10 Emergency management

Emergency management aims to reduce the level of risk from emergencies to the community. The activities of emergency management agencies reduce the negative effects of emergencies and improve the level and perception of safety in the community. The emergency management sector includes a range of service providers engaged in activities of prevention, preparedness, response and post-emergency recovery (whether fully or partly funded by governments). Emergency management providers address a range of events, including fires, medical transport and emergencies, rescues, other natural events (such as floods, earthquakes, landslides, heatwaves, cyclones and other storms), technological and hazardous material incidents, and quarantine and disease control.

This chapter reports on only fire and ambulance service providers. It currently excludes land management agencies involved in the delivery of fire services. The Steering Committee will survey emergency management committee executive officers in all jurisdictions in 2000 to determine which events and activities are a priority for national emergency management. The survey results will provide a basis for expanding the scope of the chapter in the future to report on the management of other emergency event types.

A profile of emergency management is presented in section 10.1, followed by a brief discussion of recent policy developments in section 10.2. Together these provide a context for assessing the performance indicators presented later in the chapter. All jurisdictions have agreed to develop and report comparable indicators, and a framework of performance indicators is outlined in section 10.3. The data are discussed in sections 10.4 and 10.5 (with time series data included for the first time) and future directions for performance reporting are discussed in section 10.6. The chapter concludes with jurisdiction comments.

10.1 Profile of emergency management

The management of emergencies and disasters requires cooperation among Commonwealth, State and Territory governments and local governments, industry, community organisations and the community in general. The responsibility for protecting lives, property and the environment is shared among all sectors of society

and all levels of government. State and Territory governments are responsible for legislating regulatory arrangements and delivering police, fire, ambulance and pre-hospital services to the community. Many other government agencies also contribute to emergency management. The primary role of the Commonwealth Government is to support and develop national emergency management capability by:

- coordinating the Commonwealth's material and technical assistance in the event of an emergency;
- providing financial assistance to States and authorities for flood prevention/mitigation (through the Regional Flood Mitigation Program) and for bearing the costs of natural disasters (through the Natural Disaster Relief Arrangements);
- providing information, best practice materials and training programs; and
- supporting community awareness activities.

Commonwealth Government agencies also have specific emergency management responsibilities, such as control of exotic animal diseases; aviation and maritime search and rescue; management of major marine pollution and meteorological and geological hazards; development of fire codes for buildings and fire fighting services at airports; human quarantine; and research and development.

Local governments in most States and Territories are involved to varying degrees in emergency management. Their roles and responsibilities may include:

- considering public safety in town planning and development to account for emergencies such as fires, floods and hazardous material incidents;
- developing local emergency and disaster plans and allocating resources for response and recovery activities; and
- supporting local volunteer fire and/or emergency service units.

The Review does not yet report on the performance of local government or their agencies, except to note that local councils in some jurisdictions manage the day-to-day operations of rural fire services. Box 10.1 provides a list of frequently used terms in fire and ambulance services.

Box 10.1 Commonly used terms in fire and ambulance services

Alarm notification not involving fire — fire alarm notification due to the accidental operation of alarm, the failure to notify fire services of an incorrect test by service personnel, or a storm induced voltage surge

False report — an incident where the fire service has responded and investigated the site and may have restored a detection system

Fire death — a fatality that the reporting officer deems as directly attributable to the incident or the action of handling the fire incident. This excludes fatalities where a fire conceals a death occurring before the fire incident. This information may be verified by coronial information.

Fire incident — a fire that is reported to a fire service and requires a response

Fire injury — an injury resulting from a fire or flames requiring admission to a hospital. This excludes emergency department outpatients.

Non-structural fire — a fire outside of a building or structure, including a fire involving mobile properties (such as vehicles), a rubbish fire, a bush or grass fire or an explosion

Other incident — an incident other than fire that is reported to a fire service and requires a response. This may include:

- an overpressure rupture (for example, steam or gas), explosion or excess heat (no combustion);
- a rescue (for example, industrial accidents or vehicle accidents);
- a hazardous condition (for example, escape of hazardous materials);
- salvage; and
- a storm or extreme weather.

Paramedic response — a level of emergency care categorised as advanced life support

Proportion of structural fires contained to object or room of origin — a fire where direct fire/flame is contained to the room of origin (that is, excludes wildfires and vehicle fires in unconfined spaces). A room is an enclosed space, regardless of its dimensions or configuration. This category includes fires to residential and non-residential structures.

Response time — the interval between the receipt of the call at the dispatch centre and the arrival of the vehicle at the scene (that is, when the vehicle is stationary and the handbrake is applied)

Structural fire — a fire inside a building or structure, whether or not there was damage to the structure

Sources: AIHW (1999); CAA (1999); NSW Fire Brigades (1998).

Fire services

State and Territory governments are primarily responsible for the delivery of fire services. The Commonwealth Government provides fire services at 16 major airports and some defence installations. The Commonwealth, State and Territory governments also develop building fire codes, fire research, and policies and advice on fire safety. Local governments also support fire services in a number of ways, including direct support of rural brigades, payment of statutory levies and the clearing of vegetation in high risk areas.

The fire services provided by State and Territory governments cover all aspects of emergency management, including:

- prevention — public information campaigns, advice on rural land management practice for hazard reduction and fire prevention, inspection of property and buildings for fire hazards and fire standards compliance, preparation of risk assessment and emergency management plans, and hazard categorisation for public information campaigns;
- preparedness — public education and training, preparation of response plans, training of fire personnel, hazardous chemicals and material certification, inspection of storage and handling arrangements, and hazard categorisation for resource allocation;
- response — urban and rural fire suppression, response to incidents involving hazardous substances, and road and industrial rescue; and
- recovery — critical incident stress debriefing, salvage and restoration of the emergency event to a safe state, and support for the community.

Separate urban and rural fire services deliver fire services in most jurisdictions. Fire services in urban areas typically respond to residential and commercial structural fires, incidents involving hazardous materials, and road accidents within major urban centres. Fire services in rural areas are separated into those services that respond to mainly local structural fires and other events, those that responded to rural non-structural fires (including crops, bush and grassland fires on private property), and those that respond to mainly fires in national parks and State forests. The latter are provided by land management departments, whose performance in relation to fire involvement are not covered in this chapter at present.

The management structure of fire services in urban and rural areas varies significantly across jurisdictions. Queensland, WA and Tasmania operate a single statutory authority that manages fire services in both urban and rural areas. NSW, SA and the NT have separate statutory authorities for fire services in rural and urban settings. In Victoria, two statutory authorities manage fire services across the

State (excluding public land). The boundary between the two authorities runs through the Melbourne metropolitan area. In the ACT, two fire agencies (urban and bushfire) operate under the Emergency Services Bureau (table 10.1). Jurisdictions with more than one fire authority separate services in different ways. NSW separates fire services on the basis of functional grounds and geographic area, whereas Victoria separates fire services by geographic area.

Table 10.1 **Delivery of primary fire services[a]**

	Urban	*Rural*
NSW	NSW Fire Brigades — the brigade reports to the Minister for Emergency Services directly	NSW Rural Fire Service — day-to-day management of each brigade rests with the local councils, but each brigade is strategically and operationally responsible to the NSW Rural Fire Service, which reports to the Minister for Emergency Services
Vic	Metropolitan Fire and Emergency Services Board — this statutory authority reports to the Minister for Police and Emergency Services	..
	Country Fire Authority — this statutory authority reports to the Minister for Police and Emergency Services	
Qld	Queensland Fire and Rescue Authority — this statutory authority reports to the Minister for Emergency Services via the Director-General, Department of Emergency Services	
WA	Fire and Emergency Service of WA — this umbrella statutory authority reports to the Minister for Police and Emergency Services directly and incorporates the Bush Fire Service, State Emergency Service and Fire and Rescue	
SA	Metropolitan Fire Service — this statutory authority reports to the Minister for Emergency Services directly	Country Fire Service — the board of this authority reports to the Minister for Emergency Services directly
Tas	Tasmania Fire Service — this is the operational arm of the State Fire Commission, which reports to the Minister for Health and Human Services	
ACT	ACT Fire Brigade and ACT Bushfire Service — these are agencies of the ACT Emergency Services Bureau, which reports to the ACT Minister for Justice and Community Safety via the Department of Justice and Community Safety	
NT	NT Fire and Rescue Service — this is a branch of the larger Department of Police, Fire and Emergency Services. The Chief Fire Officer reports to the Commissioner for Police, who reports to the Minister for Police, Fire and Emergency Services.	Bush Fires Council — this is part of the Parks and Wildlife Commission of the NT, which is managed by a board of pastoralists which reports to the Minister for Parks and Wildlife[b]

a Excludes brigades employed by large scale public and private land managers; port, mining and other infrastructure brigades; and brigades operating under Commonwealth jurisdiction (for example, airport and defence installations). Also excludes agencies under the auspices of land management departments. **b** The NT Bush Fires Council is primarily a land management organisation and responds to only grass and bushfires on land outside the Fire and Rescue Service response areas. NT statistics in this chapter do not apply to Bush Fires Council unless stated. **..** Not applicable.

Information on reported fires and other primary incidents was provided separately for fire agencies in each jurisdiction. Data were not available for all fire services across jurisdictions. Fire services are required by legislation to respond to all calls, and an incident is not deemed to be a false report until the fire service has responded and investigated the site. Nationally 29 per cent of reported incidents were fires (table 10.2).

The proportions of incident types varied substantially across jurisdictions in 1998-99. NSW, for example, attended 111 590 incidents, of which 27 per cent were fires, 36 per cent were alarm notifications not involving fire and 37 per cent were false reports and other incidents. NT responded to 5740 incidents, of which 42 per cent were fires, 45 per cent were alarm notifications not involving fire and 13 per cent were false reports and other incidents (table 10.2).

Table 10.2 **Reported fires and other primary incidents, 1998-99 (number)**

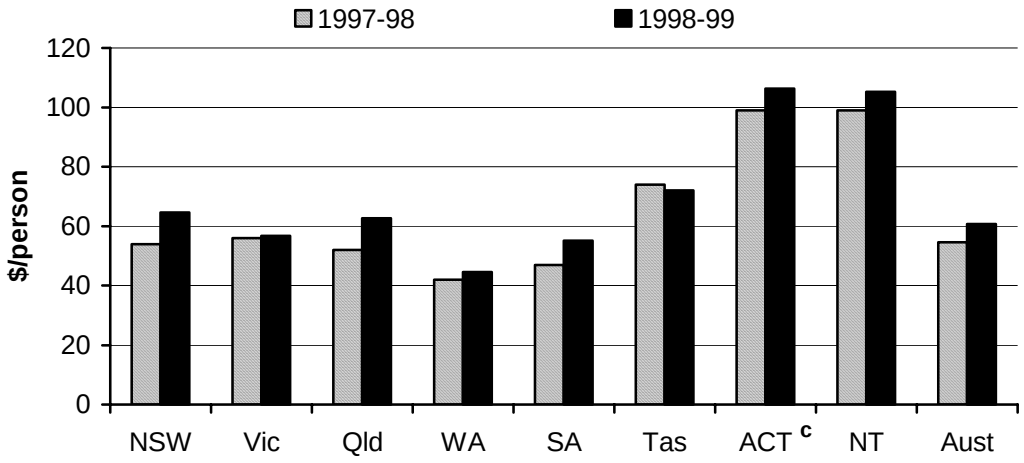
	NSW[a]	*Vic*	*Qld*[b]	*WA*[b]	*SA*	*Tas*	*ACT*[c]	*NT*[d]	*Total*
Fires	30 184	20 511	10 952	10 790	6 010	2 867	1 415	2 387	85 116
Alarm notifications not involving fire	40 052	12 954	13 894	6 540	4 857	1 122	na	2 590	82 009[e]
False reports	17 224	12 632	9 546	1 941	1 995	2 670	na	61	46 069[e]
Other incidents	24 130	14 106	9 645	2 216	5 777	1 388	na	702	57 964[e]
Total reports	111 590	60 203	44 037	21 487	18 639	8 047	9 410	5 740	279 153

a Excludes Rural Fire Service data, but includes NSW Fire Brigades responses to calls outside their designated fire districts. **b** Excludes rural fire service. **c** Reported fires include both the ACT Bushfire Service and the ACT Fire Brigade. Other incidents and false reports include the ACT Fire Brigade only. Data have been extrapolated because industrial bans occurred. **d** Excludes the NT Bush Fires Council. **e** Excludes ACT data. **na** Not available.

Source: table 10A.1.

Approximately $1.1 billion was spent in 1998-99 on the fire services covered in this Report. Nationally, expenditure per person was $61. Expenditure per person was highest in the NT ($105 per person) in 1998-99 and lowest in WA ($45 per person). Expenditure for the ACT ($109 per person) included expenditure on the ACT Fire Brigade, ACT Bushfire Service, ACT Emergency Service and ACT Ambulance Service in addition to expenditure on ACT emergency management planning (figure 10.1).

Figure 10.1 **Fire expenditure[a, b]**



a Population figures used to calculate 1998-99 data have been adjusted to represent population coverage by fire agencies. **b** Expenditure data are approximated using revenue data. **c** Includes expenditure for all four response agencies: the ACT Fire Brigade, ACT Bushfire Service, ACT Emergency Service and ACT Ambulance Service.

Source: table 10A.13.

The primary sources of funding across all jurisdictions were the State and Territory and local governments, levies on insurance companies and property owners, user charges, and fundraising and donations. Levies on insurance companies were the primary source of funding for the all NSW and Victorian fire services, the WA Fire and Rescue Service (permanent) and SA fire services. The State Government was the sole source of funds for WA Fire and Rescue Service (volunteers), WA Bush Fire Service and NT fire services, and the primary source of funds for the ACT Emergency Services Bureau. Levies on property owners were the primary source of funds in Queensland (74 per cent of all funding) and Tasmania (53 per cent of all funding) (table 10.3). In addition to normal funding resourcing, all States and Territories rely on volunteer fire fighters who make a significant contribution to the community.

