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## 8 Emergency management

Emergency management aims to reduce the level of risk to the community from the occurrence of emergencies, reduce the adverse effects of emergencies, and improve the level and perception of safety in the community. This chapter reports on selected activities of State and Territory government fire services and ambulance services (with the latter defined as pre-hospital care, treatment and transport services). Except for information in section 8.1 on the scope of activities, the chapter does not report on the total range of State and Territory emergency services.

A profile of emergency management appears in section 8.1, followed by a discussion of recent policy developments in section 8.2. Together, these sections provide a context for assessing the performance indicators presented later in the chapter. A framework of performance indicators is outlined in section 8.3. The data are discussed in sections 8.4 and 8.5, and future directions for performance reporting are discussed in section 8.6. Jurisdictions' comments are provided in section 8.7. The chapter concludes with definitions in section 8.8.

Major changes in this year's chapter include:

- reporting of landscape fire incidents;
- reporting of ambulance incidents, responses and patients per 100 000 people;
- improved comparability of cost data through the adoption of a consistent approach to reporting payroll tax; and
- expanded reporting of information and data on volunteers in emergency management.

Data have been improved by refining data items for ambulance services following advice from the Convention of Ambulance Authorities (CAA) to ensure categories are exhaustive, mutually exclusive and clear. Improvements include revised definitions for ambulance personnel numbers, asset numbers and values, caseload and response times.

Other improvements include reporting of geographic case-based data for ambulance response times, and clarified fire data caveats indicating whether data are for urban areas or urban and rural areas. These changes have improved data comparability.

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### *Supporting tables*

Supporting tables for chapter 8 are provided on the CD-ROM enclosed with the Report. The files are provided in Microsoft Excel 97 format as \Publications\Reports\2003\Attach8A.xls and in Adobe PDF format as \Publications\Reports\2003\Attach8A.pdf.

Supporting tables are identified in references throughout this chapter by an 'A' suffix (for example, table 8A.3 is table 3 in the electronic files). These files can be found on the Review web page ([www.pc.gov.au/gsp](http://www.pc.gov.au/gsp)). Users without Internet access can contact the Secretariat to obtain these tables (see details on the inside front cover of the Report).

## **8.1 Profile of emergency management**

Emergency management is defined as a range of measures to manage risks to communities and the environment (EMA 1998). The emergency management sector includes a range of service providers engaged in areas as diverse as risk assessment, State and city governance, legislation, community development, emergency response, urban development and land use management, and community recovery. The range of events addressed by emergency management include fires, medical transport and emergencies, rescues, other natural events (such as floods, earthquakes, landslides, heatwaves, cyclones and other storms), consequences of acts of terrorism, technological and hazardous material incidents (such as chemical spill, harmful gas leaks, radiological contamination, explosions and spills of petroleum and petroleum products), and the quarantine and control of diseases and biological contaminants.

Emergency management aims to create and strengthen safe, sustainable and resilient communities, that can avoid or minimise the effects of emergencies, and at the same time, have the ability to recover quickly by restoring their socioeconomic vitality.

### **Roles and responsibilities**

The practice of emergency management requires cooperation among Commonwealth, State, Territory and local governments, industry, community organisations and the community in general.

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### *Commonwealth Government*

The primary role of the Commonwealth Government is to support and develop national emergency management capability. This is achieved by a range of activities including:

- coordinating the Commonwealth's material and technical assistance to States and Territories in the event of large scale emergencies (through Emergency Management Australia, a division within the Commonwealth Attorney-General's Department);
- providing financial assistance to States, Territories and authorities for flood prevention/mitigation (through the Regional Flood Mitigation Program of the Department of Transport and Regional Services) and for helping to bear the costs of natural disasters (through the Natural Disaster Relief Arrangements of the Department of Transport and Regional Services);
- providing information, best practice materials and training programs (through Emergency Management Australia);
- providing funding for risk management (through the Natural Disaster Risk Management Studies Program of Department of Transport and Regional Services) and undertaking comprehensive risk assessment (through Geoscience Australia); and
- supporting community awareness activities (through Emergency Management Australia, the Bureau of Meteorology and Geoscience Australia).

Commonwealth Government agencies also have specific emergency management responsibilities, including: the control of exotic animal diseases; aviation and maritime search and rescue; the management of major marine pollution and meteorological and geological hazards; the provision of firefighting services at some airports and some defence installations; human quarantine; and research and development.

### *State and Territory governments*

State and Territory governments are responsible for instituting regulatory arrangements for the protection of life, property and the environment, and have the primary responsibility for delivering emergency services, including fire and ambulance services, directly to the community.

Commonwealth, State and Territory governments are also jointly responsible for developing building fire safety codes, undertaking fire related research, formulating policies and providing advice on fire safety.

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### *Local governments*

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

- considering community safety in regional and urban planning through assessing risks, and developing mitigation measures and prevention plans to address emergencies such as bush and structure fires, floods, storms, landslips and hazardous materials incidents;
- improving community preparedness through local emergency and disaster plans;
- issuing hazard reduction notices to private land holders and clearing vegetation in high risk public areas;
- collecting statutory levies to fund fire services;
- allocating resources for response and recovery activities; and
- providing financial and operational assistance to rural fire brigades and/or other voluntary emergency service units.

### *Fire services*

State and Territory governments provide a range of emergency management activities through fire services, including prevention, preparedness, response and recovery (see section 8.3). The role of fire services across jurisdictions generally includes:

- responding to structure, bush, forest, vehicle and other fires;
- developing building fire safety codes and inspecting fire safety measures;
- providing rural land management advice on the role and use of fire;
- training and educating the community about fire safety and awareness, and road safety issues;
- conducting road accident rescue;
- managing chemicals and hazardous material incidents; and
- administering legislation relating to fire safety, hazardous materials facilities and hazard mitigation.

The management structure and activities of fire services differ across jurisdictions (box 8.1). Separate urban and rural fire services deliver fire services in most jurisdictions. Land management departments also typically provide rural fire services. Jurisdictions with more than one fire authority may separate services in different ways; for example, NSW separates fire services based on service function

and geographic area, whereas Victoria separates fire services by geographic area only.

<b>Box 8.1 Delivery and scope of activity of primary fire services<sup>a</sup></b>		
	<p><b><i>Urban</i></b></p> <p><b><i>Attend residential and commercial structure fires; incidents involving hazardous materials; and road accidents within major urban centres.</i></b></p>	<p><b><i>Rural</i></b></p> <p><b><i>Attend local structure fires and other events outside major urban centres; rural non-structure fires (including crop, bushland and grassland fires on private property); and fires in national parks and State forests.</i></b></p>
<i>NSW</i>	<i>NSW Fire Brigades</i> — this government department reports to the Minister for Emergency Services directly.	<i>NSW Rural Fire Service</i> — more than 90 per cent of brigades are now accountable to the Commissioner as a result of recently negotiated service level agreements which confer the legal responsibility from Councils to the Commissioner. The remaining brigades are still managed on a day-to-day basis by Councils, with operational and strategic responsibility resting with the Commissioner.
<i>Vic</i>	<i>Metropolitan Fire and Emergency Services Board</i> — this statutory authority reports to the Minister for Police and Emergency Services and the Emergency Services Commissioner.  <i>Country Fire Authority</i> — this statutory authority reports to the Minister for Police and Emergency Services and the Emergency Services Commissioner.	<i>Department of Natural Resources and Environment</i> — this department is responsible for public lands.
<i>Qld</i>	<i>Queensland Fire and Rescue Service</i> — this service, incorporating the Rural Fire Service, is a division of the Department of Emergency Services, reporting to the Director-General, who reports to the Minister for Emergency Services.	
<i>WA</i>	<i>Fire and Emergency Services Authority of WA</i> — 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 Service.	
<i>SA</i>	<i>Metropolitan Fire Service</i> — this statutory authority reports to the Minister for Emergency Services directly.	<i>Country Fire Service</i> — the board of this authority reports to the Minister for Emergency Services directly.
<i>Tas</i>	<i>Tasmania Fire Service</i> — this is the operational arm of the State Fire Commission, which reports to the Minister for Health and Human Services.	
<i>ACT</i>	<i>ACT Fire Brigade and ACT Bushfire Service</i> — these are agencies of the ACT Emergency Services Bureau, which reports to the ACT Minister for Police, Emergency Services and Corrections.	

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**Box 8.1 (Continued)**

*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*<sup>b</sup> — this is a board, which reports to the Minister for Parks and Wildlife.

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

Source: State and Territory governments (unpublished).

Some jurisdictions have particular arrangements for the provision of fire services to Indigenous communities. (For more information on fire services provided to Indigenous communities see SCRCSSP 2002, p. 572.)

### *Ambulance services*

The role of ambulance services across jurisdictions generally includes:

- providing emergency pre-hospital patient care and transport in response to sudden injury and illness;
- retrieving emergency patients;
- accessing emergency pre-hospital patients (for example, in confined spaces and hazardous environments);
- undertaking inter-hospital patient transport;
- conducting road accident rescue; and
- planning and coordinating patient services in multi-casualty events.

Some government ambulance services also provide first aid training courses, as do non-government providers such as St John Ambulance Australia and the Australian Red Cross. The Royal Flying Doctor Service responds to medical emergencies in remote inland areas of Australia. It was contracted in 1999-2000, for example, by the Ambulance Service of NSW for routine and emergency work in the north west sector of NSW. Similarly, the Tasmanian Ambulance Service contracts the Royal Flying Doctor Service to provide an aircraft and pilots for its air ambulance service, and the costs of that service are included in Tasmania's ambulance costs. Data relating to Royal Flying Doctor Service activities are not included in the Report.

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State and Territory governments provide ambulance services in most jurisdictions. In WA and the NT, St John Ambulance is under contract to the respective governments as the primary provider of ambulance services (box 8.2).

**Box 8.2 Relationships of primary ambulance response and management agencies to government**

<i>NSW</i>	<i>Ambulance Service of NSW</i> — a statutory authority reporting to the Minister for Health
<i>Vic</i>	<i>Metropolitan Ambulance Service, Rural Ambulance Victoria, and Alexandra and District Ambulance Service</i> — separate statutory bodies reporting to the Minister for Health
<i>Qld</i>	<i>Queensland Ambulance Service</i> — a division of the Department of Emergency Services, reporting to the Director-General, who reports to the Minister for Emergency Services
<i>WA</i>	<i>St John Ambulance</i> — an incorporated not-for-profit organisation under contract to the WA Government
<i>SA</i>	<i>SA Ambulance Service</i> — an incorporated joint venture between the State Minister for Health and St John Priory Australia
<i>Tas</i>	<i>Tasmanian Ambulance Service</i> — a statutory service of the Hospital and Ambulance Division of the Department of Health and Human Services
<i>ACT</i>	<i>ACT Ambulance Service</i> — an agency of the ACT Emergency Services Bureau, reporting to the ACT Minister for Police, Emergency Services and Corrections
<i>NT</i>	<i>St John Ambulance</i> — an incorporated not-for-profit organisation under contract to the NT Government

*Source:* State and Territory governments (unpublished).

Some jurisdictions have particular arrangements for the provision of ambulance services to Indigenous communities. (For an example of ambulance services provided to Indigenous communities in Queensland, see SCRCSSP 2002, p. 574.)

*Indigenous access to air medical services*

The national Australian Bureau of Statistics (ABS) Community Housing and Infrastructure Needs Survey (CHINS) reported that 51 per cent of the 841 Aboriginal and Torres Strait Islander communities located 100 kilometres or more from the nearest hospital reported having access to emergency air medical services in 2001. Access to emergency air medical services was reported for 88 per cent of the 57 222 people living in communities located 100 kilometres or more from a hospital (ABS 2002).

By comparison, the 1999 CHINS survey indicated that 53 per cent of the 895 Aboriginal and Torres Strait Islander communities located 100 kilometres or more from the nearest hospital reported having access to emergency air medical services

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in 1999. Access to emergency air medical services was reported for 86 per cent of the 59 056 people living in communities located 100 kilometres or more from a hospital (ABS 2000).

The CHINS data were collected from Indigenous housing organisations and Indigenous communities, and are provided on a 'reported population' basis (ABS 2000, 2002). That is, survey respondents estimate the number of Indigenous communities with and without access to air medical services, and their population numbers. Data are based on perceptions, and are not validated against actual service availability in these communities. Data are also affected by difficulties with the identification of Indigenous people. Indigenous identification is incomplete, so the data need to be interpreted with caution.

#### *Other emergency management organisations*

The Review does not yet report on the performance of Commonwealth or local government emergency management services or their agencies, or the State Emergency Services/Territory Emergency Services (SES/TES). The Review intends in future, however, to explore the inclusion of the SES/TES services in relation to some emergency events, because these services are an integral part of emergency management.

The SES/TES operate in all jurisdictions. While specific functions vary across Australia, all services undertake a variety of common functions. The scope of activities undertaken by the SES/TES across Australia is summarised in table 8.1.

## **Funding**

### *Fire services*

The primary sources of funding across all jurisdictions in 2001-02 were grants from State, 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 NSW, Victoria and WA. Levies on property owners were the primary source of funding for Queensland and Tasmania. Territory governments were the most important source of funds for the ACT and the NT (table 8A.1). In addition to relying on funded resources, all States and Territories rely on volunteer firefighters, who make a significant contribution to the community.

**Table 8.1 State Emergency Service and Territory Emergency Service (SES/TES) activities<sup>a</sup>**

<i>Activities</i>	<i>NSW</i>	<i>VIC</i>	<i>QLD</i>	<i>WA</i>	<i>SA</i>	<i>TAS</i>	<i>ACT</i>	<i>NT</i>
Storm damage	✓	✓	✓	✓	✓	✓	✓	✓
Flood response	✓	✓	✓	✓	✓	✓	✓	✓
Road accident rescue	✓(s)	✓	✓	✓(s)	✓	✓		✓
Earthquakes	✓(s)	✓	✓	✓	✓	✓	✓(s)	✓
Civil defence	✓	✓	✓	✓	✓	✓	✓	✓
Land search and rescue	✓(s)	✓(s)	✓	✓(s)	✓	✓	✓(s)	✓
Inland search and rescue	✓(s)	✓(s)	✓	✓(s)	✓	✓		✓
Offshore search and rescue <sup>b</sup>		✓(s)	✓	✓(s)	✓			✓
Diving		✓(s)						
Support to non-government emergency service organisations	✓	✓	✓	✓	✓	✓	✓	✓
Assistance for municipal planning	✓	✓	✓	✓	✓	✓		✓
Conduct of emergency management courses		✓	✓	✓	✓	✓		✓
Air observer <sup>b</sup>	✓(s)		✓(s)	✓(s)		✓(s)	✓	✓
Vertical rescue	✓(s)	✓	✓(s)	✓	✓	✓		✓
Public safety awareness and education	✓	✓	✓	✓	✓	✓	✓	✓
Tropical cyclone response			✓	✓				✓
Tsunami response	✓		✓	✓				

<sup>a</sup> (s) Indicates that the role is to provide support to another agency in this activity. <sup>b</sup> The WA SES undertakes air observer duties only, off shore. The WA SES does not participate in sea rescue.

