



PROGRAM C

WHAT SHOULD COMMUNITY SAFETY PROGRAMS FOR BUSHFIRE ACHIEVE?

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PROGRAM C : Evaluating Community Safety Programs for Bushfire

→ **THE COMMUNITY SAFETY APPROACH TO BUSHFIRE**

- A broad range of policies, programs and activities planned to recognise and further develop householder self-sufficiency and community capacity to deal with bushfire risk
- Safer communities have been defined as those that are "... locally organised and resourced, well informed about local risks, proactive in prevention, risk averse, motivated and able to manage the majority of local issues through effective planning and action" (Hodges/EMA, 1999)

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THE COMMUNITY SAFETY APPROACH INCLUDES

- Community education programs and information campaigns for risk understanding and preparedness
- Community development programs that seek to utilise and/or further develop existing community infrastructure and capacity
- Programs for enhancing understanding and compliance with regulations and restrictions on the use of fire, fire prevention planning, land use planning, building codes and standards, and prescribed burning
- Activities and programs designed to provide timely information during fire emergencies



EVALUATING THE COMMUNITY SAFETY APPROACH

- At present there is little understanding of how effective community safety programs for bushfire are, and
- If they are effective
 - What intended and, possibly, unintended outcomes do they achieve?
 - How do they work to achieve these outcomes?
 - For which families and communities do they work best?
 - In what particular settings do they work best?
- Project C7 is developing a framework and methodology for evaluating the broad range of community safety programs



STRUCTURED CONCEPT MAPPING

- One method for ascertaining community and agency views on the potential outcomes of community safety programs
- Developed by William Trochim of Cornell University
- The “Concept System” - a computer-assisted tool that enables a group to
 - Assemble and organise its ideas on a topic
 - Represent these ideas visually as a two-dimensional ‘map’
 - Discuss and amend the map to achieve a final agreed result



11 CONCEPT MAPPING WORKSHOPS WERE HELD ACROSS 5 STATES

	Community Group	Bushfire Agency
New South Wales	2 workshops – 6, 7 participants	2 workshops – 5, 6 participants
South Australia	1 workshop – 10 participants	1 workshop – 12 participants
Tasmania	1 workshop – 8 participants	1 workshop – 7 participants
Victoria	1 workshop – 10 participants	1 workshop – 9 participants
Western Australia	-	1 workshop – 6 participants



GENERATION, SORTING AND RATING OF STATEMENTS

- Participants were asked to brainstorm ideas in response to the statement
 - *Thinking as broadly as possible, generate statements that describe specific changes or improvements you think need to be achieved to make households and neighbourhoods safer from bushfires*
- Statements were printed onto cards and participants were asked to sort the statements into piles *“in a way that makes sense to you”*
- Participants were then asked to rate each statement on scales from 1 to 5 for its *importance* and the *difficulty* of achieving it
- Each individual workshop generated between 34 and 60 unique statements that were finally organised into between 5 and 11 clusters



A TYPICAL LIST OF STATEMENTS GENERATED BY A WORKSHOP GROUP

1. Effective communication at times of a fire or a high fire risk (eg radio)
2. Local groups that can check individual household preparation and encourage proper preparation (eg at a street level)
3. Local resource people who can provide advice to others on practical things they can do to be better prepared
4. Community are educated to understand the BENEFITS of being fire safe
5. People understand the impact that not being fire-safe can have on them and the community
6. People at local (eg street) level receive advice and support from fire services about how to make their properties as safe as possible
7. People need to be clear about whether they will stay or go based on a realistic understanding of their own circumstances and capacity
8. People are provided with clear information about things they need to consider in deciding to stay or go
9. Households have appropriate fire and evacuation plans
10. Households that have decided to stay need a readily available list of things they need to do in case of a fire
11. People need to know safe places to go to in case they need to evacuate



A TYPICAL LIST OF STATEMENTS GENERATED BY A WORKSHOP GROUP (cont.)

12. People need to see how quickly things they do wrong can lead to devastating results (eg through graphic TV ads)
13. People need to understand the circumstances under which they can be directed to leave their property and by whom
14. People have an independent water supply and means of pumping water if there is a power failure
15. People clear rubbish, leaves etc from their property
16. Where guidelines are issued to household they need to be appropriately specific about exactly what they need to do (eg pumps)
17. People should be able to get an assessment of their property and situation, and get recommendations specific to them
18. Councils provide information about importance of cleaning up when they inform residents of their collection services
19. Local brigades and planning bodies can help residents access the tradespeople and services they need in order to be properly prepared (a one-stop-shop)
20. Needs to be a register of people who have special needs in case of a fire (eg elderly, disabled)
21. Residents know about people with special needs in their street/locality (eg elderly, disabled)
22. Adequate fuel reduction in ALL properties in a street



A TYPICAL LIST OF STATEMENTS GENERATED BY A WORKSHOP GROUP (cont.)

