or 'increased community closeness'. It was decided to test a small number of the sub-scales and four were subsequently chosen. These were 'increased community closeness', 'family closeness', 'lifestyle changes' and 'faith in people'. The questions attempted to ascertain the strength of agreement or disagreement with statements relating to the respondent's feelings since the storm e.g. 'I feel more a part of

the community'; 'I have learned how good people can be'.

Sample

The sample was taken from those people who had been visited by staff of the Department of Families and paid emergent, household contents or structural repair relief assistance. To qualify for such payment, these applicants had been assets and means tested, and were not covered by insurance. At the time the study was commenced, there had been payments made to 272 individuals/families who had experienced some material losses in the areas affected by the flooding.

Initially it was decided to undertake a 20% random sample covering all storm-affected areas, however, a number of considerations changed this decision. As it was decided to attempt to obtain respondents from different ethnic and cultural groups, and as this distinction was not immediately obvious from the source data to hand, it was decided that a purposive sample would be needed.

Secondly, because of the geographical pattern of the storm's path and the consequence that some areas were more adversely affected than others, it was recognised that socio-economic factors in those affected areas indicated the possibility of potential significant social difficulties for those involved which warranted further examination/analysis.

Thirdly, because of the range of premises affected by the storm, it was decided that it was necessary to include a sample of houses, flats and caravans. From this, a sample framework was drawn up to include the above factors, with the original aim to sample 60 people.

Following design of the data collection instrument and its pre-study testing, it was recognised that time restraints would limit sample size, since it was decided that the nature of the study required personal interviews. It was estimated it would take at least 40 minutes to engage and debrief the respondent and administer the questionnaire. It was also found that tracing and contacting respondents, obtaining agreement and visiting to interview further complicated the data collection process.

In fact, 140 telephone calls were needed to obtain the final number of 40 respondents. A number of people in the population from which the sample was drawn had no telephone, several had moved away, and 25 numbers were disconnected. As calls were made during the day, many potential interviewees were at work, and thus not contactable: this factor would have influenced the high proportion of those sampled who were recipients of Centrelink benefits. There was only one refusal to cooperate with the study.

One staff member conducted the majority of interviews over a three-week period.

Results

The 40 respondents had endured flood damage and the sample covered 15 different suburbs. *Table 1* shows the characteristics of the sample.

The range of requests for help per respondent was between 0 and 7 with a mean of 2.95. *Table 2* gives the breakdown according to the type of assistance requested.

It can be seen that the largest category was for financial assistance. This was

Summary of Sample Characteristics (Sample N=40)		
Respondents	Male	45.0%
	Female	55.0%
Dwelling	House	80%
	Flat	15%
	Caravan	5%
Moved from premises as a result of the damage	permanent	10%
	temporary	27.5 %
Place of birth	Australia	60%
	UK & NZ born	17.5%
	Aboriginal	2.5%
	Remainder	15.0%
First Language	non-English	15%
Half of the respondents lived in a family setting with some member disabled		
Age range 23-80 years with mean age of 47.5 and median age of 43		
Single, or single with dependents		57.5%
Over 57% of the sample were receiving some form of pension		

Table 1: Summary of sample characteristics.

Item	F	%
Clothing	6	5.2
Food	7	6.1
Furniture/household goods	16	13.9
Help with cleaning up	15	13.0
Elec check	12	10.4
Health needs	4	3.5
Personal counselling	4	3.5
Information	10	8.7
Financial help	37	32.2
Other	4	3.5
Total	115	100.0

(Based on multiple number of responses, not respondents)

Table 2: Number of requests for help.

followed by requests for furniture and household goods and then help with cleaning up after the storm. 48.8% of respondents received more help than requested, while fewer than 25% received just the help they had requested. For the remainder, it should be noted that NDRA guidelines enable the Department of Families to provide financial help, rather than actual material goods. Although people may have requested material goods e.g. clothing or furniture, the Department provided financial help to purchase these items through other sources such as non-government agencies, or they received such help from family and friends.

From their answers to the questions, 85% of respondents said they were visited by Department of Families staff and applied for assistance within a week of the storm, with 25% of those being visited and requesting assistance within two days of the storm.

In all, 95% of the sample had requested assistance within 10 days of the storm, with 85% having received financial assistance within 10 days of their request. The median time for respondents requesting assistance was 4 days after the storm, and the median time to receive assistance was 2 days after the request.