Source: Australian Council of State Emergency Services (unpublished).

Total funding of the fire services covered in this Report was \$1.3 billion in 2001-02. Across jurisdictions, funding was highest in NSW (\$552 million) and lowest in the NT (\$14 million). Funding increased (when measured in real terms) in NSW, Victoria, Queensland and Tasmania between 2000-01 and 2001-02, decreased in WA and the NT, and remained the same in the ACT (table 8.2). Funding for land management agencies is not included in the \$1.3 billion reported.

**Table 8.2 Real funding of fire services (2001-02 dollars) (\$ million)<sup>a, b, c</sup>**

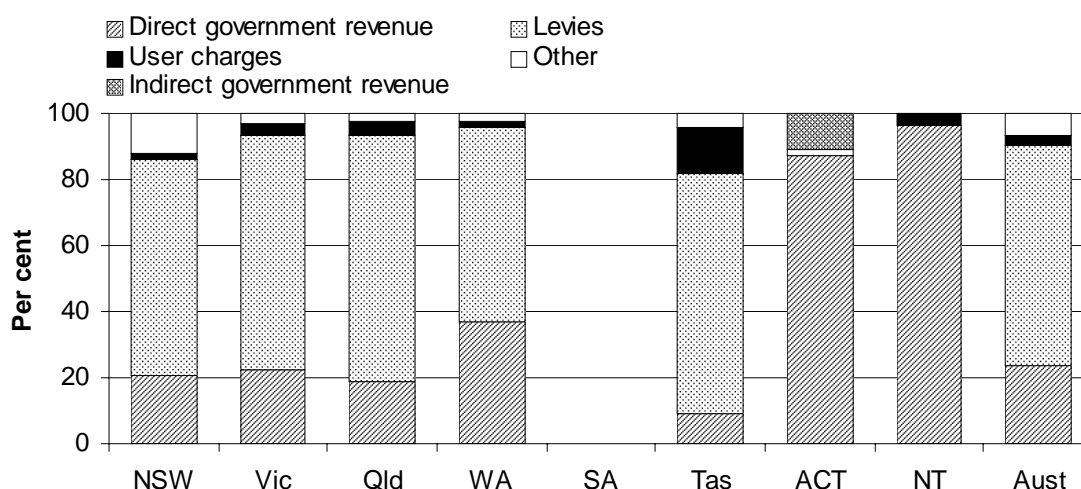
	<i>NSW</i> <sup>d</sup>	<i>Vic</i> <sup>e</sup>	<i>Qld</i>	<i>WA</i> <sup>f</sup>	<i>SA</i> <sup>g</sup>	<i>Tas</i>	<i>ACT</i> <sup>h</sup>	<i>NT</i> <sup>i</sup>	<i>Aust</i> <sup>j</sup>
1997-98	377	285	196	84	78	39	34	21	1 113
1998-99	404	291	214	88	90	37	36	22	1 183
1999-2000	453	294	236	104	112	37	22	21	1 279
2000-01	441	318	245	99	113	38	25	21	1 301
2001-02	552	336	256	93	na	40	25	14	1 316

<sup>a</sup> Real expenditure is based on the ABS Gross Domestic Product (GDP) price deflator 2001-02 = 100 (table A.26). <sup>b</sup> Indirect revenue is counted in government grants in table 8A.1. The totals are the sum of government grants, levies, user charges and other revenue. <sup>c</sup> Due to differences in definitions and counting rules, data reported may differ from those in agency annual reports and other sources. <sup>d</sup> The 1999-2000 figure for NSW Fire Services is artificially inflated by abnormal items of \$23 million. <sup>e</sup> In Victorian data for 1997-98 and 1998-99, 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. 2000-01 was the first year of funding for a special resources initiative in Victoria. <sup>f</sup> WA data for 1997-98 and 1998-99 do not include Bush Fire Brigades, which are the responsibility of local government. <sup>g</sup> In SA data for 1997-98, funding includes \$1 million received from AUSAID for reimbursement of the costs of the Indonesian Fire Suppression Exercise. <sup>h</sup> Total expenditure for the ACT in 1997-98 includes expenditure for four response agencies: the ACT Fire Brigade, the ACT Bushfire Service, the ACT Emergency Service and the ACT Ambulance Service. The ACT funding change for 1999-2000 and 2000-01 reflects the revised method of attributing funds to the Emergency Services Bureau by event type. <sup>i</sup> NT data for 1999-2000 include a Commonwealth Government (National Heritage Trust) grant for a fire management research project. <sup>j</sup> Totals may not sum as a result of rounding. **na** Not available.

*Source:* State and Territory governments (unpublished); SCRCSSP (1999, 2000, 2001); table 8A.1.

Fire services are funded by a variety of sources, with non-government organisations making a significant contribution. Nationally, 23.7 per cent of funding for fire services was provided directly by government in 2001-02. Across jurisdictions, the highest proportion of direct government funding was in the NT (96.4 per cent) and the lowest was in Tasmania (8.8 per cent) (figure 8.1).

Figure 8.1 Major sources of fire services funding, 2001-02<sup>a, b, c</sup>



<sup>a</sup> Direct government revenue is equal to government grants less indirect revenue. Indirect government revenue is not shown for jurisdictions excepting the ACT because it equates to less than 0.1 per cent in all other jurisdictions. <sup>b</sup> Data for SA were not available. <sup>c</sup> In addition to the reduced revenue from the cessation of the Emergency Services Levy, the ACT Government has had to fund a revenue shortfall because of the Commonwealth's non-payment for fire services. The ACT Government and the Commonwealth are currently negotiating a new agreement covering fire services for Commonwealth property in the ACT that will determine the Commonwealth funding contribution for 2001-02.

Source: State and Territory governments (unpublished); table 8A.1.

### Ambulance services

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

State and Territory governments were the largest contributors to ambulance services in all States and Territories except WA. The contribution from this level of government including direct and indirect funding in 2001-02 was highest in the ACT (87.5 per cent) and lowest in WA (21.7 per cent). The primary source of funds in WA was transport fees (61.3 per cent). All jurisdictions except NSW and Tasmania received funding from subscriptions. Queensland relied more on subscriptions as a funding source (19.4 per cent) than did any other jurisdiction (table 8A.16). There is an ambulance subscription scheme in NSW, but these funds are deposited in the consolidated revenue of NSW Treasury.

Total funding of ambulance services covered in this Report was \$970 million in 2001-02. Across jurisdictions, funding was highest in NSW (\$281 million) and

lowest in the ACT and the NT (both \$10 million). Compared with 2000-01, funding increased in real terms in all jurisdictions except NSW (table 8.3).

**Table 8.3 Real funding of ambulance services (2001-02 dollars)**  
(\$ million)<sup>a, b, c</sup>

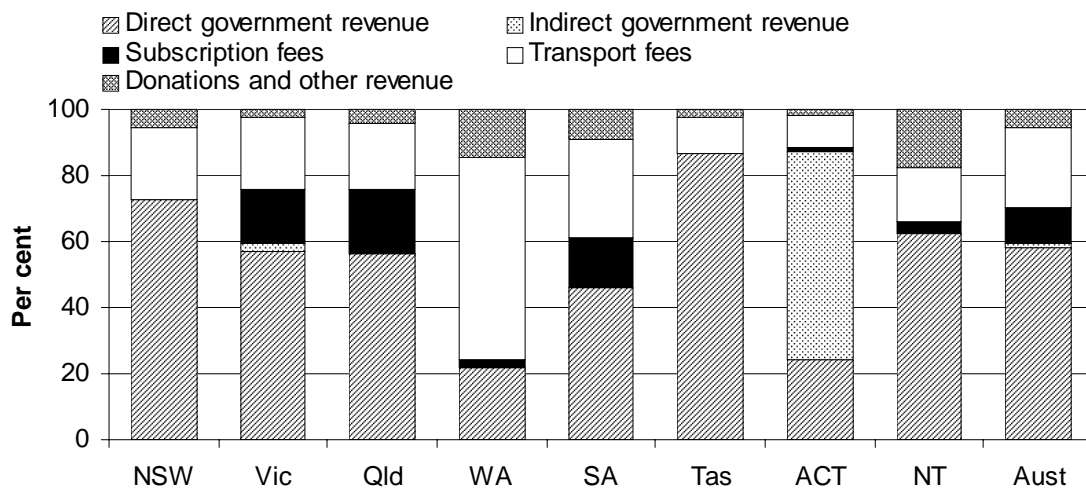
	<i>NSW</i> <sup>d</sup>	<i>Vic</i> <sup>e</sup>	<i>Qld</i>	<i>WA</i> <sup>f</sup>	<i>SA</i>	<i>Tas</i>	<i>ACT</i> <sup>g</sup>	<i>NT</i> <sup>h</sup>	<i>Aust</i> <sup>i</sup>
1997-98	251	183	176	50	55	14	na	9	737
1998-99	257	207	187	49	64	15	na	10	789
1999-2000	277	211	210	60	74	16	9	9	866
2000-01	287	233	232	60	72	16	9	9	919
2001-02	281	267	233	65	87	18	10	10	970

<sup>a</sup> Real expenditure is based on the ABS GDP price deflator 2001-02 = 100 (table A.26). <sup>b</sup> Indirect revenue is counted in government grants in table 8A.16. The totals are the sum of government grants, subscription fees, transport fees, donations and other revenue. <sup>c</sup> Due to differences in definitions and counting rules, data reported may differ from those in agency annual reports and other sources. <sup>d</sup> NSW has a subscription scheme but funds are deposited in the consolidated revenue of NSW Treasury. <sup>e</sup> Victorian data for 1998-99 exclude the Ambulance Officers Training Centre. Victoria received additional funding in 2001-02 from both government and direct service revenue for new and improved services. <sup>f</sup> For 1999-2000, WA subscription fees are for country regions only; insurance transport fees include those covered by private health insurance; and workers' compensation transport fees are not separately identified and are included with the uninsured. <sup>g</sup> The source of funds for the ACT Ambulance Service in 1997-98 and 1998-99 are included in the ACT Emergency Services Bureau data in table 8.2 and could not be provided separately. Total source of funds in table 8.2 includes funding 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. The ACT funding change for 1999-2000 and 2000-01 reflects the revised method of attributing funds to the Emergency Services Bureau by event type. <sup>h</sup> The 2001-02 NT Government revenue data include transports for the NT Government and the Department of Health and Community Services under purchaser-provider contract guidelines, and inter-hospital transport fees. Other revenue includes sales, training and contract paramedical work. <sup>i</sup> Totals may not sum as a result of rounding. **na** Not available.

Source: State and Territory governments (unpublished); table 8A.16; SCRCSSP (2002).

Ambulance services are funded by a variety of sources, with non-government organisations making a significant contribution. Ambulance services received direct government funding of 58.4 per cent nationally in 2001-02 (table 8A.16). Across jurisdictions, direct government funding was highest in Tasmania (87.0 per cent), where a free service is provided due to State Government policy, and lowest in WA (21.7 per cent), where St John Ambulance provides services on behalf of the State Government. Total government funding is equal to that provided by State and Territory governments, because either no funding was provided from the Commonwealth and local governments, or funding from these sources was less than 0.1 per cent (figure 8.2).

Figure 8.2 Major sources of ambulance services funding, 2001-02<sup>a, b, c</sup>



<sup>a</sup> Direct government revenue is equal to government grants less indirect revenue. Other revenue is all revenue that is not direct or indirect government revenue. <sup>b</sup> NSW has a subscription scheme but funds are deposited in the consolidated revenue of NSW Treasury. <sup>c</sup> The NT Government revenue data include transports for the NT Government and the Department of Health and Community Services under purchaser-provider contract guidelines, and inter-hospital transport fees. Other revenue includes sales, training and contract paramedical work.

Source: State and Territory governments (unpublished); table 8A.16.

## Size and scope

### *Fire services*

The scope of activity within fire service delivery is broad and varies across jurisdictions (table 8A.29).

### *Incidents*

Information on reported fires and other 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 cannot be deemed to be a false report until the fire service has responded and investigated the site. Nationally, 36.2 per cent of reported incidents in 2001-02 were fires or explosions (table 8A.2). Nationally, there were also 53 903 landscape fire incidents reported in 2001-02 (table 8A.3).

The proportions of incident types varied substantially across jurisdictions in 2001-02. Victorian fire services, for example, attended 65 288 incidents, of which 34.6 per cent were fires and explosions, 14.0 per cent were fire alarm system

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notifications not involving fire, and 51.4 per cent were false alarms, false calls and other incidents. The WA fire brigades responded to 28 867 incidents, of which 58.5 per cent were fires and explosions, 18.4 per cent were fire alarm system notifications not involving fire, and 23.1 per cent were false alarms, false calls and other incidents (table 8A.2).

### *Human resources*

Human resources refers to any person delivering a firefighting or firefighting related service, or managing the delivery of this service, including:

- firefighters (qualified paid and volunteer firefighters); and
- support personnel (any paid and volunteer person directly supporting the operational provider, including technical and communications personnel and personnel staff).

Nationally, 11 718 full time equivalent (FTE) paid personnel were involved in the delivery of fire services in 2001-02. Across jurisdictions, the number of FTE paid personnel ranged from 4298 in NSW to 191 in the NT. Nationally, the majority of paid personnel were firefighters (77.1 per cent). Across jurisdictions, this proportion was highest in the NT (83.7 per cent) and lowest in Tasmania (66.0 per cent) (table 8A.4).

Volunteer firefighters (204 554 people) participated in the delivery of fire services in 2001-02. The number of volunteer firefighters varied across jurisdictions, from 68 710 in NSW to 461 in the NT (table 8A.4).

### *Ambulance services*

The scope of activity within ambulance service delivery is broad and varies across jurisdictions (table 8A.29).

### *Incidents*

Ambulance services attended over two million incidents nationally in 2001-02. Most of these were emergency incidents (44.5 per cent), followed by non-emergency incidents (37.2 per cent) and urgent incidents (18.0 per cent). Only Queensland attended casualty room incidents (0.4 per cent). The proportion of emergency incidents was highest in NSW (66.4 per cent) and lowest in WA (26.7 per cent) (table 8A.17). Data for NSW are not strictly comparable with the data of other jurisdictions because NSW does not triage emergency calls. Urgent

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incident and response caseload data for NSW are included in emergency caseload figures.

### *Human resources*

Data on human resources for ambulance services are improved in this Report because more specific definitions were applied. The data are reported by operational status on a FTE basis to provide a detailed description of the human resources profile for ambulance agencies.

Human resources refers to any person involved in delivering an ambulance service or managing the delivery of this service, including:

- ambulance operatives (including qualified ambulance officers, intensive care officers, students and base level ambulance officers, patient transport officers, other clinical personnel and communications operatives);
- operational and corporate support personnel (including management, operational planners and coordinators, education and training personnel, corporate support personnel, non-operative communications and technical personnel); and
- remunerated and nonremunerated volunteers (including any paid and unpaid volunteer personnel providing ambulance services on an on-call basis, and corporate support).