Table 10.3 **Source of funding for fire services, 1998-99**[a]

	State govt	*Local govt*	*Levies on insurance companies*	*Levies on property owners*	*User charges*	*Other* [b]	*Total value*	
	%	%	%	%	%	%	%	$m
NSW								
- NSW Fire Brigades	14	12	74	0	0	0	100	298
- Rural Fire Service	14	12	74	0	0	0	100	70
Victoria[c]								
- Metropolitan Fire and Emergency Services Board	10	10	64	0	1	14	100	151
- Country Fire Authority	21	0	69	0	3	6	100	114
Queensland Fire and Rescue Authority	21	0	0	74	4	1	100	195
WA								
- Fire and Rescue Service (Permanent)	13	13	75	0	0	0	100	65
- Fire and Rescue Service (Volunteers)	100	0	0	0	0	0	100	7
- Bush Fire Service[d]	100	0	0	0	0	0	100	8
SA								
- Metropolitan Fire Service	13	13	75	0	0	0	100	55
- Country Fire Service[e]	48	0	49	0	0	3	100	27
Tasmania Fire Service	6	0	20	53	18	3	100	34
ACT Emergency Services Bureau[f]	77	0	0	0	21	2	100	33
NT								
- Fire and Rescue Service	100	0	0	0	0	0	100	17
- Bush Fires Council	100	0	0	0	0	0	100	3

a Totals may not sum to 100 per cent as a result of rounding. **b** Includes fundraising and donations. **c** The proportions of principal funding contributions from State governments, local governments and insurance companies are established in legislation. The actual proportions received may vary as a result of the level of income from user charges and other income sources. **d** Excludes bush fire brigades that are the responsibility of local government. **e** Other income includes $1 million received from AUSAID for reimbursement of costs of the Indonesian Fire Suppression Exercise. **f** Includes funding sources for four response agencies: the ACT Fire Brigade, ACT Bushfire Service, ACT Emergency Service and ACT Ambulance Service.

Source: table 10A.2.

Ambulance services

Ambulance services include the delivery of:

- emergency pre-hospital patient care and transport in response to sudden injury and illness;
- emergency patient retrieval;
- emergency pre-hospital patient access (for example, in confined spaces and hazardous environments);
- aeromedical patient services;
- inter-hospital patient transport;
- road accident rescue; and
- planning and coordination of patient services in multicasualty events.

Not all ambulance services provide all these services. Some government ambulance services provide first aid training courses, as do the non-government providers of St John Ambulance Australia and the Red Cross. In addition, the Royal Flying Doctor Service plays an important role in medical emergencies in remote inland areas of Australia.

Ambulance services attended over 1.9 million cases nationally in 1998-99. Patients were transported in 74 per cent of cases in the ACT and 98 per cent of cases in WA. An emergency stretcher ambulance was the most common vehicle dispatched nationally (table 10.4).

Approximately $720 million was spent in 1998-99 on ambulance services. Nationally, expenditure per person was $39. Across all jurisdictions, expenditure per person was highest in Queensland ($49 per person) and lowest in WA ($25 per person) (figure 10.2). Ambulance expenditure in the ACT could not be separately identified from the costs of the ACT Emergency Services Bureau.

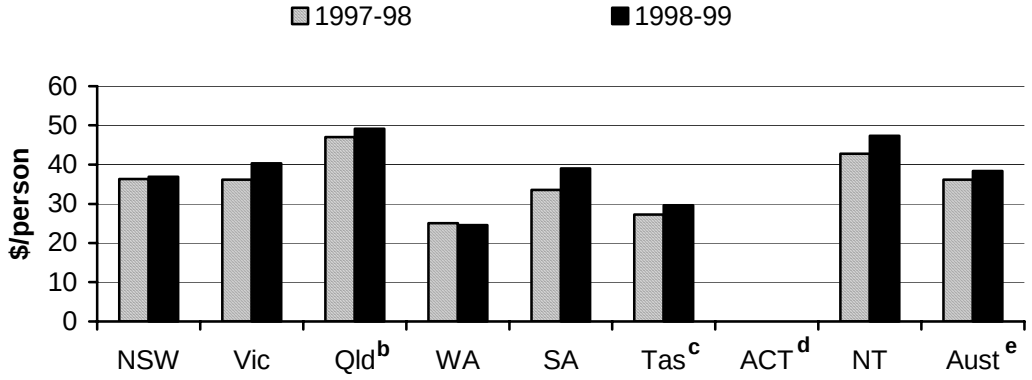
Table 10.4 **Reported ambulance incidents, 1998-99 (per cent)[a]**

	NSW[b]	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*	*Aust*
Patients transported									
Emergency stretcher ambulance	42	47	44	55	55	58	55	23	46
Non-emergency stretcher ambulance	33	27	44	43	29	21	17	38	34
Clinic/non-stretcher patients	0	7	0	0	0	0	2	21	2
Air ambulance	1	1	1	0	0	1	1	0	1
Total	**75**	**82**	**89**	**98**	**84**	**80**	**74**	**82**	**82**
Patients treated, not transported									
Emergency stretcher ambulance	11	9	4	0	11	15	14	0	8
Non-emergency stretcher ambulance	1	0	0	0	0	2	0	0	0
Clinic/non-stretcher patients	0	0	0	0	0	0	0	0	0
Air ambulance	0	0	0	0	0	0	0	0	0
Public events	0	0	1	0	1	1	1	0	0
Total	**12**	**9**	**5**	**0**	**12**	**17**	**15**	**0**	**9**
Ambulance not required									
Total	**13**	**9**	**5**	**1**	**4**	**3**	**10**	**18**	**9**
Total cases ('000)	709	415	432	124	147	41	18	21	1 909

a Totals may not add as a result of rounding. **b** Clinic and non-stretcher patients were not reported separately in NSW.

Source: table 10A.14.

Figure 10.2 **Ambulance expenditure[a]**



a Expenditure data are approximated using revenue data. **b** Data were provided on an accrual basis, and include expenditure on the administration of the subscription scheme, first aid and clinic transports. A full accrual breakdown of the expenditure of emergency services provision was not available at the time of reporting. **c** Data were provided on a full accrual basis and exclude expenditure on administration of the ambulance subscription scheme, hospital based transport services, independent ambulance services, first aid training and clinic transport services. **d** Given the integrated nature of ACT emergency services, it was not possible to provide separate expenditure data for ambulance services. Total expenditure for the four services is reported in figure 10.1. **e** Excludes ACT data.

Source: table 10A.18.

State and Territory governments provide ambulance services in most jurisdictions. In WA and the NT, St John Ambulance is under contract to the respective State and Territory governments as the primary provider of ambulance services (table 10.5).

Table 10.5 **Relationships of primary ambulance response and management agencies to government**

NSW	Ambulance Service of NSW — a statutory authority reporting to the Minister for Health
Vic	Metropolitan Ambulance Service, Rural Ambulance Victoria, and Alexandra and District Ambulance Service — separate statutory corporations reporting to the Minister for Health
Qld	Queensland Ambulance Service — a statutory authority reporting to the Minister for Emergency Services through the Director-General
WA	St John Ambulance — an incorporated not-for-profit organisation under contract to the WA Government
SA	SA Ambulance Service — an incorporated joint venture between the Minister for Justice and St John Priory Australia
Tas	Tasmanian Ambulance Service — a statutory service of the Hospital and Ambulance Division of the Department of Health and Human Services
ACT	ACT Ambulance Service — an agency of the ACT Emergency Services Bureau reporting to the ACT Minister for Justice and Community Safety
NT	St John Ambulance — an incorporated not-for-profit organisation under contract to the NT Government

Nationally, ambulance services receive funding from a number of different sources, including transport fees (from government hospitals, private citizens and insurance), subscriptions and levies, and government contributions. The distribution of funding sources varies across jurisdictions.

The government was the largest contributor to ambulance services in NSW (72 per cent), Victoria (52 per cent), Tasmania (81 per cent) and the NT (51 per cent). All jurisdictions received transport fees funding from government hospitals and insurance. All, except Tasmania, received transport fees from private citizens. Queensland relied the least on transport fees (16 per cent) and Western Australia relied the most on these fees (55 per cent, with the majority sourced from private citizens). All jurisdictions except NSW and Tasmania received funding from subscriptions and levies. Queensland relied the most on this funding source (30 per cent) (table 10.6).

Table 10.6 **Source of funds for ambulance services, 1998-99 (per cent)**

	NSW	*Vic*[a]	*Qld*	*WA*	*SA*	*Tas*	*ACT*[b]	*NT*
Transport fees:								
– from government hospitals	14	9	8	3	11	4	na	8
– from private citizens	5	10	6	46	0	0	na	9
– from insurance	0	5	1	3	1	6	na	2
– other	5	2	1	2	24	9	na	0
Total transport fees	24	20	16	55	36	19	na	17
Subscriptions/levies	0	25	30	1	21	0	na	5
Government contributions	72	52	47	26	39	81	na	51
Other	4	3	7	19	4	0	na	27
Total	100	100	100	100	100	100	na	100
Total ($ million)	**234**	**188**	**170**	**45**	**58**	**14**	**na**	**9**

a Excludes Ambulance Officers Training Centre. **b** The source of funds for the ACT Ambulance Service were included in the ACT Emergency Services Bureau data in table 10.3 and could not be provided separately. Total source of funds in table 10.3 includes funds for all four response agencies under the Emergency Services Bureau: the ACT Fire Brigade; the ACT Bushfire Service; the ACT Emergency Service and the ACT Ambulance Service. **na** Not available.

Source: table 10A.15.

10.2 Policy developments in emergency management

Fire and ambulance services are each facing similar policy developments to improve the effective and efficient delivery of emergency services. The most significant developments have been to:

- upgrade communication systems to provide improved responsiveness;
- implement risk management strategies to improve community and agency preparedness; and
- prepare strategies to coordinate responses between fire, ambulance, volunteer and police services, to improve the delivery of emergency services.

Improved communications and dispatching systems

Most jurisdictions have sought to improve their communication systems through the implementation of a centralised computer aided dispatch (CAD) system for all emergency services (table 10.7). Some jurisdictions are in the process of implementing a CAD system. The aims of the system are to:

- make the most efficient use of infrastructure, including personnel resources;
- take advantage of modern telecommunications, vehicle tracking and computer based decision-support systems;

Table 10.7 **Communications and dispatching systems**

	NSW[a]	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*
Development stage	Operating	Operating[b]	Operating	Currently implementing	Currently implementing	Operating	Operating	Operating
Agency involvement	• Fire Brigades • Rural Fire Service	• Metropolitan Fire and Emergency Services Board • Country Fire Authority • Metropolitan Ambulance Service • State Emergency Service • Police	• Fire and Rescue Authority • Ambulance Service	Police	na	• Fire Service • Ambulance Service	• Fire Brigade • Ambulance • Bushfire Service • Territory Emergency Service	• Fire and Rescue • St John Ambulance • Police
Future agency involvement	Complete	Complete	Complete	• Fire and Emergency Service • St John Ambulance	na	na	Complete[c]	Complete
Coverage	Statewide	• Melbourne metropolitan • Inner country	Statewide[d]	Greater Perth metropolitan	na	Statewide for each service	Territory wide	Darwin emergency response area

a A CAD system is being implemented for ambulance services in NSW. NSW Fire Brigades operates a communications and dispatch system for both the Fire Brigades and the Rural Fire Service. **b** Further development includes technological enhancement of mobile data terminals for all services and an automatic vehicle location system for police, the State Emergency Service and fire services. (The Metropolitan Ambulance Service is already using an automatic vehicle location system.) **c** Common CAD for all four agencies. **d** The Premier CAD system covers approximately 15 500 square kilometres of urban and rural areas in and around Brisbane. Regional CAD systems operate in a range of locations across the state. Some more remote areas receive calls and dispatch locally for the ambulance service. **na** Not available.

Sources: State and Territory emergency management departments.

- relieve on-call staff/volunteers of call-taking responsibilities; and
- facilitate improved coordination between services.

Some jurisdictions have also established more advanced fire alarm monitoring systems. The NT has implemented a fire alarm monitoring system (known as NTFAST) which uses radio frequency to transmit a signal from the alarmed premises back to the fire station. The system has been operating in Alice Springs since June 1998, leading to a reduction in false alarms from automatic fire alarms. The operation of the system was extended to other major centres throughout the NT in December 1999.

Risk management

The National Emergency Management Committee has endorsed Emergency Risk Management Guidelines based on the Australia/New Zealand Risk Management Standard. The standard provides a framework to systematically apply management policies, procedures and practices to the tasks of identifying, analysing, evaluating, treating and monitoring risk. As a result, many agencies have switched their emphasis from solely providing response and recovery activities in specific events to also include a range of strategies to reduce community vulnerability and to promote public safety. Some examples of these strategies include:

- community awareness and education programs;
- smoke alarm legislation; and
- bushfire risk management strategies.

Community awareness and education programs are an important component of risk management strategies for the prevention and self management of emergency events. One example is the Prevention and Risk Management Directorate in WA, established to provide community education on all aspects of fire safety in WA. The strategy has involved programs targeting the aged, people with a disability and people from non-English speaking backgrounds. Other programs include a primary school fire safety program aimed at early primary school children. In NSW community education programs including commercial and health care facilities training and education programs are conducted. A school based fire safety program is being developed in the NT for Aboriginal communities, and this is expected to be introduced in 2000. Queensland has targeted retired people, children in rural and remote areas, and young drivers in initiatives to improve community awareness of fire risk.

A further initiative to prevent emergency events is the introduction of smoke alarm legislation. The installation of smoke alarms is now mandatory in all new homes or homes undergoing major renovations in Queensland, NSW and the ACT. Since 1 February 1999, every household in Victoria has been required to install smoke alarms, and all new domestic dwellings in the NT have been required to install hard-wired smoke detectors since 1 January 1998.

Strategies have been introduced in many jurisdictions to manage the risk of bushfires. The introduction of the *Rural Fires Act 1997* in NSW, for example, provided for the implementation of bushfire risk management plans. In Victoria, legislation has been enacted to create 'industry brigades' to protect commercial plantations and to remove undue pressure on volunteer fire fighting services.

Councils in Victoria are moving to a risk management based model of emergency management planning, to ensure they fulfil the conditions under the Commonwealth's Natural Disaster Relief Arrangements to qualify for repeated assistance with predictable emergencies.

The top end of Australia contains the largest populations of Aboriginal communities. Fire services in these areas have focused on increasing fire awareness, training and prevention strategies throughout the area. Recently, negotiations have occurred to develop fire management plans with the Looma and Mowanjum Aboriginal Communities in conjunction with the local government authorities in WA. A school based education program designed for Aboriginal community schools is being developed in conjunction with the local school at Yirkala near the town of Nhulunbuy on the Gulf of Carpentaria.

Fire is an important part of the Aboriginal culture and fire services throughout the country visit the communities at regular intervals to inform children about fire danger. In addition these visits provide an opportunity to check equipment and provide training in the communities where necessary.

Multiservice coordination

To ensure the effective response of services to emergency events, all jurisdictions use multiservice coordination. This includes organisational restructuring, cooperation between fire and ambulance services, and co-location.