23. People know about the rural fire service website and are able to use it (and the website is kept active and up to date)
24. Communication during a crisis needs to be less haphazard and more locally precise (eg using local radio)
25. Need to have efficient ways for communities to provide information about fire behaviour to the fire services
26. Better two-way communication during a fire
27. In the case of a fire residents need to feel that lines of communication within the fire services are effective (and not blocked by internal squabbles)
28. Need means of contacting owners of holiday properties to notify them of needs regarding clean-up and preparation
29. People are provided with education in their own setting (eg street meetings)
30. Better understanding of what neighbours have for fighting fires
31. People need to understand that they are likely to be on their own in case of a fire and may not have power, mains water etc
32. People maintain all the equipment that they need for fire protection
33. Agencies provide positive education (benefits of being fire safe) rather than negative education (don't do this)
34. Information/education needs to focus on practical issues that people may not know

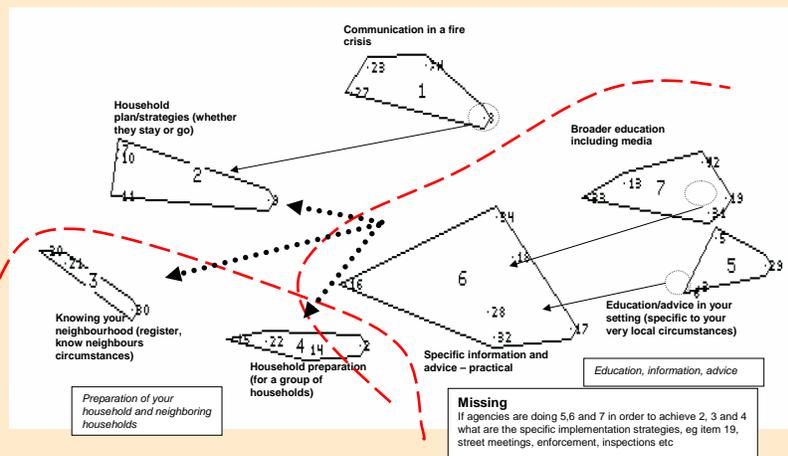


ANALYSIS AND DISCUSSION OF RESULTS DURING THE WORKSHOP

- Trochim's Concept System computer program used during the workshop to assemble and analyse the sorted statements
 - Multidimensional Scaling (MDS)
 - Yields a two-dimensional spread of statements where those more similar in meaning are located closer together (the 'Point Map')
 - Hierarchical Cluster Analysis (Ward's Method)
 - Finds the two points on the map that are closest together and forms them into a single group
 - The next two entities (point or group) that are closest together are then found and amalgamated into a group and so on
 - By default the Concept System selects a number of clusters that is approximately one-fifth the number of statements generated by the workshop, but any number of clusters can be selected by the group
 - Results include the 'Cluster Map' overlaid on the 'Point Map' and the statements listed under each cluster heading



THE CLUSTER MAP WITH CLUSTER NAMES AND 'CAUSAL ARROWS' PROVIDED BY THE GROUP





SYNTHESIS OF RESULTS

- Results from the individual workshops were combined by the research team in a workshop process that mirrored the cluster analysis strategy
- 14 general concepts identified
- Concepts described a wide range of desired outcomes at various 'levels' of impact
 - Householder/Neighbourhood/Community
 - Local Bushfire and Other Agencies
 - Policy (Commonwealth/State Government, Central Agency)



POTENTIAL OUTCOMES - HOUSEHOLDS AND NEIGHBOURHOODS

- Individuals/Community have a Realistic Understanding of Risk
The focus of the statements in this cluster is on the importance of community members understanding the range of factors that influence risk.
- Deciding and Planning for 'Stay or Go'
Understanding of the issues surrounding the 'Stay or Go' message as well as making decisions about what individuals or households will do when threatened by bushfire, based on accurate information.
- Household/Neighbourhood Planning and Preparation
The formulation of a plan that outlines an appropriate response to a bushfire and preparation that enables the chosen plan to be implemented.



POTENTIAL OUTCOMES, COMMUNITIES AND LOCAL BUSHFIRE AND OTHER AGENCIES

- **Neighbourhood and Community Networks and Partnerships**
 The majority of people are, in some way part of community networks. These networks will influence the capacity of communities to self-organise, and to work effectively with fire agencies, and other authorities. The networks will also influence community resilience and sustainability of community safety efforts.
- **Agency/Inter-Agency Responsibilities and Co-ordination**
 Two related, yet distinct concepts were identified within this cluster. The first relates to agency responsibilities for the community. The second relates to the intra-agency relationship between the operational branches of an agency and those concerned with community safety initiatives.
- **Appropriate Information/Education Activities**
 The provision of education, to a range of groups and using a number of different methods.
- **Community and Agency Responsibilities to Address Specific Needs**
 Statements in this cluster are related to very specific, local issues, offering practical solutions to identified problems.