Nationally, 9043 FTE salaried personnel were involved in the delivery of ambulance services. Across jurisdictions, the number of FTE salaried ambulance personnel ranged from 2983 people in NSW to 107 people in the NT. The majority of salaried ambulance personnel in 2001-02 were ambulance operatives (79.1 per cent). Across jurisdictions, this proportion ranged from 87.5 per cent in Tasmania to 61.6 per cent in the NT (table 8A.18).

Nationally, 5447 nonremunerated volunteer ambulance personnel, along with 328 remunerated volunteer ambulance personnel, participated in the delivery of ambulance services in 2001-02. Across jurisdictions, the number of nonremunerated volunteer and retained ambulance operatives varied across jurisdictions, from 2705 in WA to 24 in the NT. Volunteer operational and business support personnel were used in WA (904), SA (400) and the NT (1). Due to the decentralised structure of its ambulance services, WA has a high number of volunteer operational and business support personnel (table 8A.18).

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## The participation of volunteers in emergency management

Volunteers play a significant role in the provision of emergency services in Australia, across the areas of prevention/mitigation, preparedness, response and recovery. The input by volunteers is particularly important in rural and remote service provision, where caseload/incident levels are low but community safety needs are still a high priority. In the Country Fire Authority Victoria, for example, approximately 85 per cent of its 61 657 volunteers in 2001-02 functioned in rural areas (CFA, VRFBA and VUFBA 2001) (table 8.4). In Queensland, approximately 46 500 Rural Fire Brigade volunteers in 1600 brigades provided firefighting and fire hazard reduction services to local communities not covered by urban fire brigades in 2001-02 (DES 2002).

Table 8.4 **Volunteers in fire and ambulance services, 2001-02 (number)**

	NSW <sup>a</sup>	Vic <sup>a, b</sup>	Qld <sup>a</sup>	WA	SA <sup>a</sup>	Tas <sup>a</sup>	ACT	NT <sup>a</sup>	Aust
Ambulance	67	358	352	2 705	1 753	516	..	24	5 775
Fire	68 710	61 657	46 534	21 676	na	4 866	650	461	204 554
Total	68 777	62 015	46 886	24 381	1 753	5 382	650	485	210 329

<sup>a</sup> Numbers for fire services include part paid volunteers. <sup>b</sup> Of the 358 Victorian ambulance service volunteers, 328 are remunerated for some time (usually response), but not for other time (usually on-call time). **na** Not available. ... Not applicable.

Source: State and Territory governments (unpublished); tables 8A.4 and 8A.18.

Volunteers in many emergency management organisations — including fire, ambulance, SES/TES, marine rescue, and recovery and relief agencies — provide services relating to emergency situations and disasters resulting from natural hazards such as wildfires, floods, severe storms, earthquakes, cyclones, and human-caused and technological events. Some estimates of volunteer participation include the following:

- across Australia, over 500 000 volunteers participate each year in the management of a broad range of emergency situations and disasters (for example, floods and earthquakes) (EMA 2001);
- across Australia, in fire and ambulance services alone, there were 210 329 volunteers in 2001-02 (table 8.4);
- in WA, volunteers provided more than three million hours to a variety of functions in the St John Ambulance Service in 2001 (table 8.5); and
- in the Tasmanian Ambulance Service, volunteers participate in 36 of the 42 stations, supporting highly trained paramedics in 13 locations and working in 23 wholly volunteer stations. In on-call time alone, they provide 516 000 hours per annum, in addition to time spent on training and in responding to calls (Tasmanian Ambulance Service and KPMG 2001).

**Table 8.5 Time provided to WA ambulance services and first aid by volunteers, 2001 ('000 hours)**

<i>Description of function</i>	<i>Hours</i>
Ambulance services	
Training programs	60
Skills maintenance programs	45
Response to accidents, medical emergencies and patient transfers	57
24-hour rostered on-call availability	2 746
Total ambulance services	2 908
First aid courses and services	
Instructor training and accreditation	1
First aid courses to the public, other emergency services and industry	13
Literature and first aid products	2
Total first aid courses and services	17
Management	
Committee work	28
Secretary and Treasurer	38
Vehicles and equipment, stores and buildings and grounds	29
Total management	95
<b>Total</b>	<b>3 021</b>

*Source:* St John Ambulance WA (2001).

### *Cost to government relating to volunteer service provision*

Governments incur costs in supporting volunteers to deliver emergency services in their communities by providing funds and support through infrastructure, training, uniforms, personal protective equipment, operational equipment and support for other operating costs.

The Tasmanian Ambulance Service undertook a study to estimate the costs to government of volunteer ambulance services in Tasmania. It estimated that the cost to the Tasmanian Government in 2000-01 of services wholly provided by ambulance volunteers was \$1385 flagfall per case, compared with \$781 flagfall per case in the mixed career/volunteer stations, and only \$535 flagfall per case in the urban areas where every crew has two salaried ambulance personnel (Tasmanian Ambulance Service and KPMG 2001).

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The differing flagfall values reflect the common infrastructure costs for all cases (for example, building, vehicles, medical equipment and communications infrastructure) and the impact of the very significant differences in caseload and economies of scale between high caseload urban areas and low caseload volunteer stations serving small populations. Additionally, the time involved in responding to cases outside urban areas may be longer due to the larger distances travelled and the time taken to mobilise an emergency response vehicle crewed by volunteers who may be in various locations and called away from work. Mobilisation time in such instances is likely to be longer than the time to mobilise a crew of paid personnel who are located together and ready to respond.

Cost to government per case in 2000-01 was estimated by the Tasmanian Ambulance Service, by accounting for:

- the costs of infrastructure utilised, including buildings, vehicles, capital equipment and radio communications;
- recurrent expenses for fuel, medical consumables, volunteer uniforms and training;
- actual caseload levels and recorded time spent on each case from computer dispatch system and case sheet records (the caseload time normally affects distance travelled and hence fuel costs and the use of medical consumables; for example, oxygen);
- the incidental and miscellaneous costs associated with volunteer units, including postage, catering for volunteer training courses, office requisites for volunteer training coursework materials, and volunteer meal and travelling expenses reimbursements; and
- the salary costs and recurrent expenses for paid personnel involved in volunteer training.

### *Volunteer developments*

Ambulance authorities from Victoria, Queensland, WA, SA, Tasmania and the NT have surveyed volunteer ambulance officers to gain their input on strategies that will aid the long term sustainability of volunteer ambulance services in rural and remote areas of Australia. The survey particularly focused on recruitment, retention, and the training and support needs of ambulance volunteers, and provided recommendations for the future directions of ambulance services utilising volunteers.

Support for volunteers in emergency management has been increased through improved training, the provision of higher standards of operational and personal

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protective equipment, and the enactment of legislation to provide liability protection. Emergency management volunteer organisations have also recently formed the Australian Emergency Management Volunteer Forum, to facilitate better communication between organisations and the sector, and to progress issues facing emergency management volunteers.

### *Other emergency management service categories*

The Review does not report on a number of emergency service categories including: rescues; natural events; technological and hazardous material incidents; emergency relief and recovery; and quarantine and disease control. Emergency management departments and agencies that provide services in these areas are identified in table 8A.29.

## **8.2 Policy developments in emergency management**

A summary of developments across the breadth of the emergency management sector is provided in this section.

- *Managing the consequences of acts of terrorism.* Crisis and consequence management links have been strengthened through the inclusion of Consequence Management in the revised National Counter Terrorism Plan and emergency management representation on the National Counter Terrorism Committee. The 2002 Federal Budget allocated \$17.8 million to procure specialised equipment and provide specialist training for State and Territory-based agencies and emergency personnel involved in the first response to chemical, biological and radiological incidents.
- *Council of Australian Governments' (COAG) reviews.* COAG is considering recommendations from the Review of Natural Disaster Mitigation and Relief Arrangements. The National Foot and Mouth Disease Taskforce has undertaken the Review of Foot and Mouth Disease Arrangements for the management of a major animal disease outbreak and attendant trade, industry and community recovery issues. The taskforce has developed national frameworks that were tested during Exercise Minotaur, held in September 2002.
- *Land use planning.* Emergency management agencies have developed guidelines to assist government decision makers, local government planners, emergency managers and other practitioners on the application of land use planning for managing risk from hazards to community safety, especially for assessing development proposals and designating land for community infrastructure.

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- *Information initiatives.* The Commonwealth, States and Territories have jointly developed an Australian Disaster Information Network, which utilises a web portal to improve access to, and the sharing of, emergency management information. Boosted by GeoInsight, a \$2 million project supported by AusIndustry and delivered in 2001, State and Territory and national networks of Geographical Information System users have been formed to address common issues related to spatial data sharing and accessibility.
  - *Legislative issues.* Jurisdictions have taken measures to address the recommendations from the Linton Coronial Inquiry and lessons learned from the NSW Bushfires. Legislation has been amended to enable improved planning of developments in fire-prone areas and hazard reduction measures.
  - *Critical infrastructure protection (for example, relating to water supply, telecommunications, electricity and banking and finance).* The Business–Government Task Force on Critical Infrastructure — comprising industry leaders and government agency representatives with critical infrastructure and emergency management responsibilities — recommended that a network of consultative groups be formed to address both policy and operational information sharing needs. Risks to both the national information infrastructure and physical infrastructure will be addressed. States are taking measures to upgrade critical infrastructure protection and to review plans to deal with the consequences of infrastructure disruption or failure, so as to minimise impacts on communities.

### 8.3 Framework of performance indicators

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 for emergency management, which are common to all Australian emergency management agencies (box 8.3).

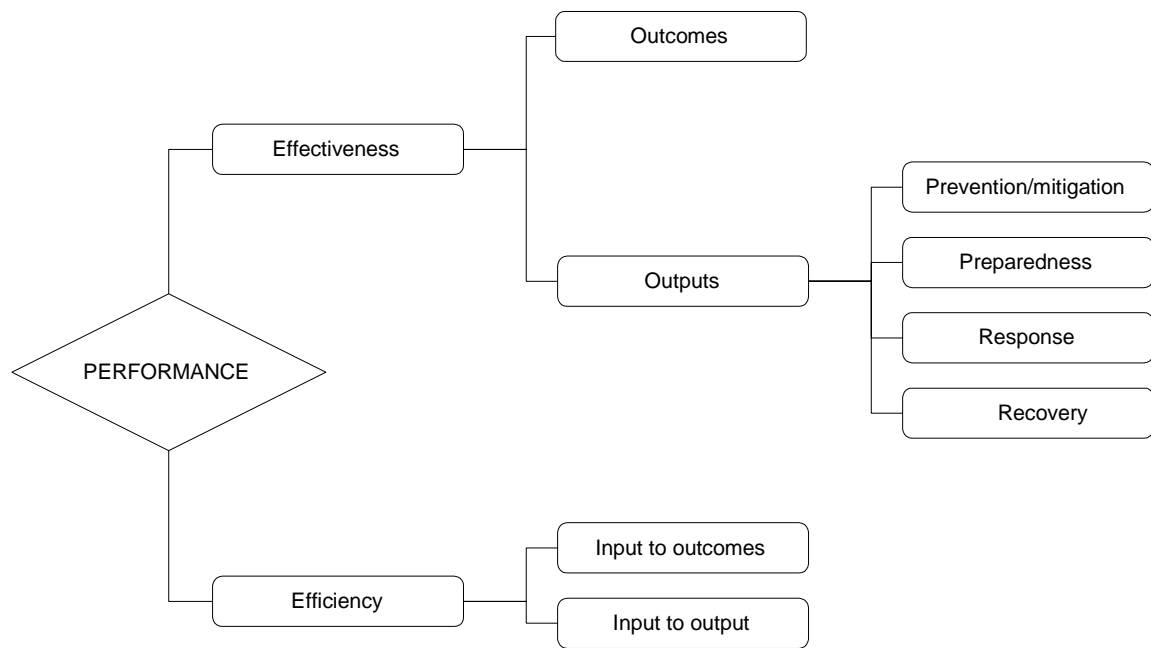
#### Box 8.3 Objectives for emergency management

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

- reduce the adverse 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 general performance indicator framework presented in figure 8.3 has been applied to both fire and ambulance services (pre-hospital care, treatment and transport services). This framework provides information on the efficiency and effectiveness of government provided and/or funded emergency management services.

Figure 8.3 **General performance indicators framework for emergency management**



The outcome indicators in the performance framework indicate the effects of a service on the community, economy and environment. The indicators may suggest the degree of service success. Outcomes indicators include: fire death rate; fire injury rate; the value of property lost from structure fire incidents; the number of fire incidents relative to the population; the survival rate from out-of-hospital cardiac arrest; and the number of ambulance incidents, responses and patients relative to the population.

The framework uses the widely accepted ‘comprehensive approach’ (prevention/mitigation, preparedness, response and recovery) to classify the key functions common to emergency agencies. Outputs for emergency services are grouped accordingly.

- *Prevention and mitigation* — the results of measures taken in advance of an emergency aimed at decreasing or eliminating its impact on the community and the environment. Activities that contribute to outputs of prevention and mitigation include: advice on land management practice for hazard reduction and prevention; the inspection of property and buildings for hazards, compliance

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with standards and building codes, and levels of safe practices; the preparation of risk assessment and emergency management plans; risk categorisation for public information campaigns; and public information campaigns and educational programs to promote safe practices in the community.

- *Preparedness* — the results of measures to ensure that, should an emergency occur, communities, resources and services are capable of responding to, and coping with, the effects. Activities that contribute to outputs of preparedness include: public education and training; emergency detection and response planning (including the installation of smoke alarms and/or sprinklers); hazardous chemicals and material certification, and the inspection of storage and handling arrangements; the exercising, training and testing of emergency service personnel; and standby and resource deployment and maintenance. Preparedness also involves establishing equipment standards and monitoring adherence to these standards.
- *Response* — the results of strategies and services to control, limit or modify the emergency to reduce its consequences. Activities that contribute to outputs of response include: the implementation of emergency plans and procedures; the issuing of emergency warnings; the mobilisation of resources in response to emergency incidents; the suppression of hazards (for example, fire containment); the provision of immediate medical assistance and relief; and search and rescue.
- *Recovery (emergency services)* — the results of strategies and services to return agencies to a state of preparedness after emergency situations. Activities that contribute to outputs of emergency services recovery include: critical incident stress debriefing; and salvage and restoration of the emergency site to a safe state.
- *Recovery (community)* — the results of strategies and services to support affected individuals and communities in their reconstruction of physical infrastructure and restoration of emotional, social, economic and physical wellbeing. Activities that contribute to outputs of community recovery include: the restoration of essential services; counselling programs; temporary housing; long term medical care; and public health and safety information.

Effective prevention activities reduce the requirement to respond to, and recover from, emergency events. Efficient resource use reduces the risk to the community by supporting a greater availability of services. Every jurisdiction is placing a greater emphasis on preventative activities.

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

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## 8.4 Key performance indicator results — fire services

A performance indicator framework for fire services (figure 8.4) has been developed from the framework described in figure 8.3. Definitions of all indicators are provided in table 8.6.