The NSW Fire Brigades and the NSW Rural Fire Service have formed a strategic alliance to coordinate the delivery of services in both urban and rural communities under the *Fire Services Joint Standing Committee Act 1998*. In Queensland, all emergency services (including the Queensland Ambulance Service) were combined

in a single portfolio in 1989 to enhance multiservice cooperation and coordination. The WA Department of Fire and Emergency Services was established in 1998 as an umbrella agency to provide a coordinated approach to policy, planning and service delivery for fire and emergency services throughout the State. In Tasmania, both the Tasmanian Ambulance Services and the Tasmanian Fire Service operate under the umbrella of the new Department of Health and Human Services. Since 1995, the ACT has had four agencies (ambulance, bushfire, emergency service and fire brigade) operating as part of the Emergency Services Bureau.

To better use the resources of emergency service organisations, fire and ambulance services work closely together in some jurisdictions in responding to suspected cardiac arrests. Victoria is piloting a program to test the effectiveness of an emergency medical response role for the Metropolitan Fire Brigade in support of the Metropolitan Ambulance Service. This pilot program will be expanded to cover the metropolitan Melbourne fire district. As part of this program, ambulance paramedics are training Metropolitan Fire Brigade first responders. The NT Fire and Rescue Service purchased a number of defibrillators and resuscitators with a view to becoming first responders. This project is being undertaken in cooperation with St John Ambulance, which is also helping to train fire fighting staff.

Co-location is a trend among jurisdictions to share common facilities that incorporate ambulance and fire vehicles, equipment and staff. Co-location can also mean stationing ambulances at hospitals, particularly in rural areas. The aim of co-location is to lower infrastructure costs without compromising responsiveness, and to improve the level of coordination and cooperation between the services. Tasmania has four co-located fire and ambulance stations. All new emergency service buildings in WA are to provide facilities for common use by all emergency services, especially in country locations. Similarly, in the NT, all new police or fire stations, which will house permanent staff from both organisations, are to be co-located facilities. In 1998 the ACT commissioned a Joint Emergency Services Centre in the new area of Gungahlin, incorporating the police, ambulance, bushfire, fire and emergency service stations in one complex. In 1999 planning commenced for further Joint Emergency Services Centres in the Woden and Belconnen areas. In Queensland, there are 12 fire and ambulance facilities with a further three proposed for construction during 1999/2000. In smaller communities and rural and remote areas, rural fire brigades and state emergency service groups have co-located. In some instances, rural fire brigades have co-located with ambulance and in some remote locations combined emergency services groups have been formed.

Box 10.2 **Case studies in multiservice coordination**

The Victorian gas crisis

In September 1998, an explosion and fire at Esso's natural gas plant in Longford interrupted gas supply to most of Victoria for two weeks while the plant was repaired and supply was restored. Limited gas was available to the network from NSW for highest priority users only. Gas meters for more than one million other users were switched off to prevent gas use and to maintain pressure in the network. Economic losses within Victoria and beyond probably exceeded one billion dollars.

Victoria's emergency response and recovery resources were involved, although significant new arrangements and applications emerged for both aspects. The response to the Longford explosion and fire was undertaken by emergency services operating under municipal and regional emergency response arrangements, and involved the Country Fire Authority, the Metropolitan Fire and Emergency Services Board, police, ambulance, the Red Cross and the Royal Australian Air Force. In addition, about 4000 Country Fire Authority and Victorian State Emergency Service volunteers assisted with turning off all gas meters.

The Government recognised the need for a management body to augment the existing Victoria Emergency Management Council, and thus established the Central Government Response Centre. The centre coordinated the monitoring of the gas crisis, liaised with the community, and provided for centralised policy determination and authorisation of public messages.

The needs of householders affected by the loss of gas supply across most of the State were managed under the State's emergency recovery arrangements. A wide range of public agencies and voluntary organisations were involved in providing community support services. Councils provided significant resources, from supplying additional meals on wheels services to allowing public use of showers at sporting pavilions.

The Department of Human Services was the lead agency and played a key role in issuing around 4000 exemption permits for gas supply to vulnerable individuals and critical community services such as hospitals. Two-way communication with the public proved essential, and the department's call centre fielded many thousands of calls regarding exemptions and advice on managing daily life without gas.

The Government considers that lessons for improving the future management of any similar incident include:

• *a broader understanding of the concept of emergency and role of the emergency management system.* The gas crisis was a reminder that the effects on the community are justification for activating emergency management resources, regardless of the precise nature of the precipitating event. The normal understanding of recovery — that is, assisting an affected community after an emergency — needs also to encompass community support during a prolonged crisis;

(Continued on next page)

Box 10.2 (Continued)

- *focus on vulnerability.* The community is not homogeneous, and individuals and groups have different experiences of, and responses to, the effects of any event. Emergency management agencies providing support need to work closely with those who have a detailed understanding of the nature of any particular community; and

- *wide area emergencies.* Emergency management planning has tended to focus on events that have a geographically limited effect, rather than on events with a potential Statewide effect. When a wide area is affected, the normal practice of supplementing local resources from outside is severely restricted. Planning must emphasise optimum identification of local resources to maximise self sufficiency, plus systems for allocating the available resources to the highest priority needs.

Tropical cyclone Vance

On 22 March 1999, tropical cyclone Vance crossed the coast of Western Australia recording cyclonic wind gusts on the mainland of 267 kilometres per hour. Vance caused devastating effects to the towns of Exmouth and Onslow (situated more than 1250 kilometres north of Perth) with a population of around 4000. The response to Vance was the largest experienced in this State since World War 2. Volunteers contributed more than 11 000 hours in the responding to Vance. The damage bill is estimated to be in excess of $78 million and Fire and Emergency Services Authority's response bill is expected to exceed $1.5 million.

In Exmouth 114 buildings were destroyed, around 300 were severely damaged, 500 people were evacuated to Perth, power was lost between seven days to two months, water was for 14 days, sanitation was lost for seven days, and the town was isolated by road for five days. In addition, port services were destroyed and severe damage was sustained by local fishing and tourist industry infrastructure. Onslow was less severely affected but experienced a significant storm surge. Four hundred people were evacuated to Karratha for four days, power was lost for three days, water/sanitation was lost for five days, and the town was isolated by road for seven days. Wind and storm surges caused moderate damage to 50 per cent of buildings. In addition to the towns, Vance caused severe damage to several pastoral properties in the remote hinterland, and led to significant floods in the southern inland parts of the State.

Tyranny of distance is an issue that needs to be considered when responding to emergency situations in isolated areas. Lessons from this experience are briefly outlined below.

Teams flown into an affected area should plan to be fully self sufficient for the first 48 hours. In addition, responding agencies need to have a supply of operational kits that can be taken into an isolated area. These kits should include things such as phones, faxes and other necessary equipment to assist with the operation during the first 48 hours. When flying teams in and out, it is essential to schedule an adequate handover period into the flight arrangements. This will ensure continuity of the operations. Vance has highlighted the need for cross-training of staff who may be called on to assist with rapid deployment teams.

(Continued on next page)

Box 10.2 (Continued)

Emergency management training for local government members and staff is an area that has been identified as needing attention. Local government is looked to supply knowledge, information and support within the community, and can be a great source of assistance in times of emergency. The Fire and Emergency Services Authority identified the need to have community representatives more involved in the local strategic operations group and in major decision making groups in events such as Vance. This supports its philosophy of working with the community and not working over the top of it.

Another lesson learned was the need to ensure that a coordinated media information and release system is established. This will ensure consistency of information to the public and avoid unnecessary confusion.

Finally, Vance has again highlighted the importance of having legislation to underpin emergency management activities. WA is developing its first emergency management legislation, which will provide the power to evacuate, initiate road closure and access unoccupied property to be used as a safe site accommodation.

Multiservice coordination extends beyond the provision of fire and ambulance services, to include other services such as police, State emergency services, local government bodies and potentially other volunteer organisations. The 1998 gas explosion at Longford Victoria (and the subsequent gas shortage in Victoria) and tropical cyclone Vance provide useful case studies into the importance of multiservice coordination. Box 10.2 describes extensive multiservice coordination following these incidents. The case studies also provide an example of some of the government services that may be included as the scope of the chapter is broadened (see section 10.6).

Volunteers

The delivery of emergency services relies on the commitment of volunteers. Many jurisdictions are implementing strategies to address the pressures placed on volunteer fire brigades as a result of economic, labour market and socioeconomic trends.

In Victoria, the Country Fire Authority has implemented the Community Support Facilitators Program where facilitators:

- raise the profile of the brigade in the community;
- generate community acceptance of risk reduction and risk management objectives;

- maintain and improve volunteer viability and availability;
- reduce pressure on volunteer officers and the brigade; and
- develop effective links among the brigade, the community and other agencies.

The Country Fire Authority and Victorian State Emergency Service have also implemented electronic systems to avoid the need for volunteers to complete and submit paper forms for incident reporting. The Country Fire Authority's Fire Incident Reporting System collects incident details from brigades through direct entry by brigades linked to the Country Fire Authority's wide area network or through staff at the Country Fire Authority's Call Taking Centre. The Victorian State Emergency Service has installed a modem-equipped computer and printer in the headquarters of each of its 145 volunteer units. The system will provide an extranet facility to enable communication between units and State and regional offices on a broad range of matters, including the lodgement of incident reports.

WA and the NT have also implemented strategies to address the importance of volunteer brigades. WA has allocated resources to research volunteer activities, and thus to identify areas that are essential to the successful functioning of volunteer fire brigades. To address recruitment and retention rates, the NT Fire and Rescue Service and Emergency Service have combined volunteer groups in a number of small centres throughout the NT. This has eased the recruitment process by removing the competition between organisations for volunteers in communities with a small population base. In 1996, the ACT co-located its bushfire and emergency service volunteer elements to form joint bushfire and emergency brigades with associated cross training opportunities for the volunteers.

10.3 Framework of performance indicators

As noted above, the broad aim of emergency management is to reduce the level of risk to the community from emergencies. The framework of performance indicators in this chapter is based on the objectives of emergency management (box 10.3).

The general framework has been applied to both fire and ambulance services (figure 10.3). The framework uses the widely accepted 'comprehensive approach' (prevention/mitigation, preparedness, response and recovery) to classify the key functions common to emergency agencies. The Review uses a somewhat similar approach to examine health management (see chapter 6).

Box 10.3 **Objectives for emergency management**

Emergency management services aim to provide highly effective, efficient and accessible services that:

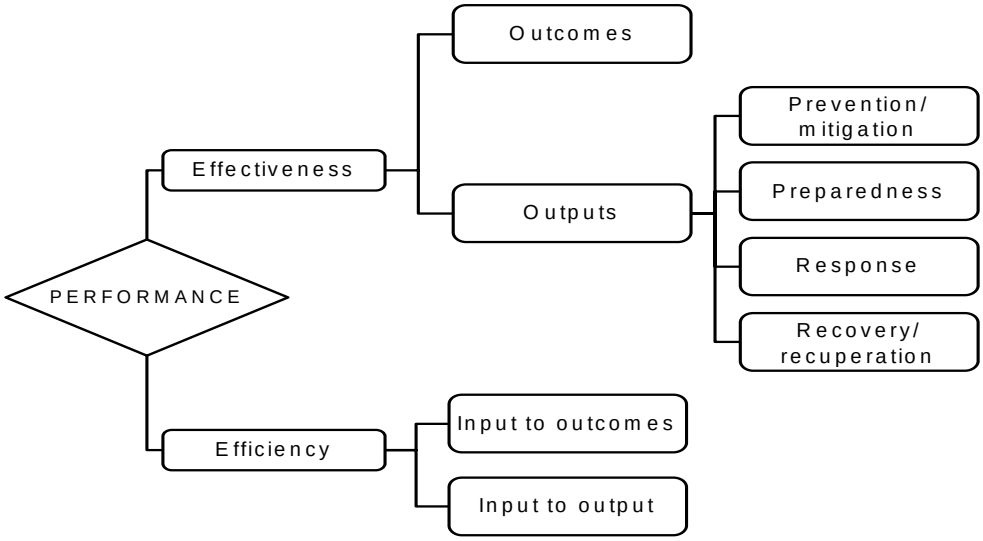
- reduce the effects of emergencies and disasters on the Australian community (including people, property, infrastructure, economy and environment);
- contribute to the management of risks to the Australian community; and
- enhance public safety.

The aim of the indicator framework is to provide information on the efficiency and effectiveness of government funded emergency management services. Effectiveness indicators focus on:

- *outcomes* — an overarching measure of the effect of a service on the community, economy and environment. The effect may show the degree of service success (for example, the value of property saved);
- *prevention and mitigation* — strategies and services to prevent or reduce the frequency of emergency events or to lessen their effects. They include regulatory and physical measures (such as land zoning and compliance with building codes and standards) and public information campaigns to promote safe practices by the community;
- *preparedness* — strategies and services to position providers and the community to respond to emergency events quickly and effectively. They include emergency response planning, exercising and testing, training of emergency service personnel, standby and resource deployment and maintenance. Evacuation planning, detection, warning and community education and training are included as well. Preparedness also involves establishing equipment standards and monitoring adherence to these standards;
- *response* — strategies and services to control, limit or modify the emergency to reduce the consequences. They include implementing plans and procedures, issuing warnings, mobilising resources, suppressing hazards, providing immediate medical assistance and relief, and undertaking search and rescue;
- *recovery (emergency services)* — strategies and services to return agencies to a state of preparedness after emergency situations. These include critical incident stress debriefing, salvage and restoration of the emergency site to a safe state; and
- *recovery (community)* — strategies and services to support affected communities in their reconstruction of physical infrastructure and restoration of emotional, social, economic and physical wellbeing. They include restoration of essential

services, counselling programs, temporary housing, long term medical care and public health and safety information.

Figure 10.3 **General performance indicators framework for emergency management**



Effective prevention activities will reduce the requirement to respond to and recover from emergency events. Increased resources in responding to and recovering from events are unlikely to be the most efficient use of resources in minimising the risk to the community. Greater emphasis is now being placed on preventative activities in every jurisdiction.