Generally respondents were unsure where the assistance they received was from, but could provide details with prompting. Likewise, they had difficulty in recalling who had actually visited them, other than staff from the Department of Families. This was not influenced by age, since the range was from 23 to 80 years, with a mean of 47.5 years. Almost exclusively and spontaneously, the response regarding the Department of Families was positive, and respondents saw the workers as 'caring' 'understanding'

and 'warm', giving 'practical help'. They tended to view the Department as the preferred agency for future problems, irrespective of the problem.

Positive comments were made regarding Members of Parliament and Local Authority Councillors who had visited the area, although the perceived range of help offered by the different Councils varied, often within the one local Council area.

Concern was raised over situations that give rise to flooding, for example the building of houses on flood plains, construction of busways, the construction of golf courses across streams and the ongoing work on creek channelling. Real Estate Agents and landlords were criticised for not advising that rented property was in flood prone areas, and the Weather Bureau received widespread criticism for its failure to provide adequate warnings of heavy rain and likely consequent flooding.

Interviewees were mostly unable to distinguish between information that needed to be provided before an event and help required immediately after it. Most had no idea of available services in the community and they were unable to provide any clear ideas as to what assistance might help them. Some made suggestions regarding the form that information could take, for example the provision of fridge magnets, a brochure distributed with electricity bills, a brochure hand delivered after the event, and details of relevant assisting agencies in local newspapers, and on radio/TV advertisements. Most respondents saw avenues of help as the 'big picture' approach e.g. changes to channelling, curbing, drains etc rather than at an individual level, such as preparation for evacuation, awareness of helping agencies, list of phone numbers near the phone.

For many this was another crisis in their lives that set them back financially and 3.5 months later they were still struggling. Many people from the sample were also coping with other major problems at this time e.g. marital breakdown, serious illness. Most are still traumatised at times of heavy clouds and forecast of rain. Actual rainstorms make many people extremely anxious. Some parents reported children having sleep problems or nightmares, which they attribute directly to experiences during the storm.

Many of the subjects in this study spoke of experiencing high levels of individual trauma and were very frightened throughout the time of the flooding. None initiated personal counselling, nor did they largely perceive a need to do so. Many related stories of emotional debilitation and some indicated a deterioration in their level of daily functioning, which they directly attributed to the emotional effects of the storm.

In order to see if there were differences in reaction to the effects on the families, that might be influenced by cultural or ethnic factors, the responses of those not born in Australia and the respondent with an Aboriginal background, were compared with those who identified as being Australian born. Since the total number of respondents was only 40, and this is the least possible number tolerated in some statistical procedures, it was decided to make general observations regarding this comparison rather than analysing it statistically.

Overall, in examining the data, there were no obvious differences that could be explained specifically by ethnic and cultural factors. The only difference that was identified related to temporary moves after the flood, with more non-Australian born taking this step.

When responses to the 20 questions forming the questionnaire from the Darwin Cyclone study were analysed using cluster analysis, five distinct and coherent clusters emerged. These related to relationships e.g. with family, children spouse etc.; indicators of a gastrointestinal origin e.g. troubled by indigestion, bowel complaints; psychosomatic origin e.g. troubled by indigestion, bowel complaints; psychosomatic origin e.g. nervous and depressed, restless, lacking in confidence; psychosomatic origin e.g. skin complaint, asthmatic; and finally Alcohol Related.

When the questions were examined by averaging responses according to the above groups, overall 60-62% reported no changes before or after the storm. That is, the phenomenon was not present before

or after the storm, or if it was present before the storm there had been no change in severity after the event. A small number (2-3%) indicated the signs were present before the storm and were worse now. Between 25-30% indicated the presence of symptoms before the storm with slight improvements in the symptoms now. This was marked in those symptoms which could be grouped as Psycho endogenous in origin.

However, when examining the data according to individual responses across all the questions, forty five percent (17) marked between 1 to 9 of the questions indicating deterioration, while 22.5% reported an improvement. Of those indicating deterioration, this was in regard to being now more worried about the future (*Question 2*) and now being more nervous and depressed (*Question 4*).

When the results were examined in relation to ethnic or cultural origins there were no significant differences, although there was a trend for more non-Australian born respondents to report symptoms that were grouped in the psycho exogenous cluster.