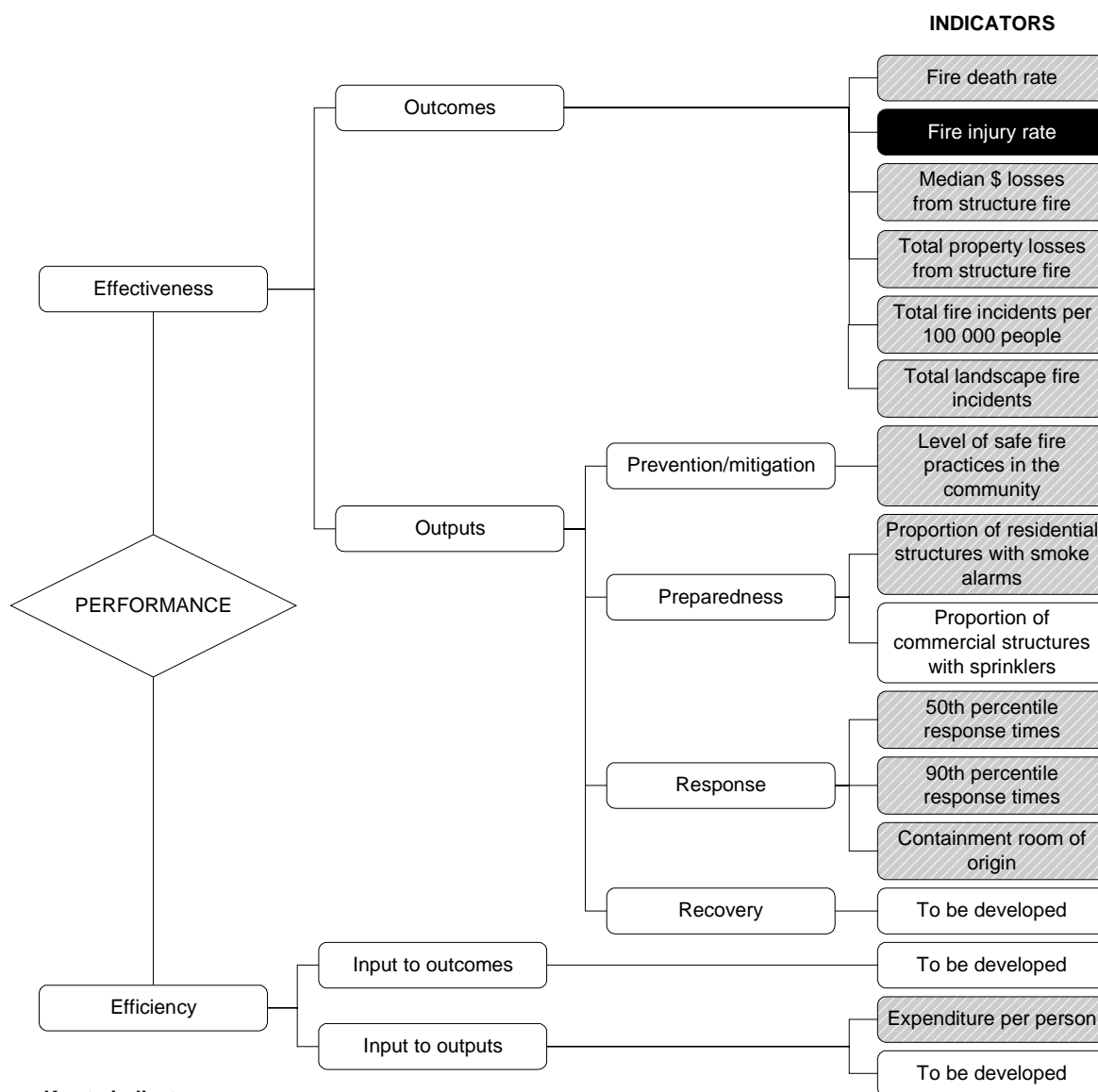
Performance information has been reported for a number of indicators. These results may have been influenced by factors such as differences in climatic and weather conditions, the socio-demographic and topographic composition of jurisdictions, property values and dwelling construction types. Importantly, jurisdictions also have diverse legislative fire protection requirements. Appendix A contains detailed statistics, which may assist in interpreting the performance indicators presented in this chapter.

Results need to be treated with care because data either were derived from small samples — as in the case of the ambulance patient satisfaction survey and the fire safety measures survey for some jurisdictions — or are highly variable as a result of the relatively small populations in Tasmania, the ACT and the NT. The role of volunteers, particularly for country and rural fire brigades, needs to be considered in the interpretation of indicators (for example, fire expenditure per person). Specifically, volunteer personnel provide a substantial proportion of fire services (and emergency services more generally) (ABS 2001a). While costs such as training and equipment associated with volunteers are included in calculating the cost of fire service provision, the labour costs of providing fire services would be much greater without volunteers (assuming these functions were still performed).

Further, information was not reported for all fire agencies in each jurisdiction. Rural fire services are sometimes excluded from reported results. Partly for this reason, performance data are not always strictly comparable across jurisdictions. Fire services are cooperating to improve and enhance the standards for the collection of fire data. Differences in counting rules are expected to be minimised for future reports.

The performance indicator framework for fire services shows which data are comparable in the 2003 Report (figure 8.4). For data that are not considered strictly comparable, the text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability from a Report-wide perspective (see section 1.6).

Figure 8.4 Performance indicators for fire services



**Key to indicators**

- Text Provided on a comparable basis for this Report
- Text Information not complete or not strictly comparable
- Text Yet to be developed or not collected for this Report

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## Effectiveness

### *Outcomes*

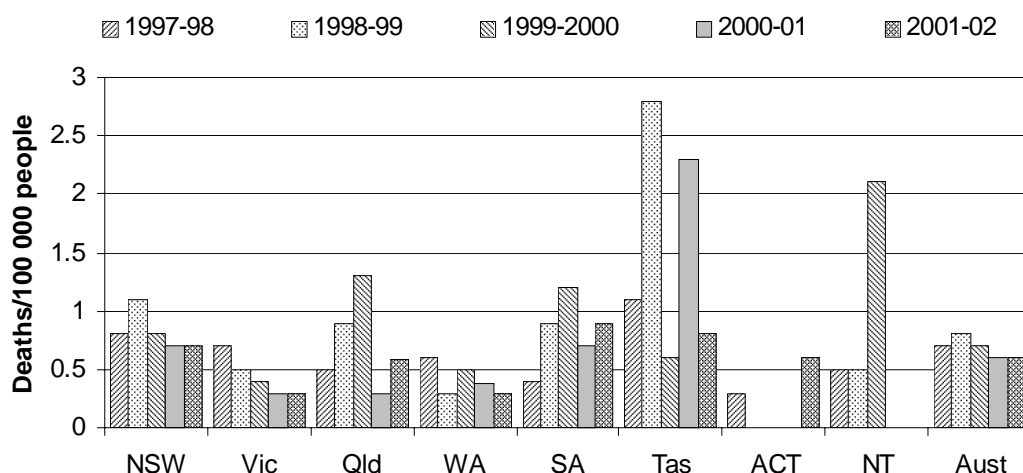
The indicators of outcomes reported here relate to the objective of fire services to minimise the effect of fire on life, property and the environment. The fire death rate and the fire injury rate are indicators of outcomes in terms of the effect of fire on life. Caution in interpreting data must be exercised, because of the relatively small numbers of deaths and significant fluctuations from year to year, particularly for jurisdictions with relatively smaller populations. Other outcomes indicators reported are median dollar losses from fire, total property losses from fire and fire incidents per 100 000 people.

### *Fire death rate*

Nationally, the fire death rate was 0.6 per 100 000 people in 2001-02. The fire death rate was highest in SA (0.9 fire deaths per 100 000 people) and lowest in the NT (no fire deaths) (figure 8.5). Nationally, the three-year average fire death rate was 0.6 per 100 000 people. The three-year average fire death rate was highest in Tasmania (1.2 deaths per 100 000 people) and lowest in the ACT (0.2 deaths per 100 000 people) (table 8A.5).

The definitions used to count fire deaths varied across jurisdictions. Fire deaths resulting from all fire incidents were reported for all jurisdictions except Victoria, which reported fire deaths resulting from structure fires. Further, some jurisdictions included fire deaths that were suicides, whereas others excluded suicides from fire deaths data. Fire deaths reported in some jurisdictions were verified by the respective State coroner's findings, while fire deaths in other jurisdictions were estimated by fire agencies. Future reports are expected to use more uniform reporting methods.

Figure 8.5 Fire death rate<sup>a, b, c, d, e, f, g</sup>



<sup>a</sup> The small number of deaths means it is difficult to establish patterns and provide detailed analysis. The rates also fluctuate from year to year. This demonstrates the volatility of these numbers which must be taken into account in any interpretation of data. <sup>b</sup> Fire deaths resulting from all fire incidents were reported for all jurisdictions except Victoria, which reported fire deaths resulting from structure fires. <sup>c</sup> Figures for NSW, Victoria, Queensland, WA and Tasmania in 1999-2000, 2000-01 and 2001-02 include deaths involving civilians and operational personnel. Victorian and WA data for all years, and Queensland data for 2001-02 exclude murders and suicides where a fire subsequently occurred. <sup>d</sup> Data for 1997-98 have been validated by the State Coroners for NSW, Queensland, WA, Tasmania and the ACT. Data for 1998-99 and 1999-2000 have been validated by the State Coroners for NSW, Queensland, WA, Tasmania, the ACT and the NT. Data for 2000-01 and 2001-02 have been validated by the State Coroner for NSW. <sup>e</sup> In SA data, the 19 deaths in 2001-02 include two suicides. Only 10 accidental deaths were associated with building fires. <sup>f</sup> The ACT had no fire deaths between 1998-99 and 2000-01. <sup>g</sup> The NT had no fire deaths in 2000-02.

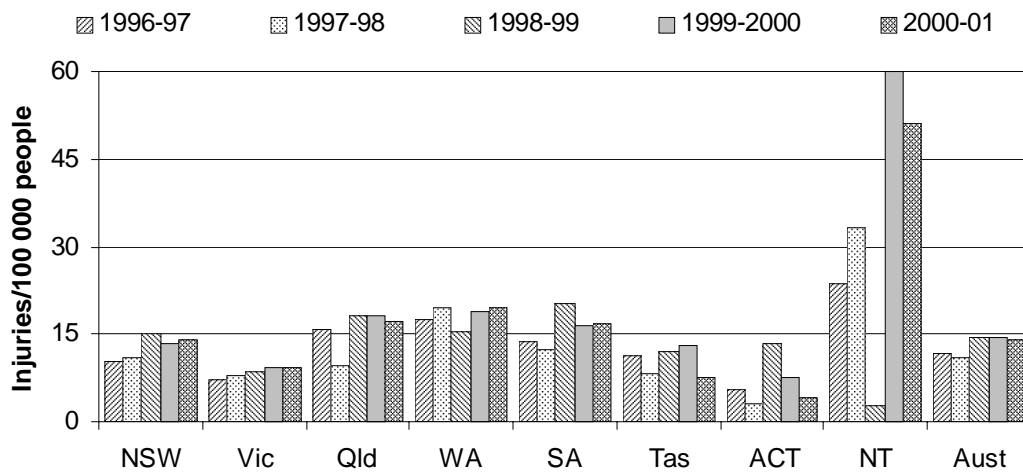
Source: State and Territory governments (unpublished); table 8A.5.

### Fire injury rate

Fire injuries data describe the number of hospital admissions (excluding emergency department non-admitted casualties). Deaths from fire injuries after hospitalisation have been removed from the fire injuries data for the time series because these are counted in the fire death rate.

Nationally, the fire injury rate was 14.2 per 100 000 people in 2000-01. Across jurisdictions, the rate was highest in the NT (51.0 fire injuries per 100 000 people), and lowest in the ACT (4.0 per 100 000 people) (figure 8.6). Nationally, the three-year average fire injury rate was 14.3 per 100 000 people. Across jurisdictions, the three-year average fire injury rate was highest in the NT (37.8 fire injuries per 100 000 people) and lowest in the ACT (8.3 fire injuries per 100 000 people) (table 8A.6).

Figure 8.6 Fire injury rate<sup>a, b</sup>



<sup>a</sup> Fire injuries are defined as the number of people admitted to public and private hospitals. Excludes emergency department non-admitted casualties and fire injuries arising from arson, secondary fires resulting from explosions, and transport accidents. <sup>b</sup> Excludes fire deaths for all years. The 2001 Report included deaths in the 1998-99 data. The Australian Institute of Health and Welfare (AIHW) revised the fire injuries data for 1998-99 subsequent to its publication of *Australian Hospital Statistics 1998-99* (AIHW unpublished).

Source: AIHW, *Australian Hospital Statistics* (unpublished); table 8A.6.

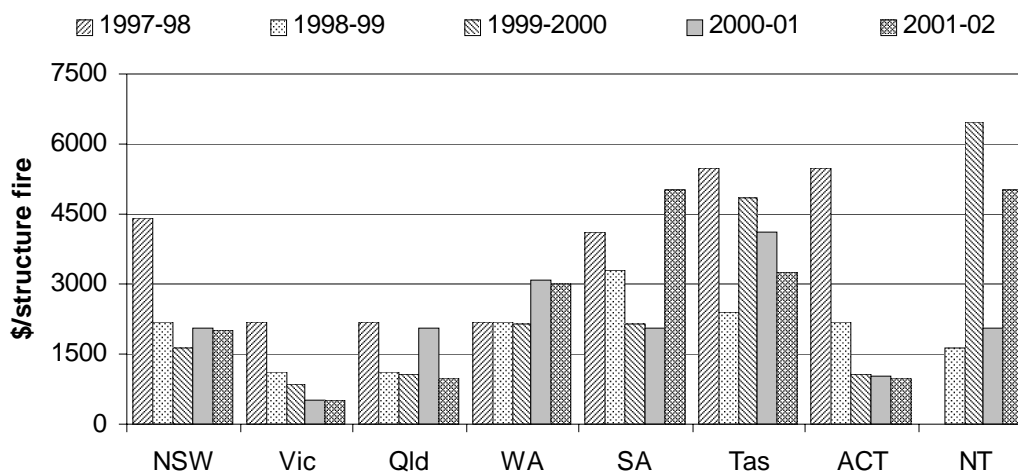
### Losses from structure fire

The median dollar loss per structure fire and the total property loss from structure fires are indicators of outcomes in terms of the effect of fire on property. Structure fires are those fires contained in housing and other buildings. These data are expressed in real dollars. The data have not been adjusted for jurisdictional differences in the costs and values of various types of building. Information for some jurisdictions 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.

### Median dollar losses from structure fire

The median dollar loss in 2001-02 was highest in SA and the NT (both \$5000 per structure fire) and lowest in Victoria (\$500 per structure fire) (figure 8.7). Across jurisdictions, the median dollar loss increased (in real terms) in SA and the NT, from 2000-01 to 2001-02, and decreased in all other jurisdictions. The substantial increase in the NT needs to be considered with care because data for the relatively smaller jurisdictions can be subject to high volatility. Similarly, the increase in SA may be an artefact of the calculation method in 2001-02 (table 8A.7).