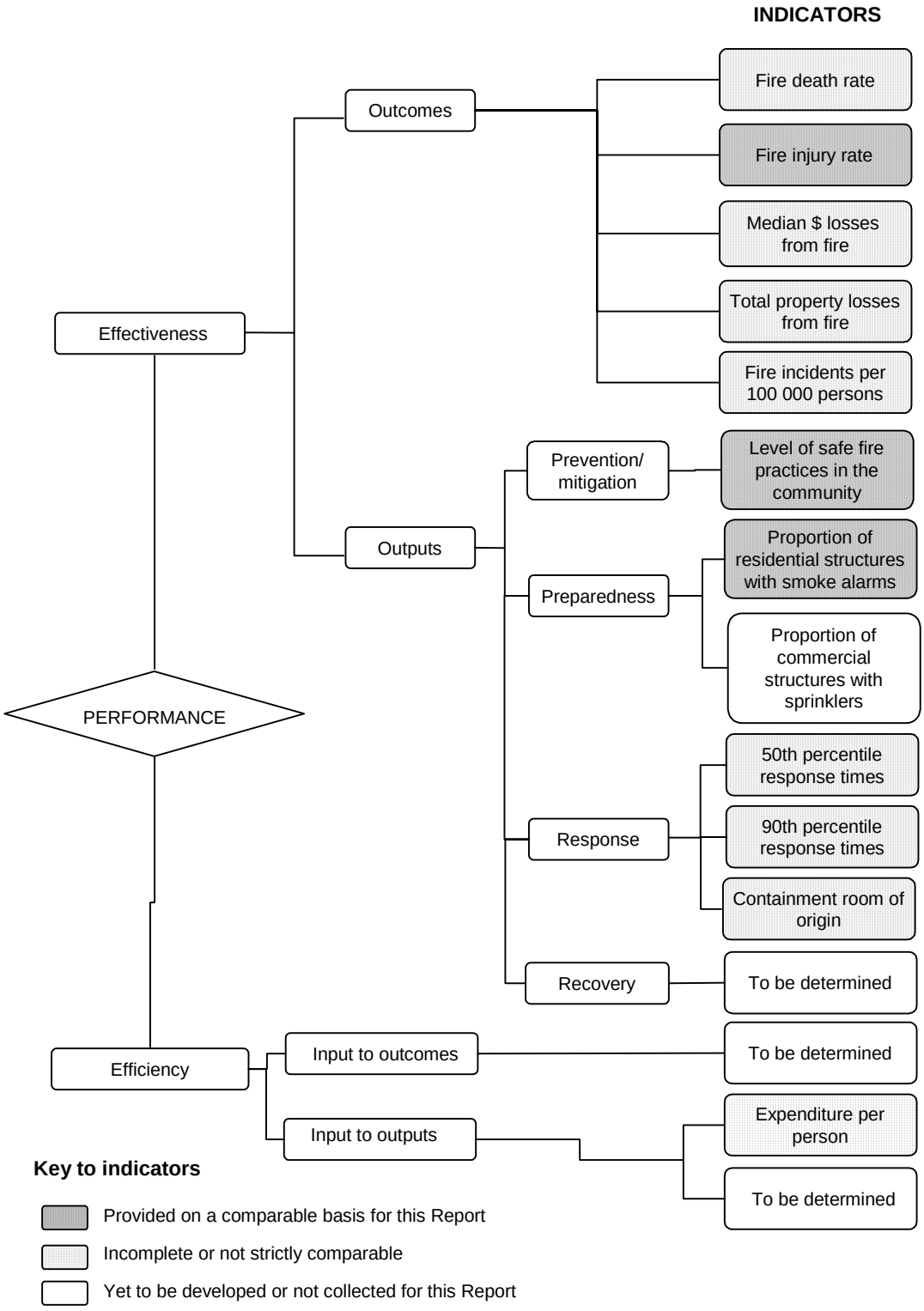
Efficiency indicators report on the unit cost of service delivery. Calculation of unit costs requires the specification of outputs. This is a difficult task, given the diversity of activities undertaken by fire and ambulance services. The fire and ambulance sectors have considered a range of output options. Expenditure per person is employed as a proxy for efficiency. Expenditure per fire or per patient transport is not used as a proxy for efficiency because the standby component needed to ensure acceptable response times would appear as an inefficiency.

Descriptor information is also provided in this chapter and the statistical appendix (see appendix A) to assist in the interpretation of reported performance.

10.4 Key performance indicator results — fire services

An indicator framework for fire services (figure 10.4) has been developed from the framework described in figure 10.3. Definitions of all indicators are provided in table 10A.22.

Figure 10.4 **Performance indicators for fire services**



Performance information has been reported for a number of indicators. The results reported for these indicators may have been influenced by factors such as

differences in climatic and weather conditions, the socio-demographic composition of jurisdictions, property values and dwelling construction types (see appendix A for detailed statistics and short profiles on each State and Territory, which may assist in interpreting the performance indicators presented in this chapter). Importantly, jurisdictions have diverse legislative fire protection requirements. It is mandatory in Victoria, for example, for every dwelling to be fitted with smoke alarms. Smoke alarms are also mandatory for new homes or homes undergoing major renovations in NSW and for new homes in Queensland. It is mandatory for new homes or houses undergoing major renovations to install hard-wired smoke detectors in the ACT. All new homes are required to install hard-wired smoke detectors in the NT.

There has been significant progress in the reporting of data, but the results should be treated with caution because data were often derived from small samples. The use of volunteers, particularly for country and rural fire brigades, will also affect some indicators (for example, fire expenditure per person) and should be considered when interpreting data results. Further, information was not reported for all fire agencies in each jurisdiction, so the results are indicative of the performance of only the agency reported, not of all fire services within each jurisdiction. Thus, the performance is not strictly comparable across jurisdictions, although fire services are cooperating to improve and enhance the standards for the collection of fire incident data. It is anticipated that differences in counting rules will be minimised for future Reports. Population data for 1998-99 data has been adjusted to reflect population coverage by fire services in each jurisdiction. Thus, performance data are not strictly comparable between 1997-98 and 1998-99.

Effectiveness

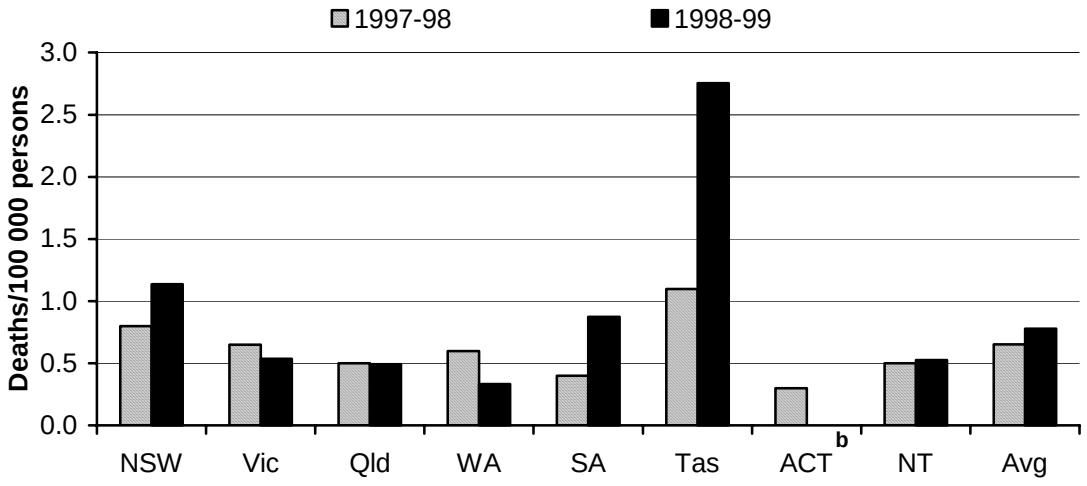
Outcomes

The indicators of outcomes reported here relate to the objective of fire services to minimise the effect of fire on life, property and the environment. Further consideration is being given to developing indicators that focus on other aspects of fire service performance (such as customer satisfaction).

The fire death rate and the fire injury rate are indicators of outcomes in terms of the effect of fire on life. The fire death rate in 1998-99 was highest in Tasmania, with 2.75 deaths per 100 000 persons, and lowest in the ACT, with no deaths per 100 000 persons (figure 10.5). The definitions used to count fire deaths varied across jurisdictions. Fire deaths reported in some jurisdictions were verified by the respective State Coroner's findings, while in other jurisdictions fire deaths were

estimated by fire agencies. It is expected that future Reports will use more uniform reporting methods.

Figure 10.5 **Fire death rate[a]**



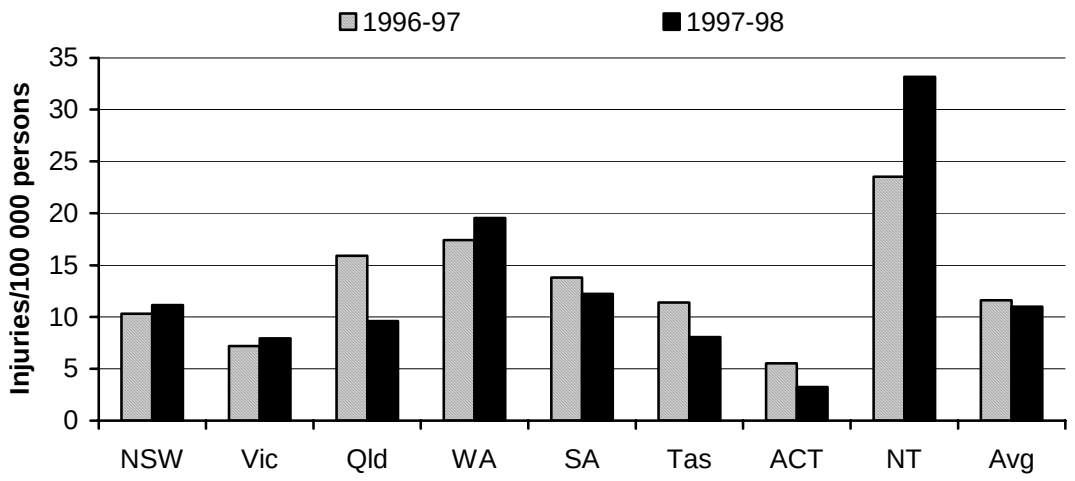
a State Coroner's validated data for 1997-98 for NSW, Victoria, Queensland, Tasmania and the ACT. State Coroner's validated data for 1998-99 for NSW, Victoria, Tasmania and the NT. **b** The ACT had no fire deaths in 1998-99.

Source: table 10A.3.

The source of fire injury data was changed for the Report this year. The data describe the number of hospital admissions (excluding emergency department non-admitted casualties). This improves substantially the comparability of data from previous years, which were based on records kept by fire agencies. The fire injury rate fell between 1996-97 and 1997-98 in Queensland, SA, Tasmania and the ACT. In 1997-98 it was highest in the NT, with 33 fire injuries per 100 000 persons, and lowest in the ACT, with 3 per 100 000 persons (figure 10.6).

The median dollar loss per structural fire and the total property loss from structural fire are indicators of outcomes in terms of the effect of fire on property. However, they have not been adjusted for jurisdictional differences in the costs and values of various types of buildings. Structural fires are those fires contained in housing and other buildings. Information on both for NSW, Queensland and WA includes only urban fire services, so the results across jurisdictions are not strictly comparable. Further, the method of valuing property loss from fire varies across jurisdictions.

Figure 10.6 **Fire injury rate[a]**



a Includes admitted patients to public and private hospitals. Excludes emergency department non-admitted casualties.

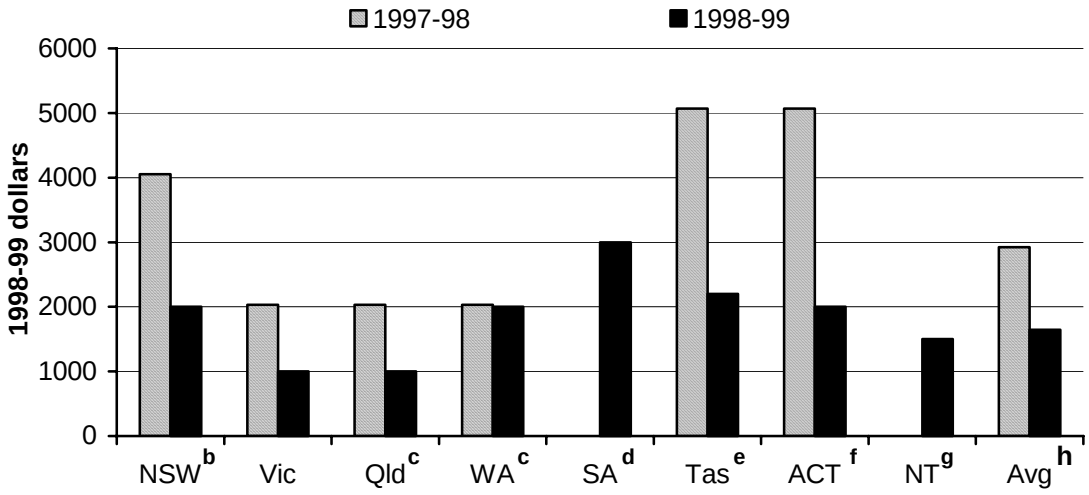
Source: table 10A.4.

The median dollar loss in 1998-99 (in real terms) was highest in SA ($3000 per structural fire) and lowest in Victoria and Queensland ($1000 per structural fire) (figure 10.7). For all jurisdictions, the median dollar loss fell between 1997-98 and 1998-99. The decline was largest in Tasmania, where it fell from $5000 per structural fire to $2200. The apparent decline in the ACT was due to the inconsistency in data reported for 1997-98.

Nationally the total property loss from structural fire in 1998-99 was $22 per person. This was highest in Tasmania ($40 per person) and lowest in the NT ($9 per person) (figure 10.8).

The total number of fire incidents is an indicator of the effect of fire on the environment. The information on total fire incidents for Queensland, WA and NSW includes only urban fire services, so the results across jurisdictions are not strictly comparable.

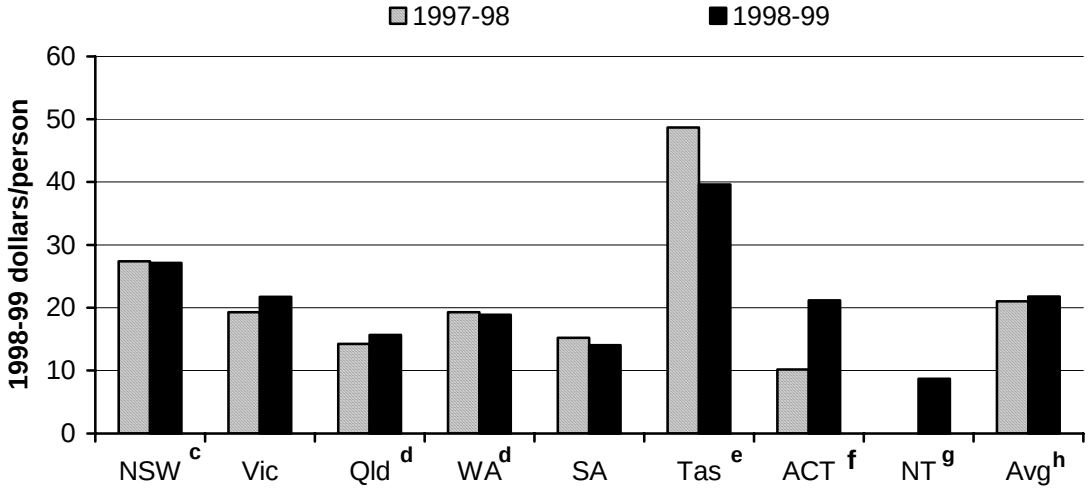
Figure 10.7 **Median dollar loss from structural fires[a]**



a The median loss is regarded as a more reliable measure than the average loss because the median is less affected by extreme values, such as a major financial loss resulting from a single structural fire. Estimates have not been validated by the insurance industry, or adjusted for interstate valuation differences. **b** 1997-98 data includes both NSW Fire Brigades and the Rural Fire Service. 1998-99 data excludes Rural Fire Service data, but includes responses to calls outside NSW Fire Brigades designated fire districts. **c** Excludes rural fire brigades. **d** 1997-98 data for the SA Metropolitan Fire Service and the SA Country Fire Service could not be combined. **e** Includes the whole State. **f** Includes the entire Territory. There is an inconsistency in the data reported for 1997-98. Industrial bans mean 1998-99 figures are based on extrapolated results for 1998-99. **g** 1997-98 data were not available. **h** 1997-98 data excludes SA and the NT.