POTENTIAL OUTCOMES, COMMUNITIES AND LOCAL BUSHFIRE AND OTHER AGENCIES - cont.

- **Agency/Community Interaction**
 The flow of information between agencies and the public, before an incident occurs, with the aim of increasing resident awareness of the risks posed by bushfire as well as encouraging preparation to mitigate those risks.
- **Effective Communication of Information during Bushfire**
 The majority of statements in this cluster are concerned with the way in which fire agencies deliver information to community members during a bushfire. Another element is to improve community safety from bushfire, systems need to be implemented that enable community members to communicate information to fire agencies, making use of local knowledge.
- **Greater Community Ownership and Responsibility for Bushfire Safety**
 The statements in this cluster are about community members taking increased responsibility for their own safety, planning for themselves and the communities they belong to.



POTENTIAL OUTCOMES - POLICY LEVEL

- **Principles Underpinning Program Development and Adult Learning**
The importance of creating an environment conducive to effective learning by adults.
- **Policy Framework for Agency and Organisational Roles**
Ensuring the fire agencies implement appropriate policies and procedures to support community safety initiatives.
- **Use of Incentives to Achieve Preparedness**
The use of incentives to encourage preparedness or, conversely, the use of penalties to discourage inappropriate or risky behaviour.
- **Understanding/application of Regulations for Bushfire Safety**
The need for appropriate legislation to be put in place and enforced as well as ensuring community members and local governments understand why those laws are necessary.



THE RESULTS OF STRUCTURED CONCEPT MAPPING CAN BE USED FOR

- **Program Planning** - To provide an indication of the range of community safety outcomes that might be achieved and those that might be given the highest immediate priority
- **Program Evaluation** - To provide general criteria for evaluation of all community safety initiatives
- **Program Theory** - As a basis for the development of program logic models and program theories - a useful first step in planning and/or evaluation

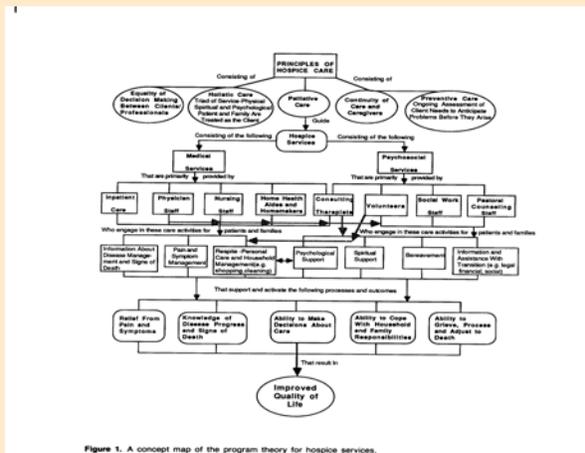


FROM CONCEPT MAPPING TO A PROGRAM LOGIC

- Program Logic - two representative definitions
 - "... a picture of how your organisation does its work - the theory and assumptions underlying the program. A program logic model links outcomes (both short- and long-term) with program activities/processes and the theoretical assumptions/principles of the program" (W.K. Kellogg Foundation - Logic Model Development Guide)
 - "... a simplified picture of a program, initiative, or intervention that is a response to a given situation. ... Shows the logical relationships among the resources that are invested, the activities that take place, and the benefits or changes that result." (University of Wisconsin Cooperative Extension - On-line course "Enhancing Program Performance with Logic models")



McCLINTOCK'S (1990) LOGIC MODEL FOR A HOSPICE PROGRAM



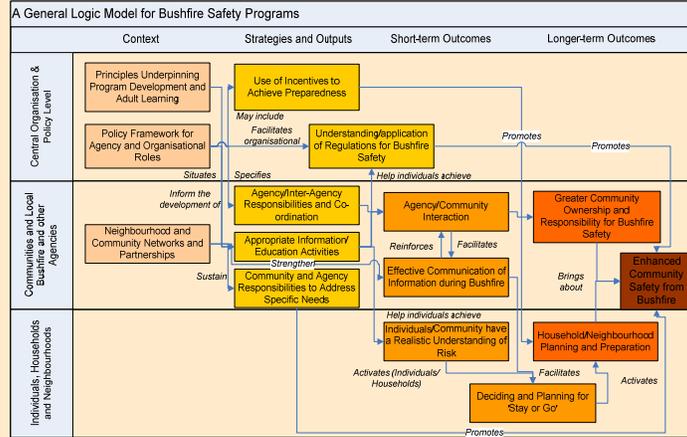
Two quite distinctive features:

- Overarching 'principles' of hospice care at the top of the diagram
- 'Resources', 'Outputs' and 'Outcomes' in boxes linked with words or phrases to form 'propositions'

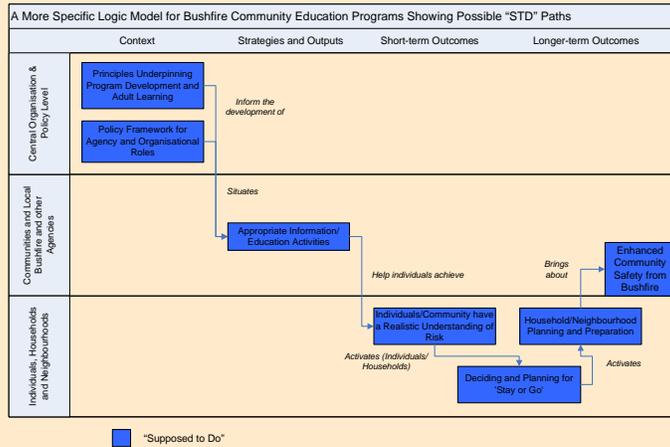
Figure 1. A concept map of the program theory for hospice services.



A GENERAL LOGIC MODEL FOR BUSHFIRE SAFETY PROGRAMS FOLLOWING McCLINTOCK

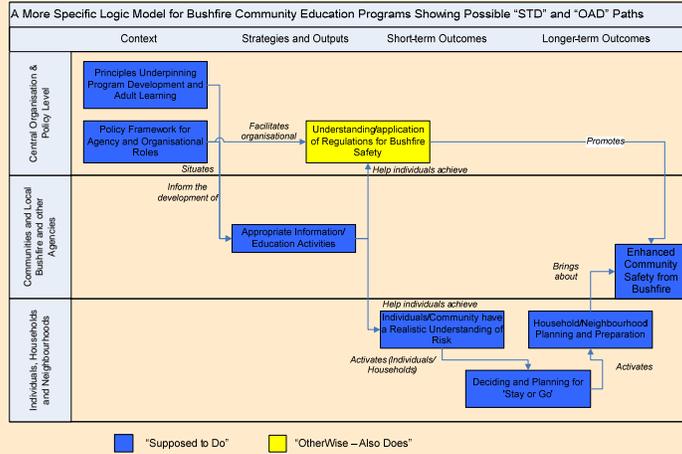


EMBEDS A MORE SPECIFIC LOGIC MODEL FOR COMMUNITY EDUCATION PROGRAMS

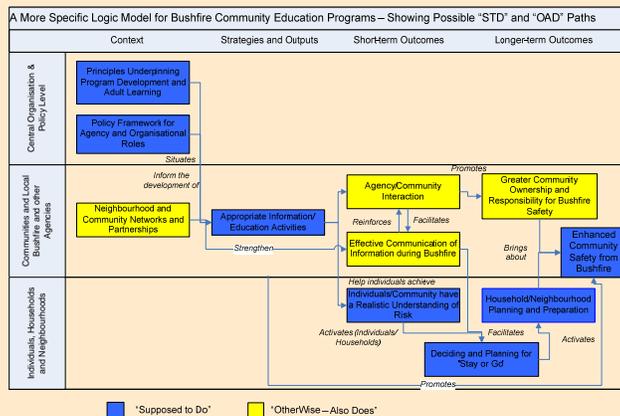




AND CAN HELP IDENTIFY OTHER POSSIBLE 'PATHS' TO THE SAME OUTCOME



OR THE WAY THE CONTEXT MIGHT AUGMENT THE IMPACT OF A PROGRAM





OTHER OUTCOMES OF THE CONCEPT MAPPING PROJECT

- Importance and difficulty ratings can provide useful information for program planning, highlighting those outcomes that might be given higher priority (see poster)
- Analysis of statements within clusters has revealed additional complexity leading to the development of a more elaborate program theory for community safety initiatives



FOR EXAMPLE

- Statements in the Agency/community Interaction cluster break down into ideas associated with
 - Coordination between community agencies
 - Developing agency capacity
 - Importance of community understanding of a partnership approach
 - Various strategies and outputs associated with agency/community interaction
 - Processes thought necessary to sustain agency/community interaction e.g. 'interactive communication' 'agency support for community action'
- Yielding ideas about a specific program theory for Agency/community relations itself



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THANK YOU
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