**Figure 8.7 Real median dollar loss from structure fires (2001-02 dollars)<sup>a, b, c, d, e, f</sup>**



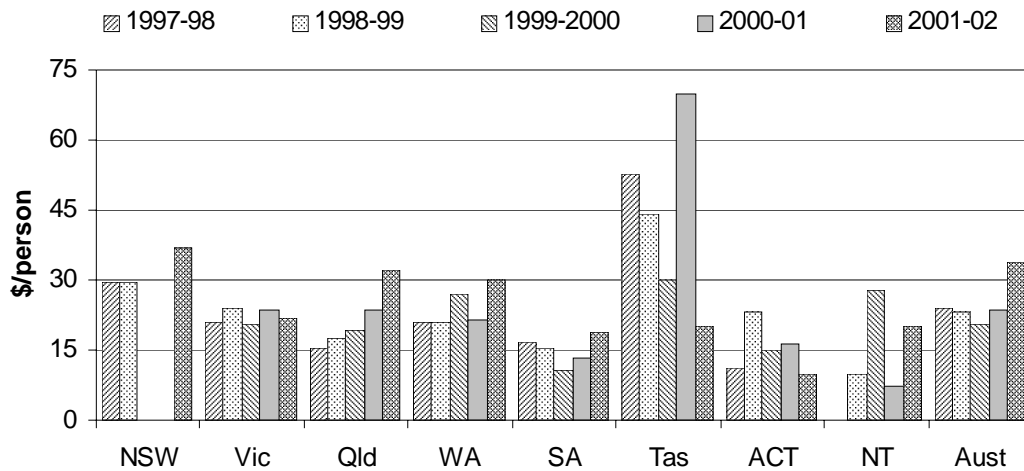
<sup>a</sup> Real expenditure is based on the ABS GDP price deflator 2001-02 = 100 (table A.26). Estimates have not been validated by the insurance industry or adjusted for interstate valuation differences. <sup>b</sup> NSW data for 1997-98, 1998-99, 1999-2000, 2000-01 and 2001-02 are for NSW Fire Brigades only, but include responses to calls outside NSW Fire Brigades' designated fire districts. Due to industrial bans, 1999-2000 data are derived from a sample representing 80 per cent of the incidents, and 2000-01 data are from a sample representing 85 per cent of the incidents. Data for 2001-02 are complete and include an outlier, which resulted in a direct dollar loss of more than \$60 million. <sup>c</sup> Queensland data exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA data for 1997-98 and 1998-99 exclude Bush Fire Brigades. <sup>e</sup> SA 1997-98 and 1999-2000 data exclude the Country Fire Service. The Metropolitan Fire Service and the Country Fire Service supplied unit record data for the median value to be correctly calculated for the first time in 2001-02. <sup>f</sup> There is an inconsistency in the ACT data reported for 1997-98. Due to industrial bans, 1998-99 and 1999-2000 data are based on extrapolated results. Data for 2001-02 exclude the ACT Bushfire Service.

Source: State and Territory governments (unpublished); tables 8A.7 and 8A.30.

### *Total property losses from structure fire*

Nationally, the total property loss from structure fires in 2001-02 was \$34 per person. Across jurisdictions, it was highest in NSW (\$37 per person) and lowest in the ACT (\$10 per person) (figure 8.8). The total property loss increased (in real terms) from 2000-01 to 2001-02 in Queensland, WA, SA and the NT, and decreased in Victoria, Tasmania and the ACT. Data for NSW were available in 2001-02 for the first time since 1998-99 (table 8A.8). Nationally, the three-year average total dollar loss from structure fires was \$27 per person. Across jurisdictions, the three-year average total dollar loss from structure fires was highest in Tasmania (\$40 per person) and lowest in SA and the ACT (both \$14 per person) (table 8A.8).

**Figure 8.8 Real total property loss per person in structure fires (2001-02 dollars)<sup>a, b, c, d, e, f, g, h</sup>**



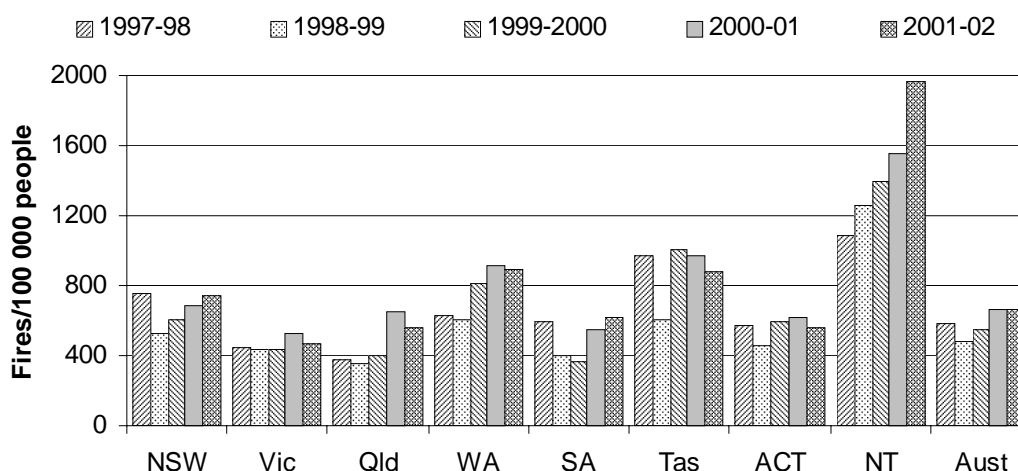
<sup>a</sup> Real expenditure is based on the ABS GDP price deflator 2001-02 = 100 (table A.26). Estimates have not been validated by the insurance industry or adjusted for interstate valuation differences. <sup>b</sup> NSW data for 1997-98, 1998-99 and 2001-02 are for NSW Fire Brigades only, but include responses to calls outside NSW Fire Brigades' designated fire districts. Due to industrial bans, 1999-2000 and 2000-01 data are not available. Data for 2001-02 include an outlier, which resulted in a direct dollar loss of more than \$60 million. <sup>c</sup> Queensland data exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA data for 1997-98 and 1998-99 exclude Bush Fire Brigades. <sup>e</sup> SA data for 1997-98 and 1999-2000 exclude the Country Fire Service. <sup>f</sup> There is an inconsistency in the ACT data reported for 1997-98. Due to industrial bans, 1998-99 and 1999-2000 data are based on extrapolated results. Data for 2001-02 exclude the ACT Bushfire Service. <sup>g</sup> The NT data exclude incidents attended by the NT Bushfires Council and some NT Fire and Rescue Service volunteer units. <sup>h</sup> Average for Australia excludes rural fire service data for some years as per the jurisdictions' caveats.

Source: State and Territory governments (unpublished); tables 8A.8 and 8A.30.

### *Fire incidents per 100 000 people*

Nationally, the total number of fire incidents in 2001-02 was 658 per 100 000 people. Across jurisdictions, the total number of fire incidents was highest in the NT (1964 per 100 000 people) and lowest in Victoria (468 per 100 000 people). The total number of fire incidents per 100 000 people increased between 2000-01 and 2001-02 in NSW, SA, and the NT, and decreased in Victoria, Queensland, WA, Tasmania and the ACT (figure 8.9).

Figure 8.9 Total fire incidents per 100 000 people<sup>a, b, c, d, e, f, g</sup>



<sup>a</sup> Total fire incidents data include landscape fire incidents. <sup>b</sup> NSW data for 1997-98 include both the NSW Fire Brigades and the Rural Fire Service. NSW data for 1998-99 are for the NSW Fire Brigades only, but include responses to calls outside the NSW Fire Brigades' designated fire districts. Due to industrial bans, 1999-2000 data for the NSW Fire Brigades are derived from a sample representing 80 per cent of the incidents, and 2000-01 data for the NSW Fire Brigades are derived from a sample representing 85 per cent of the incidents. The increase in incident levels for 2001-02 is due to the expansion of the incident reporting system to include data from the Rural Fire Service. <sup>c</sup> Queensland data exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA data for 1997-98 and 1998-99 exclude Bush Fire Brigades. <sup>e</sup> Industrial bans in the ACT mean 1998-99 and 1999-2000 data are based on extrapolated results. <sup>f</sup> In the NT data for 2001-02, the high number of incidents per 100 000 people can be attributed to the large number of grass fires in central Australia caused by drought conditions during the reporting period, and the improved monitoring of previously faulty fire alarms. <sup>g</sup> The average for Australia excludes rural fire service data for some years as per the jurisdictions' caveats.

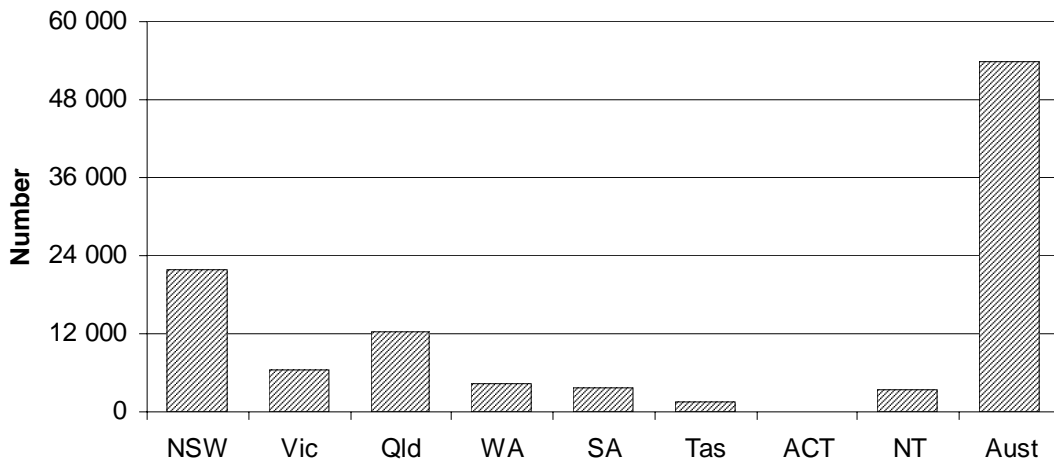
Source: State and Territory governments (unpublished); tables 8A.9 and 8A.30.

Nationally, the total number of landscape fire incidents in 2001-02 was 53 903. Across jurisdictions, the total number of landscape fire incidents was highest in NSW (21 739 incidents) and lowest in the NT (120 incidents) (figure 8.10). This is the first year of reporting landscape fire incidents, and data provided by fire agencies need to be interpreted with caution because they are subject to a number of methodological and definitional issues.

Reporting of the number of landscape fires across jurisdictions is problematic, because it is not sensitive to seasonal or regional differences and it does not indicate the relative damage or other consequences of landscape fires, or the action taken and resources deployed in extinguishment. Geographic differences in jurisdictions result in different approaches to counting, because some fires in very remote locations go undetected. In most cases, grass fires of under one hectare on unoccupied lots in urban localities are not reported as landscape fires by fire agencies. Use of fire by land management agencies for purposes of fuel reduction, regeneration of native vegetation, land clearing or in agriculture give rise to further

definitional and counting problems. Further, although land management agencies engage in emergency fire-fighting activities, they are not part of the State and Territory emergency services, so these fire-fighting costs are not included in the financial data included in the Report.

Figure 8.10 **Landscape fire incidents, 2001-02<sup>a, b, c, d, e, f</sup>**



<sup>a</sup> Financial data in the 2003 Report do not include funding for land management agencies. <sup>b</sup> NSW data include fires from land management agencies and the Rural Fire Service for all bush and grass fires regardless of size of area burnt. <sup>c</sup> Queensland data exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA data include fires for area burnt greater than one hectare. The total number of landscape fires is comprised of 3680 (Fire and Emergency Services Authority) and 493 (Department of Conservation and Land Management) fires. <sup>e</sup> Tasmanian data include vegetation fires over one hectare. <sup>f</sup> NT data exclude the NT Bushfires Council and some NT Fire and Rescue Service volunteer brigades.

Source: State and Territory governments (unpublished); table 8A.3.

### Outputs

Indicators of fire prevention focus on the level of fire safety practices in the community. Selected fire risk management/mitigation strategies across jurisdictions are identified in table 8A.27. The ABS Population Survey Monitor (PSM) supplied national level data on household fire safety measures installed or prevention procedures followed. These data were collected for nine quarters from November 1998 to November 2000 (providing data for 1998-99 and 1999-2000) and were reported in previous reports. The PSM has been discontinued.

Data for 2001-02 have been collected by jurisdictions and collated by the Australasian Fire Authorities Council (AFAC). Data for 2001-02 are not strictly comparable with the PSM data, because the new survey instruments used to collect the data differ from that of the PSM. Further, the precision of survey estimates depends on the survey sample size and the sample estimate. Larger sample sizes

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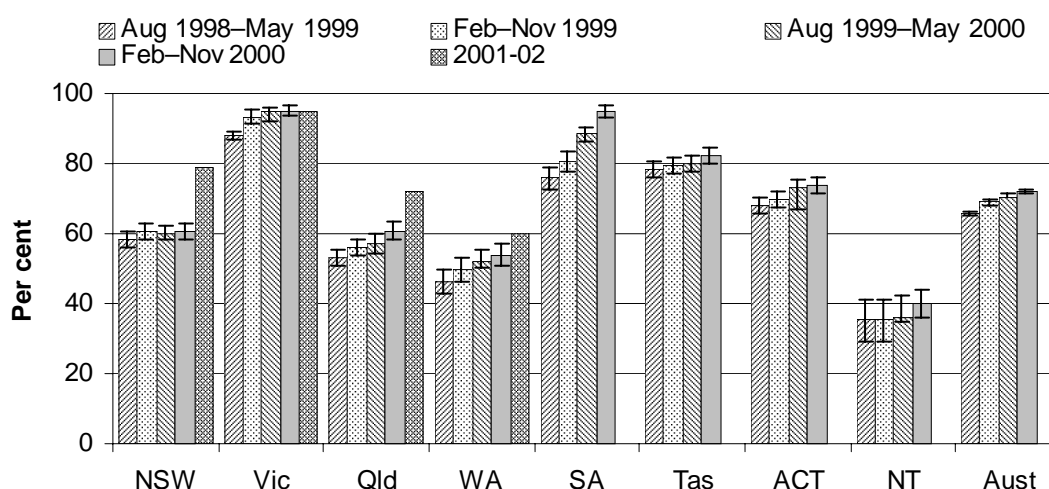
result in higher precision, while smaller sample sizes result in lower precision. Consequently, caution needs to be used when interpreting small differences in results of the survey data because these may be due to sample size rather than an actual difference in the population.

*Preparedness — proportion of residential structures with smoke alarms*

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. Data for 2001-02 relate to operational smoke alarms installed, fire extinguishers, fire blankets and home escape plans.