Source: table 10A.5.

Figure 10.8 **Total property losses from structural fires[a, b]**

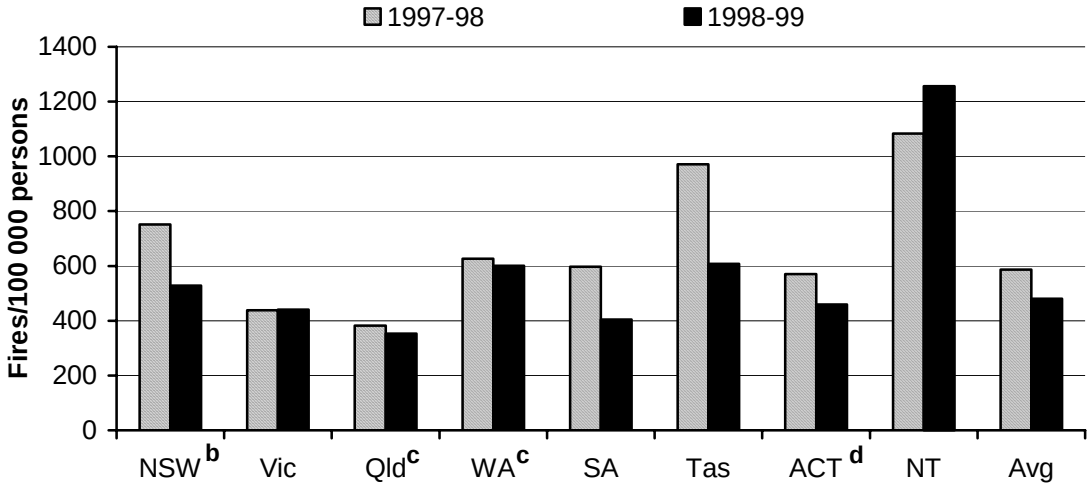


a Estimates have not been validated by the insurance industry, or adjusted for interstate valuation differences. 1997-98 data are not available. **b** For 1998-99, rates have been adjusted to population coverage by fire agencies. **c** 1997-98 data includes both NSW Fire Brigades and the Rural Fire Service. 1998-99 data excludes rural fire service data, but includes responses to calls outside NSW Fire Brigades designated fire districts. **d** Excludes rural fire brigades. **e** Includes the whole State. **f** Includes the entire Territory. Industrial bans mean 1998-99 figures are based on extrapolated results. **g** 1997-98 data are not available. **h** 1997-98 data excludes the NT.

Source: table 10A.6.

The total number of fire incidents per 100 000 population declined between 1997-98 and 1998-99 in all jurisdictions except Victoria and the NT (figure 10.9). The total number of fire incidents per 100 000 persons in 1998-99 was highest in the NT (1256) and lowest in Queensland (352).

Figure 10.9 **Total fire incidents**[a]



[a] Population figures used to calculate the rates have been adjusted to represent population coverage by fire agencies. [b] 1997-98 data includes both NSW Fire Brigades and the Rural Fire Service. 1998-99 data excludes rural fire service data, but includes responses to calls outside NSW Fire Brigades designated fire districts. [c] Excludes rural fire brigades. [d] Includes the entire Territory. Industrial bans mean 1998-99 figures are based on extrapolated results.

Source: table 10A.7.

Outputs

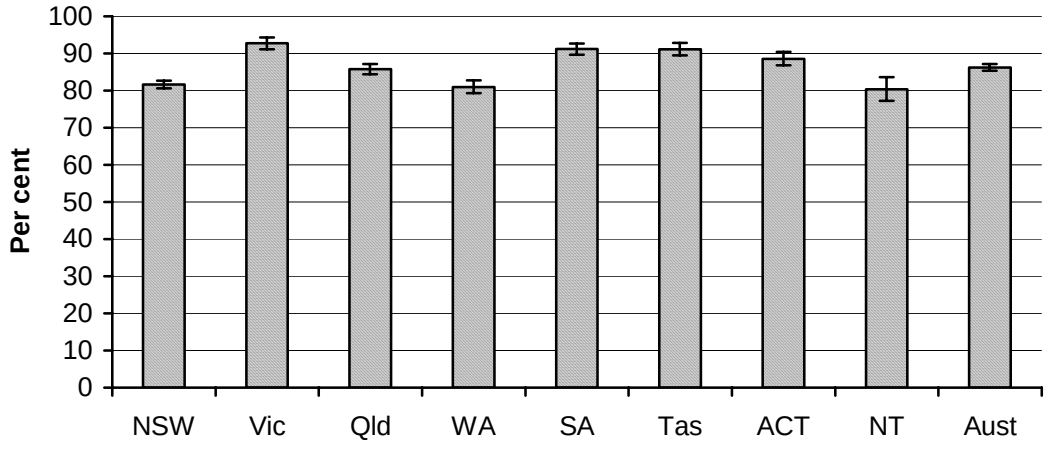
Prevention

Indicators of fire prevention focus on the level of fire safety practices in the community. The ABS Population Survey Monitor for six quarters from May 1998 to August 1999 supplied data on household fire safety measures installed or followed at a national level. The precision of survey estimates depends on the survey sample size and the sample estimate. Larger sample sizes result in higher precision, while smaller sample sizes result in lower precision. Further, higher estimate proportions have more precision than that of lower estimate proportions. Consequently, caution should be used when interpreting small differences in results (see section 10A.3).

Household fire safety measures include operational smoke alarms or detectors, sprinkler systems, safety switches, fire extinguishers, fire blankets, fire evacuation plans, external water supplies, the removal of external fuel sources, and external

sprinklers. Nationally 86 per cent of total households had at least one fire safety measure installed from May 1998 to August 1999. This proportion was highest in Victoria (93 per cent) and lowest in the ACT (80 per cent) (figure 10.10).

Figure 10.10 **Households with at least one fire safety measure, May 1998 to August 1999[a]**

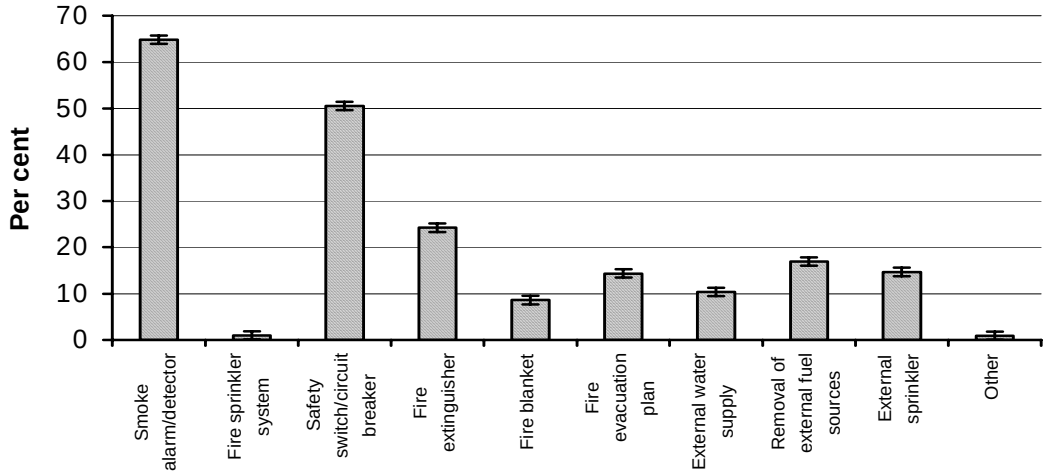


a Standard errors have been indicated on bars in this figure. Caution should be used where there are small differences in the results, which are affected by sample and estimate size (see section 10A.3).

Source: table 10A.8.

Of those households with a fire safety measure installed, 65 per cent had a smoke alarm or detector, 51 per cent had a safety switch or circuit breaker, and 24 per cent had a fire extinguisher. Only 14 per cent had a fire evacuation plan (figure 10.11).

Figure 10.11 **Households with a fire safety measure, by fire safety measure installed or followed, May 1998 to August 1999[a]**



a Standard errors have been indicated on bars in this figure. Caution should be used where there are small differences in the results, which are affected by sample and estimate size (see section 10A.3).

Source: table 10A.9.

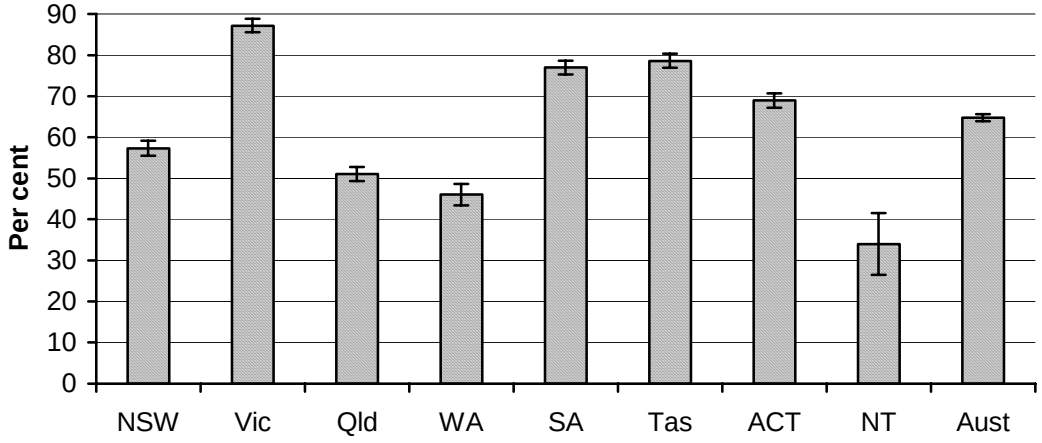
Preparedness

Preparedness relates to both the community and the fire service. The preparedness of the community can be reported as the level of community training in fire responsiveness, and as the installation of fire safety equipment. The preparedness of the fire service relates to its level of contingent capacity (including the competency of personnel and the appropriateness of equipment), and the matching of resources with potential risks. Fire services also need to allow for seasonal influences (in drought years, for example) and population variations (in holiday destinations, for example).

This chapter focuses on the level of preparedness of the community in terms of the proportion of residential buildings and commercial buildings with fire safety equipment and systems. Data were available from the ABS Population Survey Monitor for six quarters from May 1998 to August 1999 for the proportion of household dwellings with fire safety equipment. These data provide information on the preparation of residential buildings only and reflect the diverse legislative fire protection requirements across jurisdictions (see section 10.5).

Nationally 65 per cent of households had installed an operational smoke alarm or smoke detector. This proportion was highest in Victoria (87 per cent) and lowest in the NT (34 per cent) (figure 10.12).

Figure 10.12 **Households with an operational smoke alarm or smoke detector installed, May 1998 to August 1999[a]**



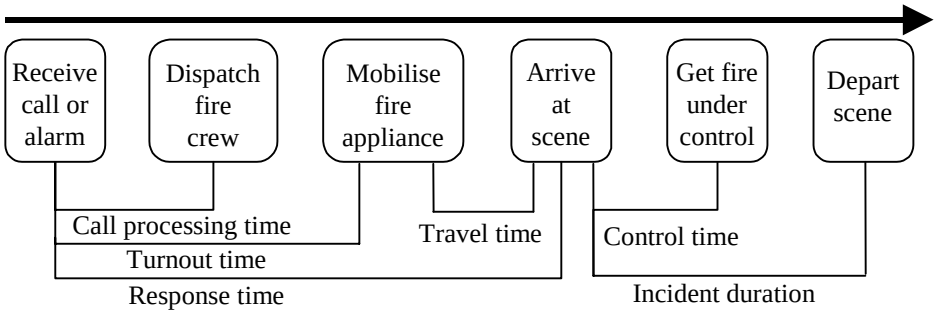
a Standard errors have been indicated on bars in this figure. Caution should be used where there are small differences in the results, which are affected by sample and estimate size (see section 10A.3). These results may differ from those of other, State based surveys (such as those conducted in Queensland).

Source: table 10A.10.

Response

Response times and containment of structural fires (to the object or room of origin) are indicators of the effectiveness of fire services in terms of their ability to respond. The response time is defined as the interval between the receipt of the call at the dispatch centre and the arrival of the vehicle at the scene (that is, when the vehicle is stationary and the handbrake is applied). This and other intervals are illustrated in figure 10.13. Response times are provided on a jurisdictional basis, so they are not agency-specific (which is consistent with information provided for other indicators in this chapter).