With regard to the Perceived Benefit Scale, the results of this small pilot study showed that between 75% and 85% of respondents felt there had been no change in relation to 'lifestyle changes', 'community closeness' or 'family closeness'. However, with regard to the sub-scale referring to 'increased faith in people', 70% agreed or strongly agreed with an increase in this indicator. Bearing in mind the general reports earlier that respondents appreciated the care and attention of workers from Family Services, this result is a possible reflection of that.

When the results were examined for possible differences according to ethnicity or culture, no differences were found.

Discussion

Discussion of these findings will be dealt with briefly in two parts: firstly the actual results, and secondly matters relating to further research into this area.

In view of the apparent scant attention paid to this particular aspect of disaster recovery in Australia, this was essentially an exploratory exercise. It has revealed a clear picture of satisfaction with the services provided by the Department of Families and their timing. From the sample, there does not appear to be any specific area which is influenced by ethnicity or culture, and there are no apparent indicators for a revision of services along ethnic/cultural lines.

A picture has emerged, however, of people who are often in the midst of crisis at the time of sustaining a disaster event. Whilst from a service provision perspective, the disaster is the principal focus, for some recipients it is one more difficulty at this time in their life to deal with. For some, an attitude of fortitude, inevitability, resignation and an ability to fight back assist them to deal with this. A focus on the 'whole situation' rather than the restitution of material goods might provide a useful 'starting point' in the initiation of community disaster recovery. Disasters are no respecter of persons or type of property, and geographical and environmental factors are seen by the respondents to be of major concern to them. Policy makers in the area of flood mitigation need to ensure they provide open access to residents such that their experiences can influence decisions made regarding environmental changes in flood prone areas.

There is some evidence emerging which indicates that some positive aspects can arise from a disaster, such as a stronger faith in people and a stronger sense of community. These are factors that should be remembered and implemented in staff training programs.

The service offered to respondents by the Department of Families concentrated primarily on financial assistance to replace material losses. Whilst most respondents were extremely positive about the services provided, this study has indicated a need for attention to an holistic approach in service delivery, and refinement of referral to and coordination of assistance offered by other community agencies.

With regards to feedback, people are generally interested in being asked about their experiences and have the right to see the results of their endeavours in feedback about the research. At this stage, the manner whereby those interviewed will be provided with feedback is yet to be determined; however, it is envisaged that all will be contacted by mail shortly and provided with a succinct outline of the questionnaire analysis.

The process of researching this area brought the following matters to light.

Firstly, while it is desirable to ensure a probability sample of sufficient size to be able to draw strong inferences, this may not be possible in populations affected by disaster events. Temporary or permanent moves, property destruction and damage to telephone services or disconnection may prevent access to those people affected. In addition, because of

the random nature of the effects of a disaster, not all people are necessarily seriously affected by the event, and may not identify with the aims of a research project.

In addition, since the focus is on the adequacy of 'service provision', only those people eligible to receive this service, in this case monetary assistance, were identifiable for inclusion in the study. Many useful ideas regarding service provision in community recovery may have been proffered by those similarly affected by the event, but not targeted, given the exclusivity (on general financial grounds) of the chosen sample. Furthermore, an alternative sample might have highlighted individual aspects of resilience peculiar to this latter group. Such information could assist us in the provision of resources to those already facing other difficulties in their lives, where coping with the effects of a natural disaster is one more hurdle to overcome. Work is now in process planning to compare the results from this study with those from a group who did not qualify for the NDRA assistance, but who live in the same geographical areas.

Secondly, timing of these kinds of studies is important. If undertaken too soon after the event, respondents may still be in a state of shock and focused on solving associated problems. If undertaken too long after the event, memory may play a part in confusing recall, or minimise the effect of certain factors. In either case, what is important is to undertake studies that allow respondents to answer in their own terms. This not only allows them to ventilate their feelings about the event, but also focuses them on the topic being researched. It also allows them to contribute additional anecdotal material which may, through analysis, prove of interest and importance to the research undertaken.

It is recognised that the questions used in this study need refining, and, given the background details of the respondents, many had difficulty in understanding what was required. As this was in fact a pilot study to further research, it is felt the questions were adequate for the purpose and, as primarily one interviewer was used, any variation from the written questions was consistent, and did not influence the data results.

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This article has been refereed

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