Four jurisdictions (NSW, Victoria, Queensland and WA) conducted surveys in 2001-02, collecting data on total households that had an operational smoke alarm or smoke detector installed. Some jurisdictions did not survey in 2001-02 because the proportion of total households with a fire safety measure is close to 100 per cent (as in SA) and in any case, this is a slow moving indicator. Across those jurisdictions that undertook a survey, the proportion of total households which had an operational smoke alarm or smoke detector installed was highest in Victoria (95.1 per cent) and lowest in WA (60.0 per cent). The proportions in 2001-02 represent an increase from the February–November 2000 figures for NSW, Queensland and WA, and no change for Victoria (figure 8.11).

Figure 8.11 Households with an operational smoke alarm installed<sup>a, b, c, d, e, f</sup>

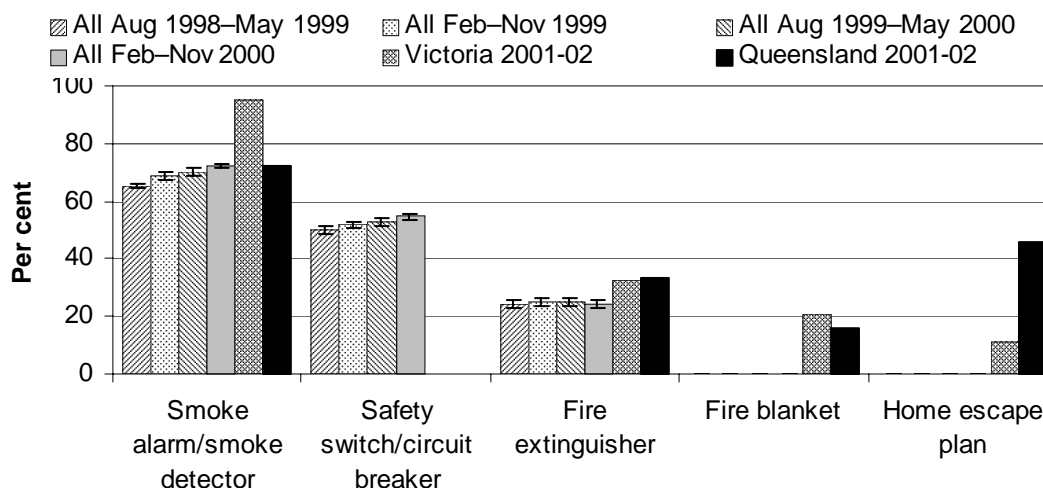


<sup>a</sup> Caution needs to be used where there are small differences in the PSM results, which are affected by sample and estimate size (see section 11.8 of the 2002 Report). Standard errors relating to the PSM data are indicated by lines that appear at the top of each graph bar. <sup>b</sup> Only the final quarter for 2000 had new data because the PSM ceased. The 2001-02 data are from jurisdictional collections for the first time. Data for 2001-02 are not strictly comparable with the PSM data, because the new survey instruments used to collect the data differ from that of the PSM. <sup>c</sup> NSW 2001-02 data are sourced from the 2002 NSW Department of Health's Continuous Health Survey Program. <sup>d</sup> Victorian 2001-02 data are sourced from a random telephone survey of 2304 respondents residing within the 23 local government areas significant to the metropolitan fire district. <sup>e</sup> Queensland 2001-02 data are sourced from the Queensland Household Survey (November 2001) conducted by Queensland's Office of the Government Statistician. Values are based on 3000 completed telephone interviews conducted across all 10 statistical regions of the State. Around three quarters (75.5 per cent) of Queensland homes have smoke alarms installed. In 95.3 per cent of these homes, the smoke alarm was operational. <sup>f</sup> WA 2001-02 data are sourced from a survey by a market research organisation (a random telephone survey with residents of Perth households). Other measures were not surveyed.

Source: ABS (2001b); table 8A.10.

Two jurisdictions (Victoria and Queensland) collected data on other fire safety measures in 2001-02. In addition to smoke alarms installed, 32.8 per cent and 33.4 per cent of households in 2001-02, had a fire extinguisher in Victoria and Queensland, respectively. Also in those states in 2001-02, 20.6 per cent and 15.8 per cent had a fire blanket, and 11.0 per cent and 45.8 per cent had a home escape plan (figure 8.12). Data for the remaining safety measures were not available for 2001-02 and data for preceding years relate to all jurisdictions in aggregate (table 8A.11).

**Figure 8.12 Households with a fire safety measure, by fire safety measure installed or followed<sup>a, b, c, d, e</sup>**



<sup>a</sup> Caution needs to be used where there are small differences in the PSM results, which are affected by sample and estimate size (see section 11.8 of the 2002 Report). Standard errors relating to the PSM data are indicated by lines that appear at the top of each graph bar. <sup>b</sup> The total number of households with at least one fire safety measure is smaller than the sum of the individual components because a number of households have more than one fire safety measure installed or followed. <sup>c</sup> Only the final quarter for 2000 had new data because the PSM ceased. The 2001-02 data are from jurisdictional collections for the first time. Data for 2001-02 are not strictly comparable with the PSM data, because the new survey instruments used to collect the data differ from that of the PSM. <sup>d</sup> Victorian 2001-02 data are sourced from a random telephone survey of 2304 respondents residing within the 23 local government areas significant to the metropolitan fire district. <sup>e</sup> Queensland 2001-02 data are sourced from the Queensland Household Survey (November 2001) conducted by Queensland’s Office of the Government Statistician. Values are based on 3000 completed telephone interviews conducted across all 10 statistical regions of the State. Other measures were not surveyed.

Source: ABS (2001b); table 8A.11.

### Response

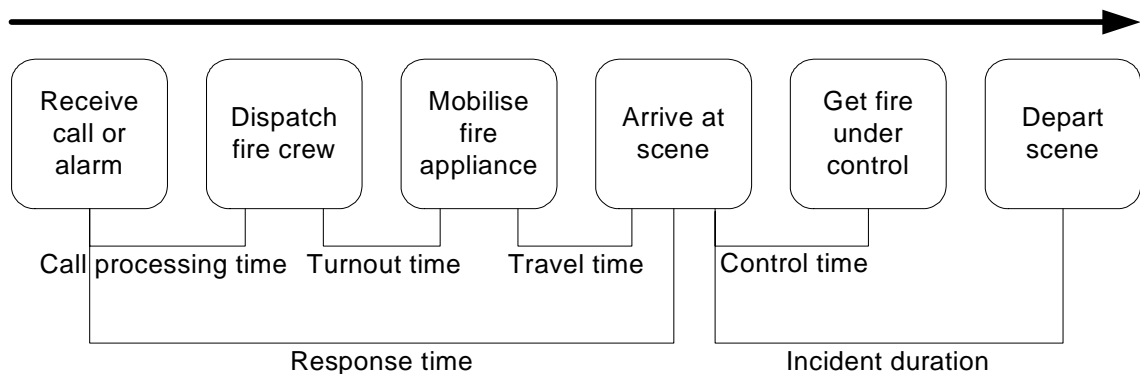
Response times and containment of structure fires (to the object or room of origin) are indicators of the effectiveness of fire services in terms of their ability to respond to and suppress fires. Response times to structure fires are reported first, followed by containment of structure fires to the object/room of origin.

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 8.13. 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).

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Figure 8.13 Response time points and indicators

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The information was provided for response times to structure fires. The data relate to the performance of the reporting agency (or agencies) only, not necessarily to the performance of all fire services within each jurisdiction. Response time data need to be viewed with care because performance is not strictly comparable across jurisdictions, given that:

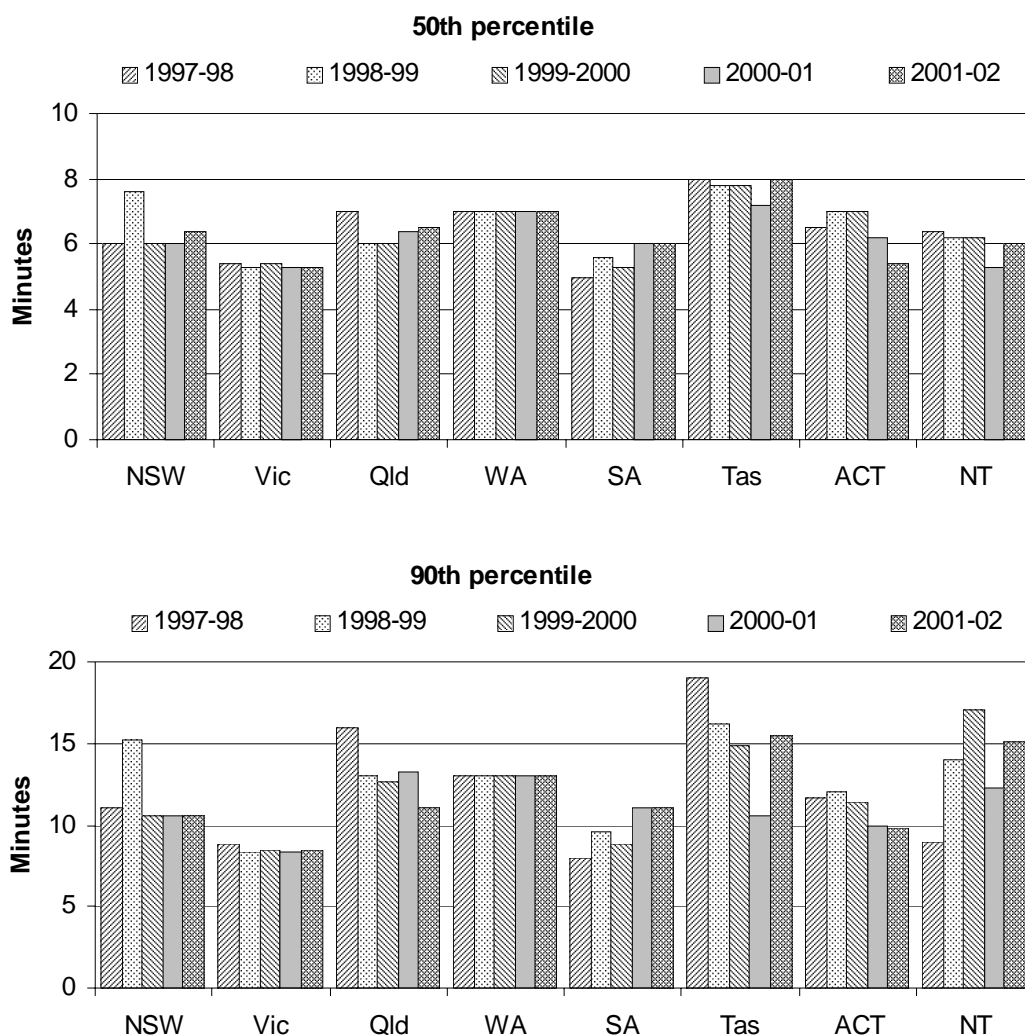
- response time data for some jurisdictions represent responses to urban, rural and remote areas;
- responses may include career firefighters, auxiliary/part time firefighters and volunteers;
- response times can be affected by the dispersion of the population; and
- definitions on response times vary across jurisdictions (that is, the data provided by jurisdictions may diverge from the definitions agreed for the Report).

#### *Response — 50th and 90th percentile response times*

The 50th percentile response time refers to the time within which 50 per cent of the first responding fire resources arrived at the scenes. The 50th percentile response time in 2001-02 was highest in Tasmania (8.0 minutes) and lowest in Victoria (5.3 minutes) (figure 8.14).

The 90th percentile response time refers to the time within which 90 per cent of the first responding fire resources arrived at the scenes. The 90th percentile response time in 2001-02 was highest in Tasmania (15.5 minutes) and lowest in Victoria (8.5 minutes). Response time data for Victoria, however, are not yet fully comparable because Victorian data are not uniformly consistent with the definition in the data dictionary (figure 8.14).

Figure 8.14 Response times to structure fires<sup>a, b, c, d, e, f, g, h, i</sup>



<sup>a</sup> Definitions of response times may vary across jurisdictions. Also, some agencies use a manual system to calculate response time figures, while other services retrieve the data from computer aided dispatch systems. <sup>b</sup> NSW data are for NSW Fire Brigades only, but include responses to calls outside NSW Fire Brigades' designated fire districts. Due to industrial bans, data for 1999-2000 are derived from a sample representing 80 per cent of the incidents, and data for 2000-01 are derived from a sample representing 85 per cent of the incidents. <sup>c</sup> Victorian data are not uniformly consistent with the definition in the data dictionary. Specifically, some inner metropolitan calls do not include all of the call processing time (approximately 36 to 40 seconds per response time) due to the time stamp generated by the computer aided dispatch system. <sup>d</sup> Queensland data for 1997-98, 1998-99 and 1999-2000 exclude the Queensland Rural Fire Service. Data for 2001-02 include incidents within the Urban Fire Levy Boundary only and exclude incidents where the first attending appliance was from the Rural Fire Service. <sup>e</sup> WA data for 1997-98 and 1998-99 exclude Bush Fire Brigades. <sup>f</sup> SA data for 1997-98, 1998-99 and 1999-2000 exclude the Country Fire Service. Country Fire Service data for 2001-02 are for all structure fires, not the subset specified in the data dictionary for response time reporting. <sup>g</sup> Tasmanian data for 2000-01 exclude the Rural Fire Brigades. Data for 2001-02 include responses from unmanned stations. <sup>h</sup> Industrial bans in the ACT mean data for 1998-99 and 1999-2000 are based on extrapolated results. Data for 2001-02 are adjusted to combine manual and automatic timing data. <sup>i</sup> The NT data include auxiliary stations where generally speaking response is done from home to station and then to the incident. Data do not include the NT Bushfires Council and some NT Fire and Rescue Service volunteer stations.

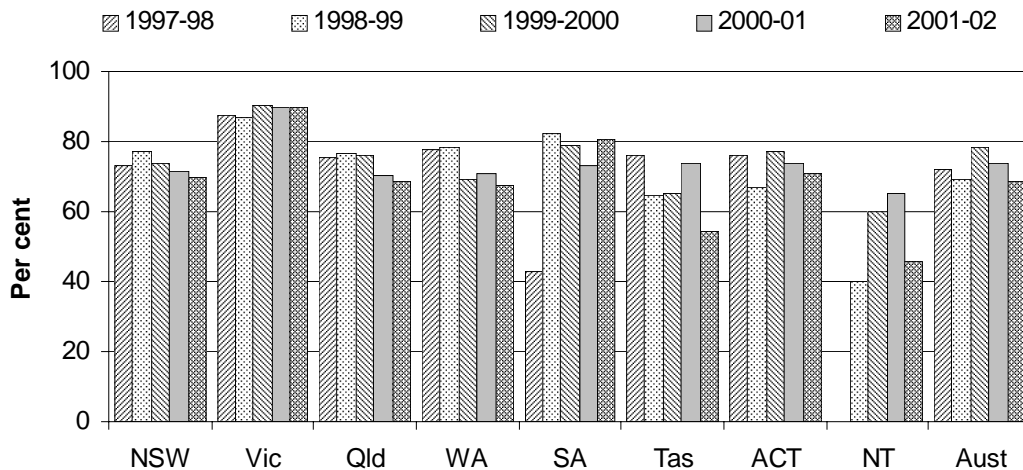
Source: State and Territory governments (unpublished); tables 8A.12 and 8A.30.