Figure 10.13 **Response time points and indicators**

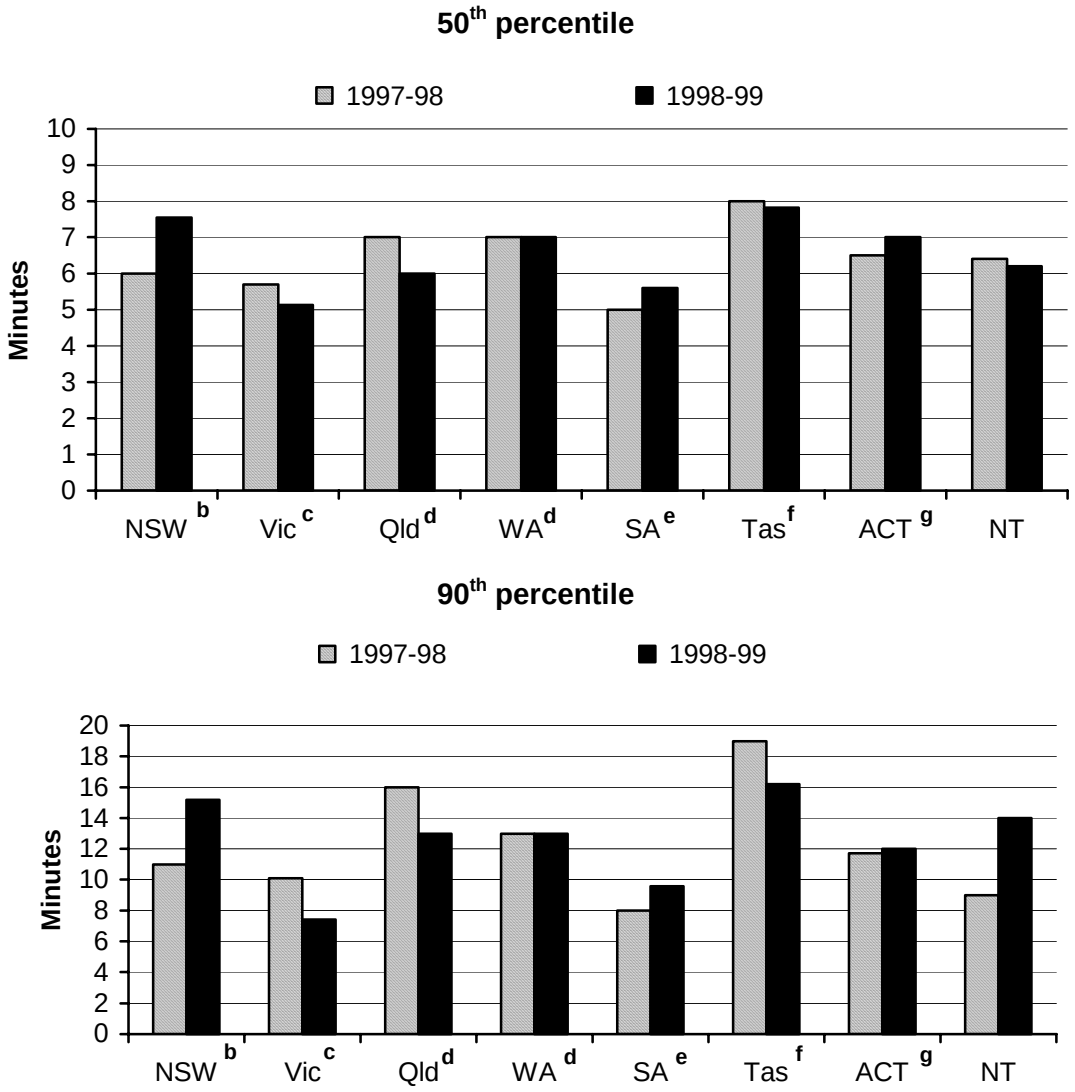


The information provided for response times and containment of fires for NSW, Queensland, WA, SA and the ACT includes only urban fire services. Therefore, the results indicate the performance of only the agency reported, not of all fire services within each jurisdiction. As a result, performance is not strictly comparable across jurisdictions and the results should be treated with caution.

The 50th percentile response time refers to the time within which 50 per cent of the first fire resources arriving at the scene actually responded. The 50th percentile response time in 1998-99 was highest in Tasmania (8 minutes) and lowest in Victoria (5 minutes) (figure 10.14).

The 90th percentile response time refers to the time within which 90 per cent of the first fire resources arriving at the scene actually responded. The 90th percentile response time in 1998-99 was also highest in Tasmania (16 minutes) and lowest in Victoria (7 minutes) (figure 10.14).

Figure 10.14 **Response times[a]**

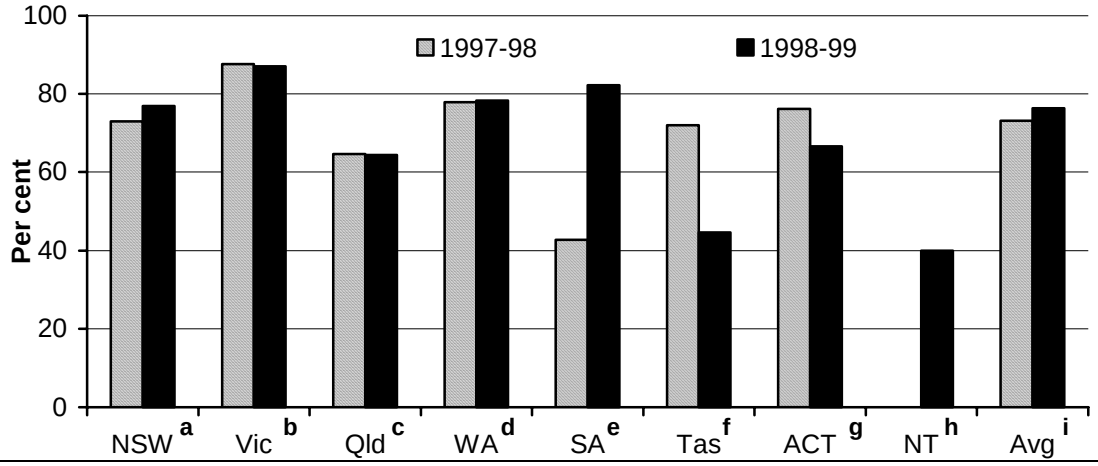


a Definitions of response times may vary from jurisdiction to jurisdiction. Also, some agencies use a manual system to calculate response time figures while other services retrieve the data from computer aided dispatch systems. **b** 1997-98 data includes both NSW Fire Brigades and the Rural Fire Service. 1998-99 data excludes rural fire service data, but includes responses to calls outside NSW Fire Brigades designated fire districts. **c** The Country Fire Authority records response time from the time the brigade receives an emergency call. **d** Excludes rural fire brigades. **e** Includes only the SA Metropolitan Fire Service. **f** Includes the whole State. **g** Relevant to urban fires only. Due to industrial bans 1998-99 figures based on extrapolated results.

Source: table 10A.11.

The response time is interlinked with the proportion of structural fires contained to the object or room of origin. At the national level, the proportion of fires contained rose from 73 per cent in 1997-98 to 77 per cent in 1998-99. The proportion in 1998-99 was highest in Victoria at 87 per cent and lowest in the NT at 40 per cent (figure 10.15).

Figure 10.15 **Structural fires contained to the object/room of origin (per cent)**



a 1998-99 data excludes rural fire service data, but includes responses to calls outside NSW Fire Brigades designated fire districts. **b** Excludes Country Fire Authority. **c** Excludes rural fire brigades. **d** Excludes rural fire service. **e** Includes the whole State. **f** Includes the whole Territory. 1997-98 data includes ACT Fire Brigade only and excludes ACT Bush Fire Service. As a result of industrial bans, 1998-99 data are based on extrapolated results. **g** 1997-98 data are not available. **h** 1997-98 data excludes NT.

Source: table 10A.12

Recovery

Recovery refers to the effectiveness of fire service strategies in both returning agencies to a state of preparedness after emergency situations, and supporting communities in their reconstruction of physical infrastructure and restoration of emotional, social, economic and physical wellbeing. These strategies include restoration of essential services, counselling programs, temporary housing, long term medical care, and public health and safety information. Indicators of effectiveness in terms of recovery are yet to be developed.

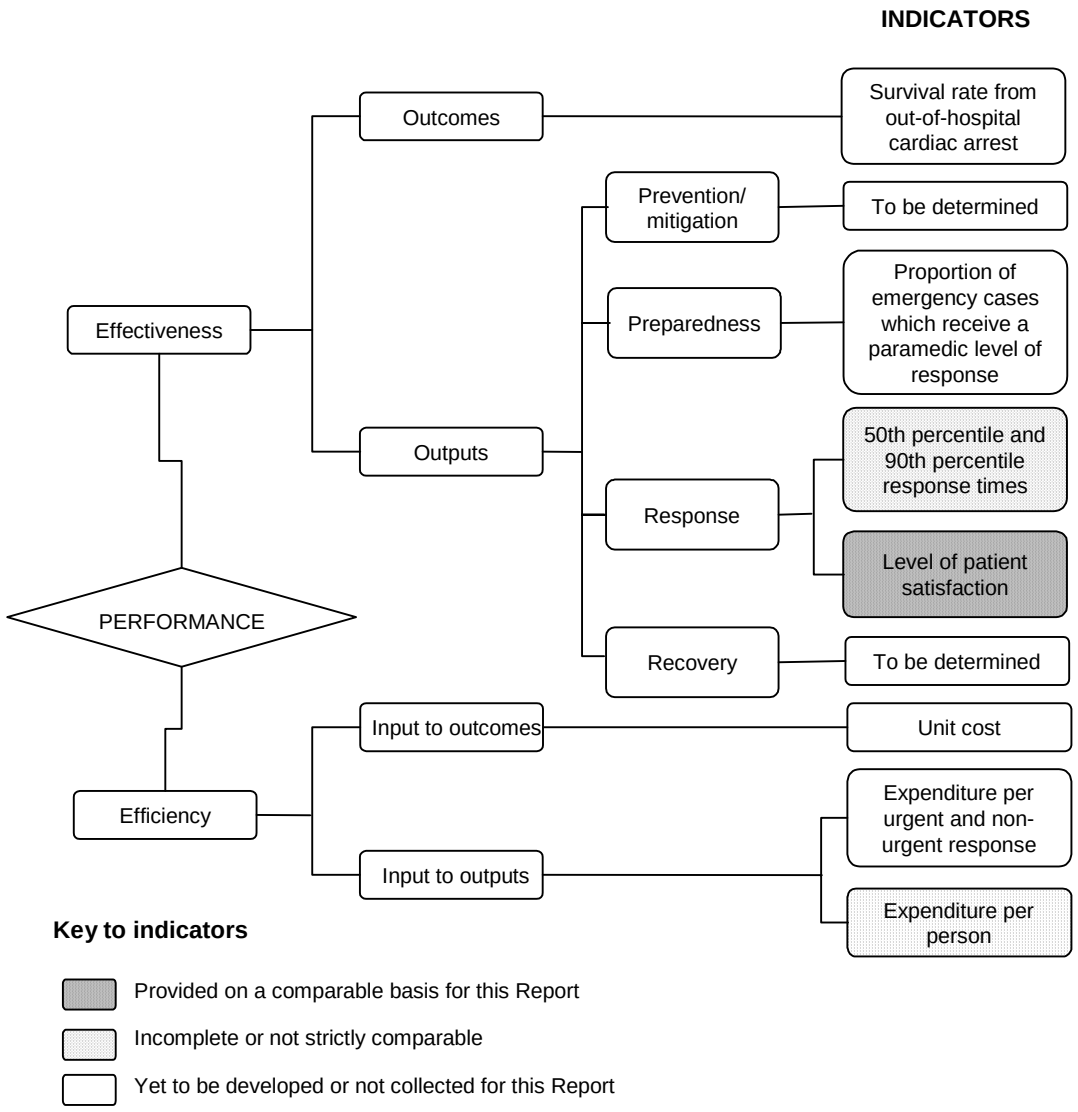
Efficiency

As indicated in figure 10.4, the indicator of efficiency is the level of inputs per person in the population. Unit cost data provided by emergency services do not yet contain a user cost of capital. Information on the level of fire expenditure per person is reported from 1997-98 to 1998-99. Expenditure is approximated using revenue data. This indicator may be influenced by such factors as geographic dispersion and the number of false reports. The level of fire expenditure per person increased from 1997-98 to 1998-99 in all jurisdictions except Tasmania, where expenditure fell from $74 per person in 1997-98 to $72 per person in 1998-99. The highest level of fire expenditure per person in 1998-99 was in the NT ($105 per person) and the lowest level was in WA ($45 per person). Expenditure for the ACT includes expenditure on the ACT Fire Brigade, ACT Bushfire Service, ACT Emergency Service and ACT Ambulance Service and was $106 per person (figure 10.1).

10.5 Key performance indicator results — ambulance services

An indicator framework for ambulance services (figure 10.16) has also been developed from the generic framework for all emergency services.

Figure 10.16 **Performance indicators for ambulance services**



Performance has been reported for a number of indicators. Different delivery contexts, locations and types of client may affect these indicators. Appendix A contains detailed statistics and short profiles on each State and Territory, which may assist in interpreting the performance indicators presented in this section.

Effectiveness

Outcomes

The survival rate from out-of-hospital cardiac arrest is a key measure of the outcomes achieved by ambulance services. No data were available for this indicator for this Report.

Outputs

Prevention

Prevention focuses on the extent to which community education programs improve the health and safety in the community — for example, the effectiveness of first aid training courses. The role of ambulance services in the prevention of medical emergencies differs between jurisdictions, so indicators of effectiveness in terms of prevention are yet to be developed.

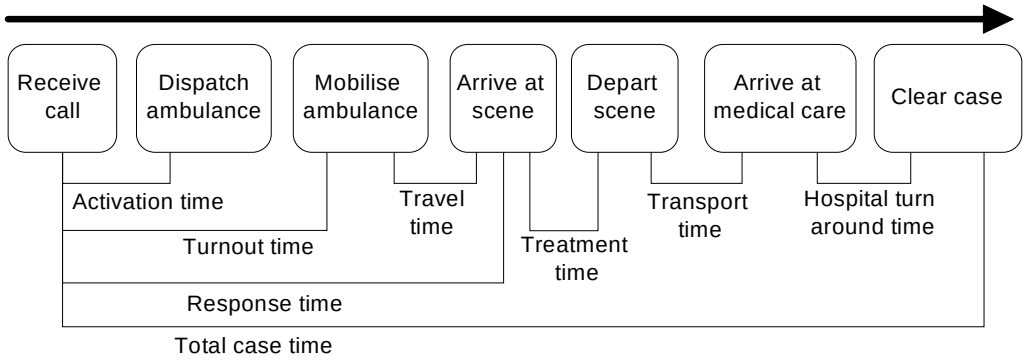
Preparedness

The proportion of emergency cases that receive a paramedic level of response is an indicator of the preparedness of ambulance services. It indicates the degree to which ambulance services are capable of dispatching paramedics to a medical emergency.

Response

The response time is defined as the time taken between the initial receipt of the call for an emergency ambulance to the ambulance's arrival at the scene of the emergency (figure 10.17).

Figure 10.17 **Response time points and indicators**



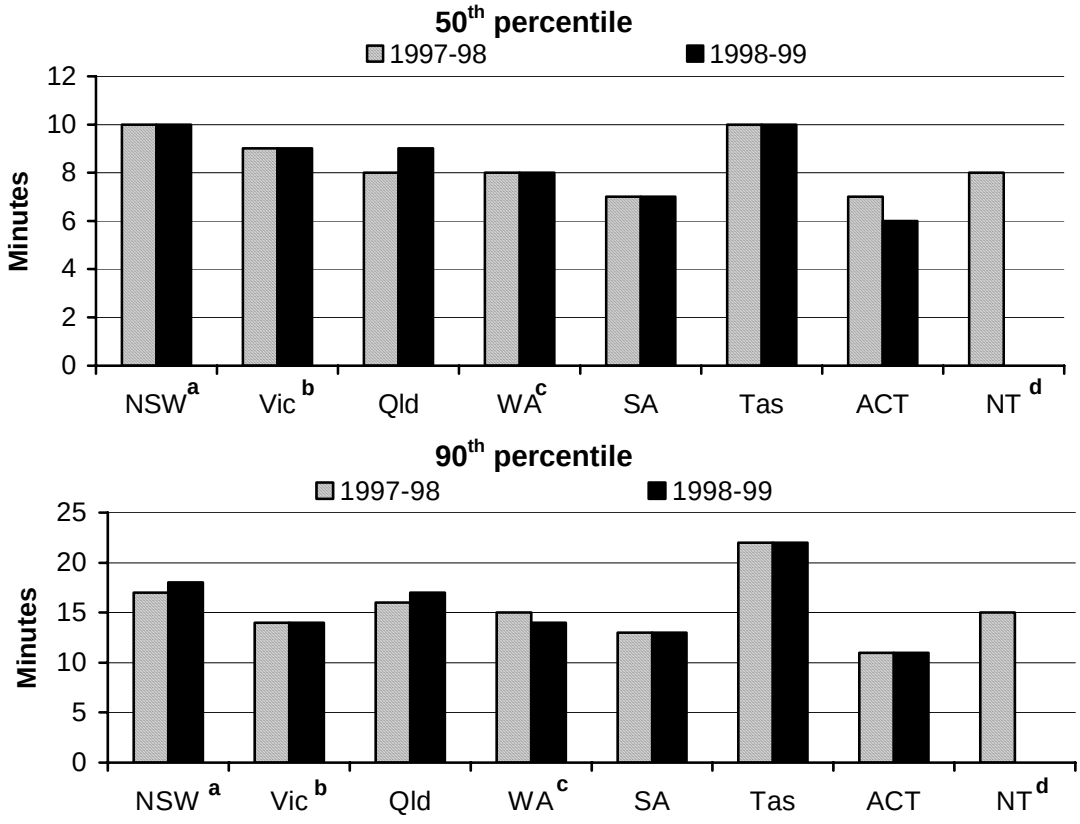
Emergency responses are categorised by an assessment of the severity of the medical problem. These categories are:

- code I — responses to potentially life threatening situations using warning devices; and
- code II — responses to acutely ill patients (not in life threatening situations) where attendance is necessary but no warning devices are used.

Location can be metropolitan, urban or rural. The level of responsiveness is reported as the times during which 50 per cent and 90 per cent of first responding ambulance resources actually responded in code I situations. Data for Victoria and WA include only metropolitan ambulance services. Response times can be affected by factors such as the dispersion of the population. Information is also reported on the national level of patient satisfaction and the national level of community satisfaction.

The 50th percentile response time — the time within which 50 per cent of first ambulance resources actually responded — remained constant in all jurisdictions from 1997-98 to 1998-99 except Queensland (an increase from eight to nine minutes) and the ACT (a decrease from seven to six minutes). In 1998-99 this rate was highest in NSW and Tasmania (10 minutes) and lowest in the ACT (six minutes) (figure 10.18). The 90th percentile response time in 1998-99 was highest in Tasmania (22 minutes) and lowest in the ACT (11 minutes) (figure 10.18).

Figure 10.18 **Response times**

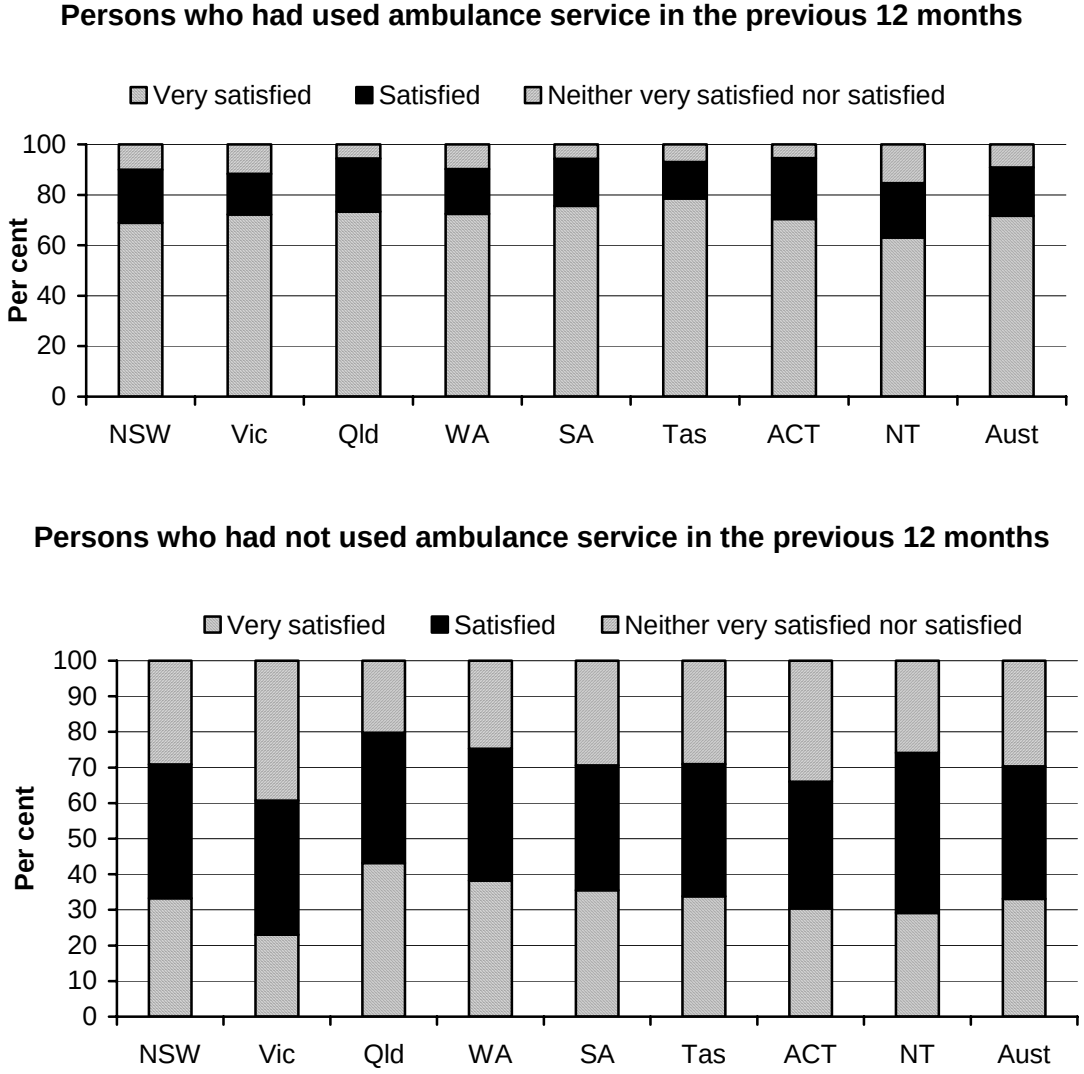


a The introduction of communications and dispatching (CAD) systems in some parts of NSW have resulted in 1998-99 response times being recorded from the time a call is first answered rather than from when a call is completed. **b** Includes Metropolitan Ambulance Service only. The Metropolitan Ambulance Service covers highly populated rural and semi-rural areas. **c** Excludes rural ambulance services. **d** 1998-99 data not available.

Source: table 10A.16.

Nationally 13 per cent of the population surveyed from May 1998 to August 1999 had used an ambulance in the previous 12 months (ABS 1999). The proportion of persons who were either satisfied or very satisfied with ambulance services was higher in all jurisdictions for those who had used an ambulance service in the previous 12 months compared with those who had not. The proportion of persons who had used an ambulance service who were either very satisfied or satisfied was highest in Tasmania (96 per cent) and lowest in Victoria (91 per cent). However, of persons who had not used an ambulance service, 77 per cent were either very satisfied or satisfied in Queensland while 63 per cent were either very satisfied or satisfied in Victoria (figure 10.19).

Figure 10.19 **Satisfaction with ambulance services, May 1998 to August 1999[a]**



a Data are collected quarterly for persons aged 18 years and over. Caution should be used where there are small differences in the results, which are affected by sample and estimate size (see section 10A.3).

Source: table 10A.17.

Recovery

Indicators of effectiveness expressed in terms of recovery are yet to be developed.

Efficiency

Indicators of efficiency include inputs per person in the population and inputs per output. As with fire services, unit cost data provided by emergency services do not

yet contain the user cost of capital (box 10.4). The main efficiency indicators for ambulance services are ambulance expenditure per person and ambulance expenditure per urgent and non-urgent response. Expenditure data are approximated using revenue data. Information from 1997-98 to 1998-99 is reported on the level of ambulance expenditure per person. The level of ambulance expenditure per person increased from 1997-98 to 1998-99 in all reported jurisdictions. Expenditure per person in 1998-99 was highest in Queensland ($49 per person) and lowest in WA ($25 per person) (figure 10.2).

Box 10.4 **Comparability of cost estimates**

It is an objective of the Review to report comparable estimates of costs. Ideally, the full range of costs to government is counted on a comparable basis. Where the full costs cannot be counted, costs should be estimated on a consistent basis.

The Steering Committee has identified four areas that could diminish the comparability of cost estimates across emergency services.

- Superannuation costs are included in cost estimates for most emergency services. SCRCSSP (1998) recommended costing superannuation on an accrual actuarial basis. It is not clear to what extent differences in reporting of superannuation across emergency services materially affect the comparability of unit costs.
- Depreciation costs are included in cost estimates for most emergency service providers. It is not clear to what extent differences in accountancy practices across jurisdictions materially affect unit costs.
- The user cost of capital is not included in cost estimates for government owned emergency services. The user cost of capital represents the opportunity cost to government of the funds tied up in government owned assets. Excluding the user cost of capital lowers the reported costs per person and diminishes cost comparability with privately provided emergency services.
- Payroll tax is payable by most government and privately operated emergency services. SCRCSSP (1999) has recommended adding payroll tax to the unit cost estimates of the ACT to achieve comparability across government and private providers and across jurisdictions. It will be added in future Reports.

Sources: SCRCSSP (1998); SCRCSSP (1999).

10.6 Future directions in performance reporting

Developing indicators and data

As mentioned above, the Steering Committee is working with the emergency management sector to improve estimates of unit costs by introducing a more consistent treatment of superannuation costs (see SCRCSSP 1998), payroll tax (see

SCRCSSP 1999), depreciation and the user cost of capital. Consistent treatment of these items should improve the comparability and accuracy of unit cost information in future Reports.

This process will involve the development of a data dictionary for the fire and ambulance sectors. The data dictionary will also provide an opportunity to collect comparable data in areas not covered in the Report, such as the number of volunteers.

Descriptive performance indicators for fire and ambulance services will be improved with the assistance of the Australasian Fire Authorities Council and the Australasian Convention of Ambulance Authorities. The improvement will be an iterative process extending over several years, and will be monitored to facilitate a consistent approach by the two organisations. The Steering Committee expects to present these improvements in future Reports.

Increasing the scope of services covered

There are other types of emergencies for which performance reporting has yet to be considered. A recent review by the Steering Committee of emergency management events and activities will assist in prioritising areas for future national reporting (box 10.5). A survey of executive officers in 2000 will determine which emergency management departments and agencies provide relevant services in these areas. This information will provide the basis for the scope of event types covered in future Reports.

Improving reporting of Aboriginal and Torres Strait Islander peoples' access to mainstream services

In May 1997 the Prime Minister requested that the Steering Committee give priority to developing indicators that measured the performance of mainstream services in meeting the needs of Indigenous Australians. This is an important task, but large gaps remain. Work is progressing to increase the availability and coverage of nationally consistent data on the provision of services to Indigenous clients.

To date, no indicators of Aboriginal and Torres Strait Islanders peoples' access to fire and ambulance services have been developed. The only data available are on the proportion of emergency services staff of Indigenous descent that is, some 16.4 per cent of the NT Fire and Rescue Service and 3 per cent of the WA Fire and Emergency Service Authority. Statistics on Indigenous volunteers and auxiliary firefighters are unavailable.

Box 10.5 **Emergency events and activities**

Major events and activities attended that will be the subject of future expansion of the Report include:

- *fires* — includes prevention, preparedness and response to all structural fires, bush fires (including grass and crop fires) and forest fires. Also includes fires resulting from explosions;
- *medical transport and emergencies* — includes prevention, preparedness and response to all medical emergencies that require pre-hospital treatment and specialised health transport. Also includes patient transfers;
- *rescues* — includes prevention, preparedness and response to all events that require finding and extricating persons from road accidents, industrial and farm accidents, high angle accidents and collapsed structures (such as mines and buildings). Also includes sea, bush and alpine search and rescues;
- *natural events* — includes prevention, preparedness and response to natural events (such as floods including dam failure, earthquakes, landslides, heatwaves, cyclones and other storms) that result in damage to property or loss of life;
- *technological and hazardous material incidents* — includes prevention, preparedness and response to non-fire, human-made events (such as chemical spills, harmful gas leaks, radiological contamination, explosions and spills of petroleum and petroleum products);
- *emergency relief and recovery* — includes all activities primarily intended to bring relief to persons or to provide essential services (such as rationing and distributing food, medical needs, water, energy and shelter). Also includes activities intended to bring about the long term recovery of persons (for example, personal and financial counselling, and financial assistance) and property (for example, removing debris but not rebuilding); and
- *quarantine and disease control* — includes prevention, preparedness and response epidemics (human, animal and plant) and biological contaminations of food and water that could have significant personal and economic consequences.

10.7 Jurisdictions' comments

This section provides comments from each jurisdiction on the services covered in this chapter. Appendix A contains detailed statistics and short profiles on each State and Territory, which may assist in interpreting the performance indicators presented in this chapter. The information covers aspects such as age profile, geographic distribution of the population, income levels, education levels, tenure of dwellings, and cultural heritage (such as aboriginality and ethnicity).

New South Wales Government comments

“Performance reporting is a key tool for encouraging continuous improvement in government services. The Government of NSW is committed to the development and collection of performance indicators for emergency services. It welcomes the opportunity to compare progress on performance. The information contained in this Report forms part of the ongoing commitment of the NSW Government to assist and encourage informed decision making within the emergency services sector.

There are however limitations to the performance data presented in the Report. There are differences in the collection, validation and reporting of performance information between States and Territories that limit the degree to which comparisons can be made. Further, the predominant basis for presentation of performance indicators is at the State/ Territory aggregate level. A problem with this presentation is that it fails to standardise for factors known to influence performance indicators. For example, differences between services delivered in metropolitan, rural and remote regions are known to be significant and should be taken into account, as should differences of contexts, roles and performance goals.

During 1998/99 both the ambulance and fire services implemented computer aided dispatch systems. The implementation of the new technologies will improve responsiveness and lead to a more efficient use of infrastructure and personnel resources. The new technologies will also provide emergency services with more accurate data on the various components of response times. This will assist emergency services to identify which components they can improve by process improvement, training and public education. It will also allow reliable measurement of the impact of changes to the process.