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### Response — containment to room of origin

Another indicator of response effectiveness is the proportion of structure fires contained to the object or room of origin. Nationally, the proportion of fires contained to the object or room of origin in 2001-02 was 68.4 per cent. Across jurisdictions, the proportion of fires contained to the object or room of origin was highest in Victoria (90.0 per cent) and lowest in the NT (46.0 per cent) in 2001-02 (figure 8.15).

Figure 8.15 **Structure fires contained to the object/room of origin**<sup>a, b, c, d, e, f, g</sup>



<sup>a</sup> NSW data exclude the Rural Fire Service, but include responses to calls outside the NSW Fire Brigades' designated fire districts. Due to industrial bans, 1999-2000 data are derived from a sample representing 80 per cent of the incidents, and 2000-01 data are derived from a sample representing 85 per cent of the incidents. <sup>b</sup> Victorian data exclude the Country Fire Authority. <sup>c</sup> Queensland 2001-02 data exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA 1997-98 and 1998-99 data exclude Bush Fire Brigades. <sup>e</sup> SA data exclude the Country Fire Service. <sup>f</sup> Industrial bans in the ACT mean data for 1998-99 and 1999-2000 are based on extrapolated results. Data exclude the ACT Bushfire Service. <sup>g</sup> The average for Australia excludes rural fire service data for some years as per the jurisdictions' caveats.

Source: State and Territory governments (unpublished); tables 8A.13 and 8A.30.

### Efficiency

Efficiency indicators report on the unit cost of service delivery. Calculation of unit costs requires the specification of outputs. For fire services, this is a difficult task, given the diversity of activities undertaken. The fire sector has considered a range of options for specified outputs.

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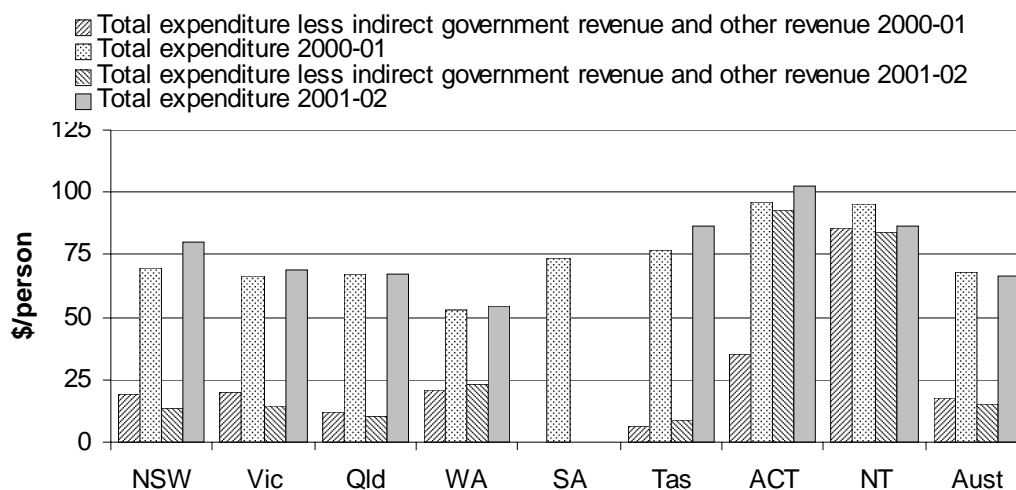
*Input to outputs — expenditure per person*

Expenditure per person is employed as a proxy for efficiency. Expenditure per fire is not used as a proxy for fire services efficiency because a fire service that devotes more resources to the prevention and preparedness components to reduce the number of fire incidents could erroneously appear to be less efficient.

The indicator of efficiency for fire services is the level of inputs per person in the population. The quality of efficiency data has improved for the 2003 Report with the adoption of a consistent basis for reporting payroll tax. The data are not fully comparable, however, because there are differences in the reporting of asset related costs.

Expenditure is reported as both the total cost (total expenditure) and net cost (expenditure less indirect government and non-government revenue) to government of fire services. Total expenditure is a measure of efficiency for fire services, and net cost is a measure of the cost to government. Both are reported, because non-government revenue is significant for a number of jurisdictions. Nationally, the total cost to government per person in 2001-02 was \$66.90, ranging across jurisdictions from \$102.70 per person in the ACT to \$54.30 per person in WA. Nationally, the net cost to government per person in 2001-02 was \$15.10, ranging across jurisdictions from \$92.70 per person in the ACT to \$8.80 per person in Tasmania (figure 8.16).

Figure 8.16 Fire expenditure less indirect government and non-government revenue, and total expenditure, 2001-02<sup>a, b, c, d, e</sup>



<sup>a</sup> Revenue from indirect government and other sources includes levies on insurance companies and property owners, user charges, fundraising and donations and indirect revenue. <sup>b</sup> Funding for a special resources initiative was first included in Victorian data for 2000-01. Fire appliances revaluation on June 2001 and land and buildings upwards revaluation in June 2002 for Victoria's Metropolitan Fire Brigade have resulted in an ongoing effect increasing the user cost of capital and depreciation amounts for the 2001-02 and future years. Training costs as part of other operating costs do not represent total training costs for the Country Fire Authority. Personnel and other costs associated with this item will be included under other expense headings. Communications expenditure for the Metropolitan Fire Brigade increased due to Intergraph costs. Provisions for losses expenditure for the Metropolitan Fire Brigade increased due to disposals of revalued fire appliances. <sup>c</sup> SA data are not available. <sup>d</sup> The high contribution by the ACT Government reflects the cessation of the Emergency Services Levy and that the ACT Government has had to fund a revenue shortfall because of the Commonwealth's non-payment for fire services. The ACT Government and the Commonwealth are currently negotiating a new agreement covering fire services for Commonwealth property in the ACT that will determine the Commonwealth funding contribution for 2001-02. <sup>e</sup> User cost of capital in the NT includes assets for the NT Fire and Rescue Service only. Revenue from user charges includes the NT Fire and Rescue Service only and other revenue includes the Bush Fire Council only. Indirect government and non-government revenue data for the NT for 2000-01 include charges to landholders for aerial control burning and firebreaks, and the sale of assets.

Source: State and Territory governments (unpublished); tables 8A.14 and 8A.15.

## 8.5 Key performance indicator results — ambulance services (pre-hospital care, treatment and transport services)

An indicator framework for ambulance services (pre-hospital care, treatment and transport services) (figure 8.17) has also been developed from the generic framework for all emergency services (figure 8.3). Definitions of all indicators are provided in table 8.6. Performance has been reported for a number of indicators, but different delivery contexts, locations and types of client may affect these indicators.

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Appendix A contains data that may assist in interpreting the performance indicators presented in this chapter.

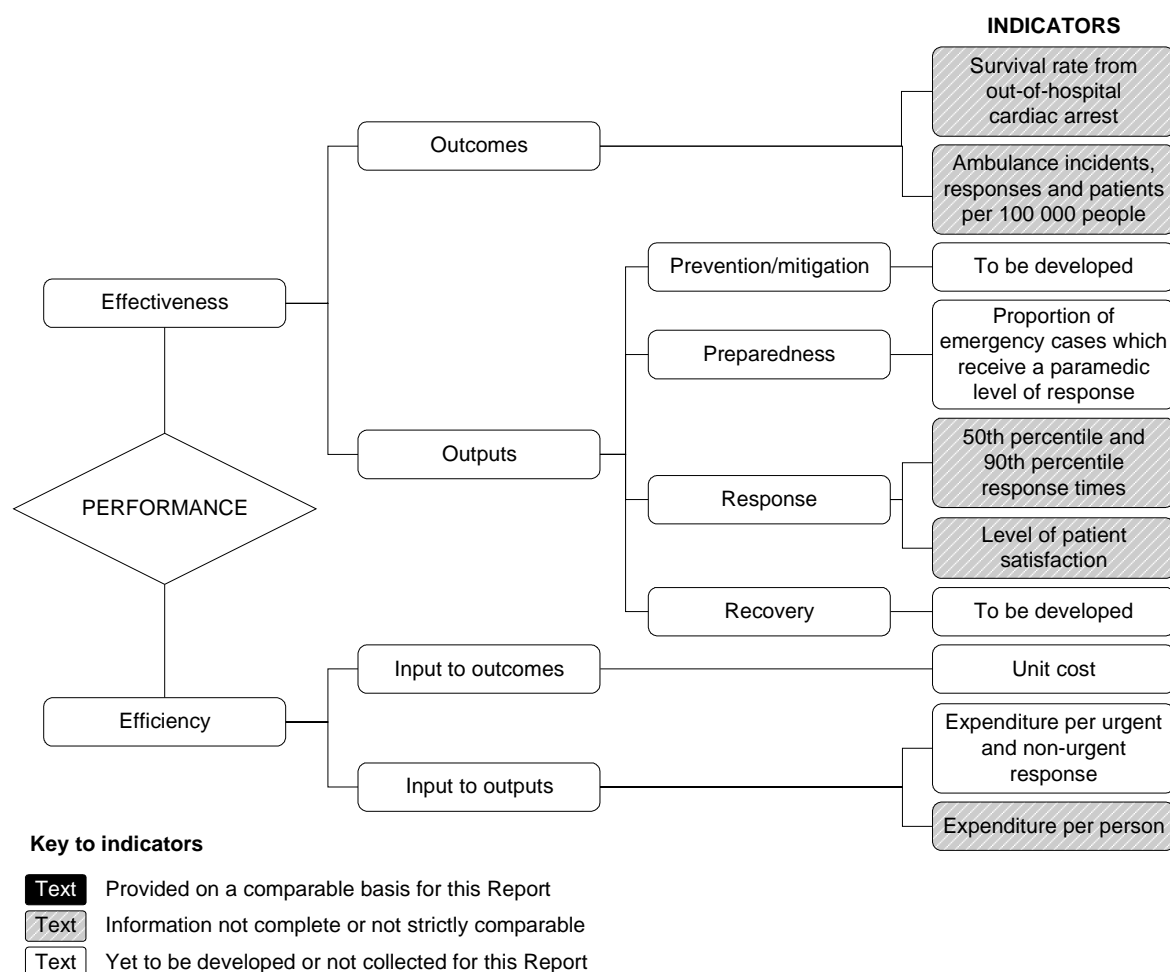
The performance indicator framework for ambulance services shows which data are comparable in the 2003 Report (figure 8.17). For data that are not considered strictly comparable, the text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability from a Report-wide perspective (see section 1.6).

The performance of ambulance services has been compared at a State and Territory government level in the report since 1998. Evaluation of performance has been limited, however, by factors that make comparisons difficult. Comparison of the small, urban, Government operated ACT Ambulance Service with the privately operated St John Ambulance Service in the NT or the large Statewide NSW Ambulance Service, for example, is limited by both demographic and corporate governance issues.

The effect of volunteer activity has implications for the interpretation of financial and nonfinancial performance indicators in this chapter. The activities of volunteers are not reflected in monetary estimates of inputs or outputs. This means that some data for performance indicators may be biased where the input of volunteers is not counted but affects outputs and outcomes. This issue may be explored in the future as the Review examines data on rural and remote service provision in the emergency services field.

Further, the ambulance data definitions were improved this year in consultation with the CAA. The specific implications of these refinements for the data are noted in the relevant tables and charts throughout the 2003 Report.

Figure 8.17 Performance indicators for ambulance services (pre-hospital care, treatment and transport services)



There are difficulties in identifying useful and reliable indicators for the prevention/preparedness and recovery indicators, given that other elements of both the health and justice systems are involved in these areas.

## Effectiveness

### Outcomes

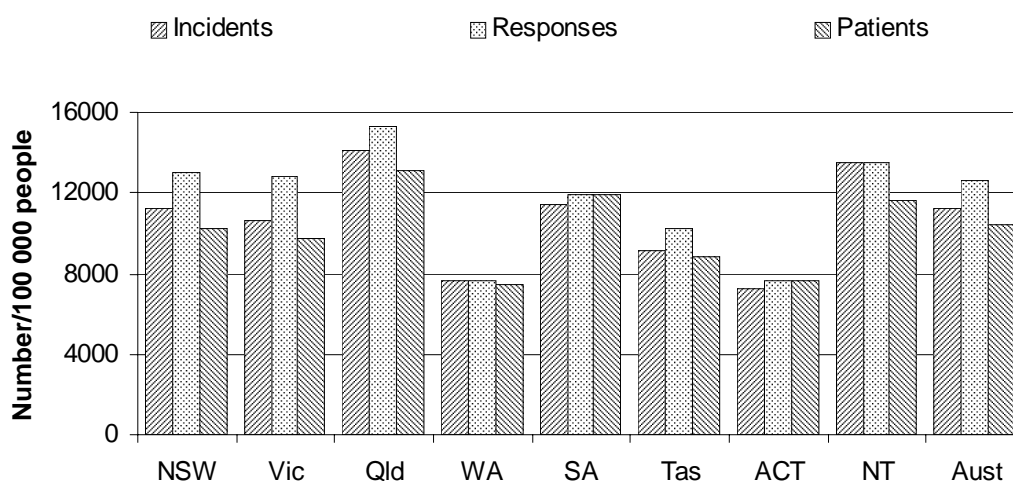
The measures of outcomes for ambulance services are: the numbers of ambulance incidents, responses and patients per 100 000 people and the survival rate from witnessed out-of-hospital cardiac arrest.

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### Number of incidents, responses and patients per 100 000 people

The numbers of incidents, responses and patients are interrelated. Nationally in 2001-02, the number of incidents per 100 000 people was 11 182, the number of responses per 100 000 people was 12 620 and the number of patients per 100 000 people was 10 455. Across jurisdictions in 2001-02, the number of incidents per 100 000 people was highest in Queensland (14 157) and lowest in the ACT (7220). The number of responses per 100 000 people was highest in Queensland (15 352) and lowest in WA (7623), and the number of patients per 100 000 people was highest in Queensland (13 147) and lowest in WA (7474) (figure 8.18).

Figure 8.18 **Reported ambulance incidents, responses and patients, 2001-02**<sup>a, b, c, d, e, f</sup>



<sup>a</sup> An incident is an event that results in a demand for ambulance resources to respond. An ambulance response is a vehicle or vehicles sent to an incident. There may be multiple responses/vehicles sent to a single incident. A patient is someone assessed, treated or transported by the ambulance service. <sup>b</sup> NSW currently does not triage emergency calls. Urgent incident and response caseload are included in emergency caseload figures. <sup>c</sup> In Victoria, incidents, responses and patients data include road incidents only. In 2001-02, there were 6774 air ambulance (fixed and rotary wing) incidents involving 6030 ambulance patients. Data exclude public duties. <sup>d</sup> Incidents, responses and patients data for Queensland are from the Ambulance Integrated Management System. Casualty room attendances for Queensland are not included in the response count. <sup>e</sup> WA does not have a policy of automatically dispatching more than one unit to an incident unless advised of more than one patient. Separate statistics are not kept for incidents and responses. Numbers shown under incidents are cases. <sup>f</sup> For the NT, a response is counted as an incident.