Another challenge for emergency services is the planning and management of infrastructure and staff to meet service delivery outcomes. This means that emergency services must adjust and manage infrastructure and staff numbers to keep pace with changes in population, demographics, and economic growth in certain regions of the State. These adjustments need to be made to align service delivery outcomes with community needs. Emergency service agencies however, do not only invest in infrastructure. In recent years therefore emergency services have formed strategic alliances and partnerships with key agencies and organisations to achieve service delivery outcomes, in protecting people, their property and environment.”

Victorian Government comments

“As demonstrated by the comparative information presented in this chapter, Victorian fire services continue to deliver efficient and effective fire services to the community. The tragic deaths in action of five volunteer firefighters during the 1998-99 year touched the whole Victorian community, and is a dramatic reminder of the danger of bushfire. New safety measures are being initiated as a result.

A significant initiative of the new Victorian Government is the appointment of an Emergency Services Commissioner. The Commissioner will:

- establish and monitor performance standards for the fire services and Victorian State Emergency Service, including implementation of a standard model of fire cover for Victoria so areas of similar risk and hazard profiles will operate under a standard of fire cover.
- oversee more effective utilisation of the common resources of the Metropolitan Fire and Emergency Services Board, the Country Fire Authority and the Victoria State Emergency Service;
- provide emergency management leadership for Victoria as Executive Officer of the Victoria Emergency Management Council.

The Government’s approach is to pursue operational efficiencies and consistent standards of fire service, while maintaining separate organisational identities.

The Emergency Medical Response (EMR) pilot program is to be expanded to cover the metropolitan Melbourne fire district. The EMR program seeks to achieve improved response times to cases of suspected cardiac arrest through the simultaneous dispatch of ambulance and suitably trained and equipped fire units. A prevention strategy, titled ‘Key to Survival’, has also been launched to increase the survival rate for ‘out of hospital’ cardiac arrest. The strategy aims to train 90,000 Victorians in cardio-pulmonary resuscitation over three years.

The Government is also continuing the major expansion of ambulance services in Melbourne. Implementation has already enabled response time performance to be maintained despite a 7 per cent increase in emergency workload.

The Government’s significant initiatives to improve ambulance services in Regional and Rural Victoria over the next four years will provide additional resources, including an additional helicopter, to address ‘accident black spot’ areas, two officer crewing, MICA Paramedic and Advanced Life Support skills availability. Rural Ambulance Victoria, established on 1 March 1999 to replace five rural ambulance services, will also develop a comprehensive service delivery plan.

The Government will also develop procedures and standards in areas such as response times, crewing levels, training, vehicles and equipment. These will be developed through a process of consultation and be available for public review.

The Government is confident that through these and other initiatives and strategies the effectiveness and efficiency of Victoria’s ambulance service will be further enhanced, and the public’s perception of its ambulance service improved markedly.”

Queensland Government comments

“Queensland, one of Australia’s most decentralised States, is subject to a wide range of threats. High population densities and growth rates along the coast and in the south east, geographically isolated communities, an ageing population contributing to an increase of 6 per cent per annum for the last two years in urgent ambulance services and a large mobile population all create service delivery challenges for emergency services. Innovative and flexible service delivery models and work practices continue to be a priority to ensure the delivery of accessible and available emergency services to such a decentralised population.

The potential magnitude of disasters and incidents in Queensland compared to other States imposes a heavy reliance on community volunteer involvement and self help as the most effective way of minimising community disruption. The delivery of fire and ambulance services in rural and remote areas is supported by 44 623 rural fire volunteers (through their involvement in 1623 rural fire brigades) and 373 ambulance honoraries (ambulance volunteers) respectively. A unique network of 164 community based local ambulance committees supports the delivery of ambulance services. Maintaining and enhancing that involvement and increasing the focus on public education and preventative strategies are key issues for the fire and ambulance services in both current and future environments.

Recent developments

Both Queensland’s fire and ambulance services have placed an increased emphasis on prevention strategies. The Queensland Ambulance Service launched the innovative CPR 2000 initiative in 1999 in conjunction with the Australian Resuscitation Council and Queensland Health. The aim of the initiative is to contribute to a significant increase in survival from sudden out of hospital cardiac arrests by increasing the percentage of the population with resuscitation skills.

The Queensland Fire and Rescue Authority has expanded its community education programs to include the Road Awareness and Accident Prevention Program, Smokeout Australia and Operation Safehome.

The continued implementation of the computer aided dispatch system for both fire and ambulance services in Brisbane will improve call-taking and dispatch processes over much of South East Queensland.

The Queensland Ambulance Service was one of the first ambulance services in Australia to launch a formal program for the maintenance of professional standards – the Clinical Quality Improvement Program – aimed at maintaining and improving the general quality of clinical performance. It awards Certificates of Clinical Practice to officers who show steady improvement in their overall ability.

Both the fire and ambulance authorities have undertaken research to understand more about their customers’ needs and expectations through the conduct of detailed customer/community surveys. This information has been used to assist the development of appropriate service delivery strategies and standards.”

Western Australian Government comments

“ Ambulance services are not commented on in this section as St John Ambulance is an incorporated not for profit organisation under contract to the WA Government.

The Fire and Emergency Services Authority (FESA) was formally established on 1 January 1999 to provide improved planning and coordination across the emergency services agencies of the Fire and Rescue Service, the Bush Fire Service and the State Emergency Service. Since then, Emergency Management Services, the Unexploded Ordnance Unit and Volunteer Marine Rescue Services have also formally come under the umbrella of FESA.

FESA is developing new key performance indicators and has used the indicators in this report as a base to ensure we gain greater comparability across all services in the emergency management field.

Recent developments in emergency services in WA include structural changes which have seen a further improvement in the delivery of service to the community with the Bush Fire Service and the Fire & Rescue Service now forming the Fire Services Division which is headed by one Executive Director.

The boundaries of the FESA divisions had the State of WA divided into some nineteen regions with little alignment between them. This has caused dysfunctional communication and coordination between the divisions resulting in a lowering of overall service delivery to the community. An extensive review of regional boundaries that involved widespread consultation with stakeholders was undertaken and as a result there are now six regions in the state with all divisional boundaries and management structure aligned across the three divisions.

FESA’s Strategic Plan 1999-2001 was released in June which has set the direction for the organisation over the next two years.

A major internal and external customer survey was undertaken to gain comprehensive data regarding the service that FESA delivers to the community and what improvements our customers would like to see. This will help FESA focus on improving its delivery of services.

Community safety remains a strong focus of all divisions of FESA with a significant expansion into schools with a major new fire education program now being undertaken by firefighters and an Internet site aimed at youth being launched in November. This compliments the strong community awareness focus that already exists into raising community awareness in fire preparedness and prevention. ”

South Australian Government comments

“Emergency Services in SA continue within the Justice Portfolio of the State Government, under the Minister for Police, Correctional Services and Emergency Services. The Minister for Justice has overall Cabinet responsibility for these activities.

An Emergency Services Administration Unit was established with effect from 1 July 1999, with responsibility for the non-operational elements of the SA Metropolitan Fire Service, Country Fire Service and the SA State Emergency Service.

An Emergency Services Levy (ESL) is to be implemented in 1999/2000, with legislation applying a charge to fixed and mobile property. The levy will replace the previous Fire Services levy, and will fund the Metropolitan and Country Fire Services (CFS), State Emergency Service and Search and Rescue activities in other agencies. The SA Ambulance Service is not included in the ESL except for that component of their activity specifically relating to rescue.

In addition to the operational and capital costs of the services, the ESL will specifically provide additional support for the major volunteer effort associated with those agencies. Debt arising from previous CFS capital acquisitions will be retired from ESL proceeds*.*

Work has continued on improved administrative efficiencies including:

- Co-location of fire and ambulance services in single-site stations has been achieved at Adelaide, Brooklyn Park and O’Halloran Hill and is planned for Camden Park and Elizabeth. The Metropolitan Fire and Ambulance Services’ Adelaide Communications has been co-located.
- Development of performance indicators under the Government Management and Financial Frameworks has continued.
- Work continues on the Government Radio Network, agencies expecting to commence migration to the network from mid 2000.
- Work continues on the Common Computer Aided Despatch project.

SA Ambulance Service funding is being reviewed, particularly with regard to the financial impact of the Ambulance Cover Scheme.”

Tasmanian Government comments

“ Key issues impacting on the provision of both fire and ambulance services in Tasmania include:

- the small population and subsequent lack of economies of scale;
- the widely dispersed population affecting response times (at 59.1 per cent, Tasmania has the largest proportion of rural population of all States);
- the reliance on volunteers in rural and remote areas affecting turnout times; and
- the State’s rugged topography ,which impacts on response times and radio infrastructure costs.

Fire Services

Tasmania Fire Service, comprised of four career brigades and 232 volunteer brigades dispersed across the State, responds to fires in all metropolitan and rural areas and to structural fires in areas managed by Forestry Tasmania and the Parks and Wildlife Service. All incidents attended by the Service’s brigades are reported on, and the Service bears the full cost of funding both the operating and capital costs of these brigades.

Weather and fuel conditions impact on the number of bushfires experienced in Tasmania, and the significant drop in the number of fires attended this year was largely the result of relatively humid summer weather conditions. Lower losses were reported in almost all other property types also.

Recognising that a few incidents can have a disproportionate effect in a small population , a major “fire safety in the home” campaign was initiated this year to address the State’s high fire fatality rate. Risk factors impacting on the fatality rate include the State’s cold winters, a high reliance on domestic heating and a large elderly population.

Ambulance Services

Tasmania is the only State which provides free ambulance services to the general public and as a consequence there is a far greater reliance on government funding than in all other jurisdictions.

Unlike most other jurisdictions expenditure on ambulance service provision in Tasmania does not include expenditure on operating an ambulance subscription scheme nor expenditure on clinic and routine transport services and first aid education.

Tasmania continues to train a far greater proportion of its salaried ambulance personnel to ALS or paramedic level than most jurisdictions, with up to 70 per cent of all emergencies in Tasmania responded to at the paramedic level. ”

Australian Capital Territory Government comments

“The ACT is unique and fundamentally different to other jurisdictions in a number of aspects relevant to Emergency Management. The relatively small geographic size of the Territory; the fact that the ACT has city/state functions; and a high proportion of urban area, all impact on the provision of emergency services. There are no other counterparts in Australia that provide both territorial (state) and municipal functions in the one government structure. In addition the revenue raising capabilities of some other jurisdictions are greater and more flexible than those of the ACT.

In the ACT the focus in Emergency Management is on the delivery of outputs by cooperation of all emergency agencies in partnership with a prepared community. Output classes for the ACT Emergency Services Bureau are based on the national emergency management principles of Prevention/Mitigation, Preparedness, Response and Recovery and are not individually identified against the specific emergency agency. The Emergency Management arrangements in the ACT reflect both territorial (state) and municipal funding arrangements in the budget of the ACT Emergency Services Bureau. The Bureau’s Standards of Emergency Response are time and risk based and the positioning of resources reflects the impact of the multiple town centres, “greenbelts” and Commonwealth assets of National importance.

The expenditure per person result for the ACT reflects the full accrual cost (including a capital charge) of the provision of emergency management activities, not just fire and ambulance services. As such, it incorporates costs associated with the provision of the Territory Emergency Service and broader Emergency Management activities which are not reported by other jurisdictions. Similarly, some municipal (local government) costs associated with the provision of rural fire services are not reported by other jurisdictions but are included in the ACT figure. In addition expenditure in the ACT does not include expenditure on operating an ambulance subscription scheme as do most other States nor does it include expenditure on community first aid education as is the case in some other jurisdictions. In summary there are ACT costings not included in other jurisdictions expenditure making cost comparisons between jurisdictions invalid.

Given the indication that the average annual increase in the over 70 age group is the second highest for all States and Territories in the five years to 1997-98 the ACT continues to place emphasis on a Community Liaison and Advisory Safety Project (CLASP) as part of a prevention strategy. This is a cooperative venture between Council on the Aging, Police, Fire and Ambulance designed to evaluate the risk of personal safety for older persons in their homes. The ACT Fire Brigade continues to maintain preventative programs for Fire Education for school children and smoke alarms installation in residences to prevent or minimise the impact of fire in structures. In addition the Bureau fire agencies, in conjunction with Land Management agencies, have implemented Bushfire Fuel Management plans covering 70 per cent of land in the Territory as part of the prevention/mitigation strategies.”

Northern Territory Government comments

“As with previous reports, the Ambulance Service in the NT has not commented on in this Chapter. St John Ambulance is an incorporated non-profit organisation and work under contract to the NT Department of Health and Community Affairs.

In 1983 the NT became the first Australian jurisdiction to combine its Emergency Service operations when Police, Fire Services and Emergency Services formed a single department. The high cost of servicing an area as large as the NT with the limited resources of the Police Service and the Fire and Rescue Service was the main reason for the amalgamation.

In the NT, the Northern Territory Fire and Rescue Service are primarily focused on improving outcomes in relation to Prevention, Preparedness, Response and Recovery (PPRR). Positive outcomes associated with PPRR in 1999 are reflected in the low cost of fire damage that can be attributed to structure fires throughout the NT and the low median dollar loss per structure fire.

New prevention strategies to reduce the number of fires in each of the Emergency Response Areas throughout the Top End have been in place for two years and although slow to have a major impact are beginning to show some positive outcomes. The strategies include the introduction of smoke alarm legislation, hazard reduction plans for each fire district, more stringent enforcement of legislation regarding firebreaks and a reallocation of volunteer resources in the Darwin region.

The NTFRS continues to provide fire education programs through its Public Education Officer and Station Commanders at its rural fire stations. An aboriginal designed school based fire education program is being developed at the Yirkala aboriginal community school and it is intended to introduce the program to other aboriginal communities in the next few years. The program is primarily aimed at children in the six-twelve year old age group and is similar to the school based fire education program currently in place for suburban schools in the larger towns and cities throughout the NT.

The apparent high cost of fire and rescue services per person when compared with other jurisdictions can be largely attributed to the many functions performed by the NTFRS and the tyranny of distance outside of the Darwin area. The high cost of running the NTFRS and Bush Fires Council was also due to considerable capital expenditure during this financial year. The purchase of six major appliances at a cost to Government of $2.6m and the construction of a new fire station at Yulara at a cost of $1m will help improve the standard of response throughout the NT.

New rescue vehicles at Jabiru and Tennant Creek as well as a new 3000 litre water tanker for Yulara has greatly enhanced the quality of service provided for each of these communities. Three pumping and aerial appliances in Darwin and Alice Springs were also replaced with state of the art appliances during 1998-99.”