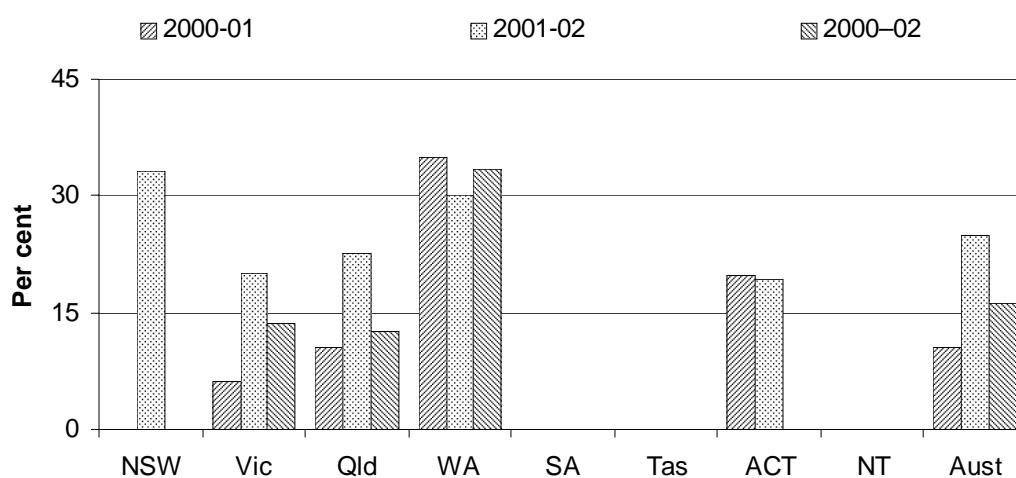
Source: State and Territory governments (unpublished); table 8A.17.

### Survival rate for out-of-hospital cardiac arrest

The survival rate from out-of-hospital witnessed cardiac arrest is a measure of the outcomes achieved by ambulance services. Reporting against this indicator is improved this year, with five jurisdictions (compared with four in the 2002 Report)

able to provide these data (table 8A.20). Nationally in 2001-02, the survival rate from out-of-hospital witnessed cardiac arrest was 24.8 per cent. Across jurisdictions, the highest survival rate from out-of-hospital witnessed cardiac arrest was in NSW (33.2 per cent) and the lowest was in the ACT (19.4 per cent) in 2001-02 (figure 8.19). The ACT data for 2001-02 are not strictly comparable with 1999-2000 and 2000-01 data, because the ACT provided a six-year moving average to December 2000 for the earlier years to overcome the potential error from the small population in the ACT.

Figure 8.19 Cardiac arrest survival rate<sup>a, b, c, d, e</sup>



<sup>a</sup> The definition of witnessed cardiac arrest survival rate relates to percentage of patients in witnessed out-of-hospital cardiac arrest of presumed cardiac origin on whom resuscitation was attempted and who had vital signs on arrival at hospital. National data for 2000-01 and 2001-02 are inconsistent both within and across jurisdictions, resulting in substantial variation in cardiac arrest survival numbers and rates. The CAA is currently considering the definition of cardiac arrest survival and expects to provide advice to the Review in time to collect more comparable data for 2002-03. Data, therefore, need to be interpreted with caution. <sup>b</sup> Results need to be used with additional caution because 2001-02 is the first year that NSW has reported cardiac arrest survival data. <sup>c</sup> Victorian data for 2000-01 are for the Metropolitan Ambulance Service only, and are from a two-month sample (August and September 2000). Victorian data for 2001-02 are from an eight-month sample (July 2001 to March 2002). Data are subject to an ongoing quality review. <sup>d</sup> The WA data for 2000-01 and 2001-02 are paramedic or ambulance officer witnessed out-of-hospital cardiac arrests of presumed cardiac origin, where resuscitation was attempted and patient was in shockable rhythm. Data exclude all paramedic witnessed arrests and arrests where the patient was not in a shockable rhythm. Data for 2000-01 were revised from the 2002 Report. <sup>e</sup> The ACT survival rate from out-of-hospital cardiac arrests for 2000-01 is calculated over six-year period to December 2000. The percentage rate for the ACT is a six-year rolling average.

Source: State and Territory governments (unpublished); table 8A.20.

## Outputs

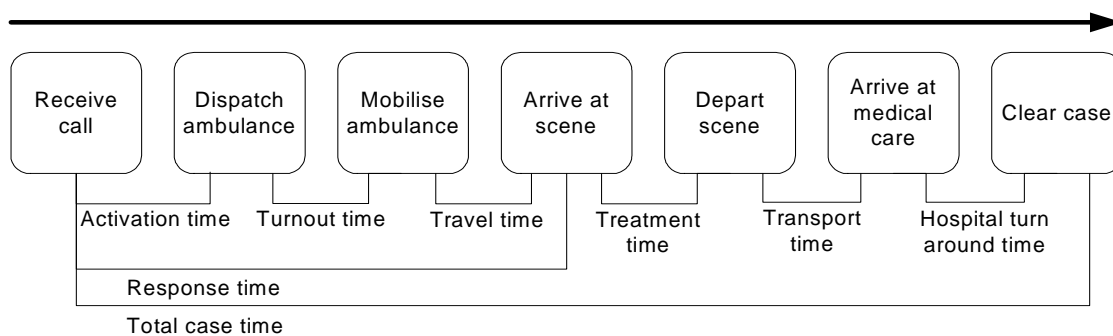
Outputs are measured by response indicators: response times and level of patient satisfaction.

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### *Response — 50th percentile and 90th percentile response times*

The response time is defined as the time taken between the initial receipt of the call for an emergency ambulance and the ambulance's arrival at the scene of the emergency (figure 8.20).

**Figure 8.20 Response time points and indicators**



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

- code 1 — responses to potentially life threatening situations using warning devices; and
- code 2 — responses to acutely ill patients (not in life threatening situations) where attendance is necessary but no warning devices are used.

Response time data need to be viewed with care because performance is not strictly comparable across jurisdictions, given that:

- response time data for some jurisdictions represent responses to urban, rural and remote areas, while others include urban areas only;
- responses in some jurisdictions include responses from volunteer stations where turnout times are generally longer because volunteers are on call rather than on duty;
- response times can be affected by the dispersion of the population (particularly rural/urban population proportions), topography, road/transport infrastructure and traffic densities; and
- while definitions on response times are common, not all jurisdictions have systems in place to capture all components of response time for all cases from the time of the call to arrival at the scene.

The level of responsiveness is reported as the times during which 50 per cent and 90 per cent of first responding ambulance resources actually respond in code I

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situations (figure 8.20). Information is also reported on the national level of patient satisfaction.

In 2001-02, the 50th percentile response time — the time within which 50 per cent of first ambulance resources actually responded — was highest in Tasmania (10.0 minutes) and lowest in the ACT (7.3 minutes). The 90th percentile response time was highest in Tasmania (21.0 minutes) and lowest in the ACT (12.2 minutes) in 2001-02 (figure 8.21).

### *Response — geographic response times*

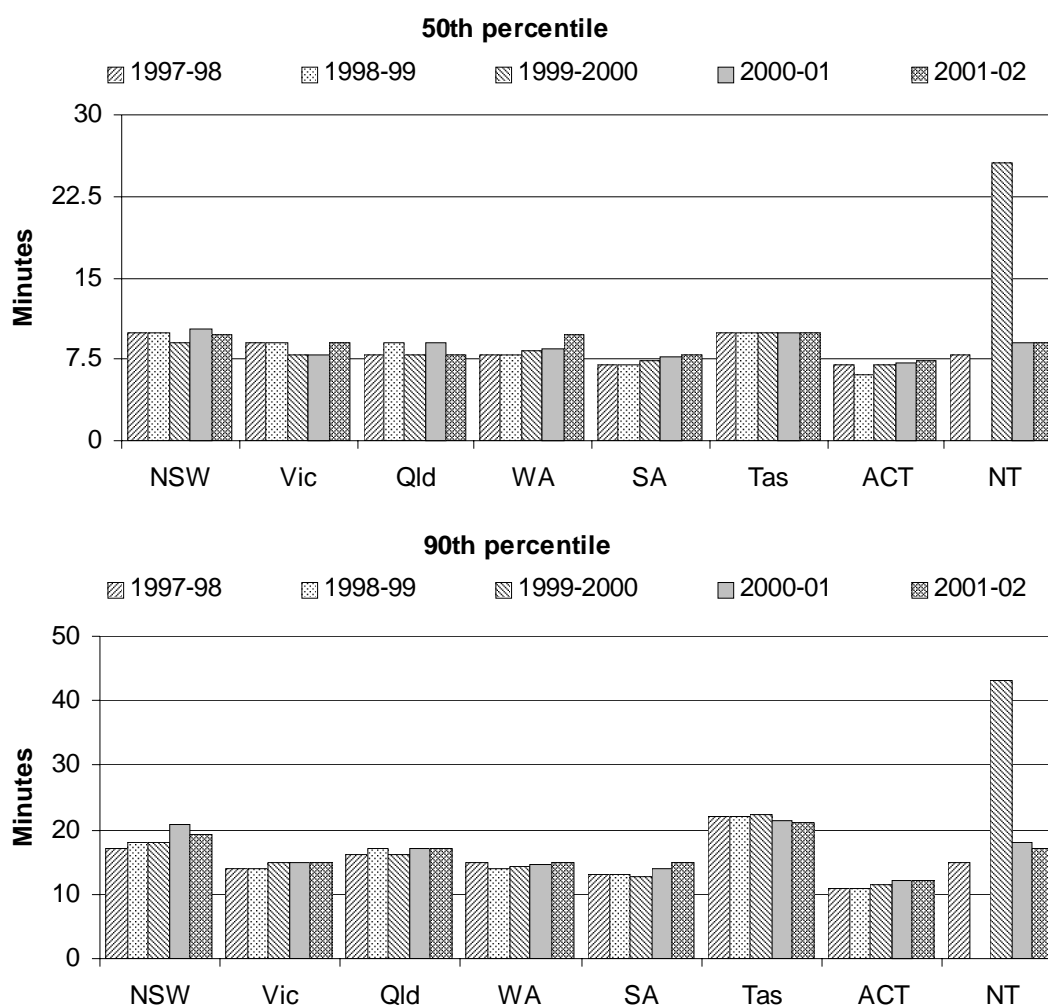
Comparisons of response times are limited by the geographic distribution of the service delivery requirements and the different types of service delivery model, particularly in rural areas. In Queensland, for example, there is a heavy dependence on paid personnel in rural and remote services compared with other States, which have a larger volunteer base in rural and remote areas.

Providing more detailed analysis at a local level (by segmenting the data according to the nature of the locality) can improve comparisons across regions. The CAA has previously collected some segmented data, but the effectiveness of that segmentation has been limited by the definition of communities in a consistent manner. By using segmented data, it may be possible to better compare the performance of ambulance services in Brisbane, Perth and Adelaide — three cities of roughly equivalent size — or to contrast service delivery performance and costs between cities and rural areas.

The ABS has included a remoteness index — based on the Accessibility/Remoteness Index of Australia (ARIA) classification — in the description of communities. This index could form the basis for reasonably high level segmentation of service delivery parameters, including costs for more relevant comparisons. The classification segments the community into six categories (major cities, inner regional, outer regional, remote, very remote and migratory). Ambulance response times can be compared on the basis of this classification.

Ambulance response times describe the time delay between a call for assistance being received by a service and the arrival of the ambulance crew at the location of the patient. This has traditionally been described as the percentage of cases in which a response is provided within a given time standard. The response, however, is best described by a response time curve, which illustrates the cumulative percentage of responses. This curve describes the pattern of responses and enables more detailed comparison between communities and across jurisdictions.

Figure 8.21 Ambulance response times<sup>a, b, c, d, e</sup>

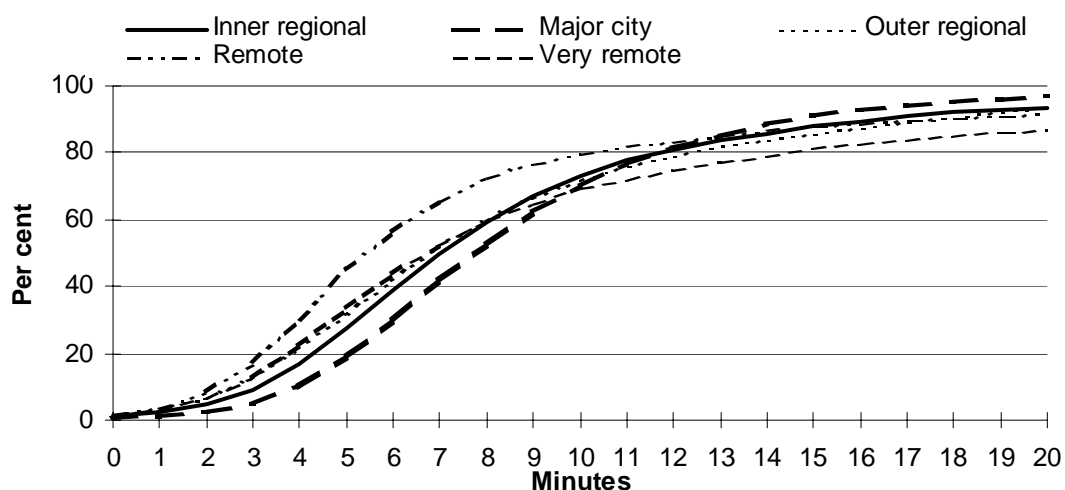


<sup>a</sup> NSW does not triage emergency calls. Results for code 1 cases represent '000' and urgent medical incidents. <sup>b</sup> Victorian data for 1997-98 and 1998-99 relate to Metropolitan Ambulance Service responses only. Response times are estimated. Data are incomplete due to industrial action. <sup>c</sup> The Queensland Ambulance Service responded to 91.4 per cent of all urgent cases in less than or equal to 16 minutes in 2000-01. Casualty room attendances are not included in response count and, therefore, are not reflected in response times data. Response times are reported from the computer aided dispatch data. <sup>d</sup> WA data relate to urban responses only. <sup>e</sup> Tasmania has the largest proportion of rural population (figure A.4). <sup>f</sup> The NT data were not available for 1998-99.

Source: State and Territory governments (unpublished); table 8A.21.

The response times for the Queensland Ambulance Service are segmented by community type (figure 8.22). The pattern of responses varies considerably across communities. It may be misleading to compare the overall effectiveness of the service by accessing the response time curve at a single point. At the five minute mark, 44.7 per cent of responses in remote areas had occurred, compared with 27.4 per cent in inner regional areas, and 18.9 per cent in major city areas. At the 15 minute mark, 90.8 per cent of responses in major city areas had occurred, compared with 87.9 per cent in both remote and inner regional areas (figure 8.22).

Figure 8.22 **Code 1 responses, first unit on scene by response interval, Queensland, 2001-02<sup>a</sup>**



<sup>a</sup> Data for Queensland are from the Ambulance Integrated Management System, not the computer aided dispatch system.

Source: Queensland Ambulance Service (unpublished); table 8A.22.

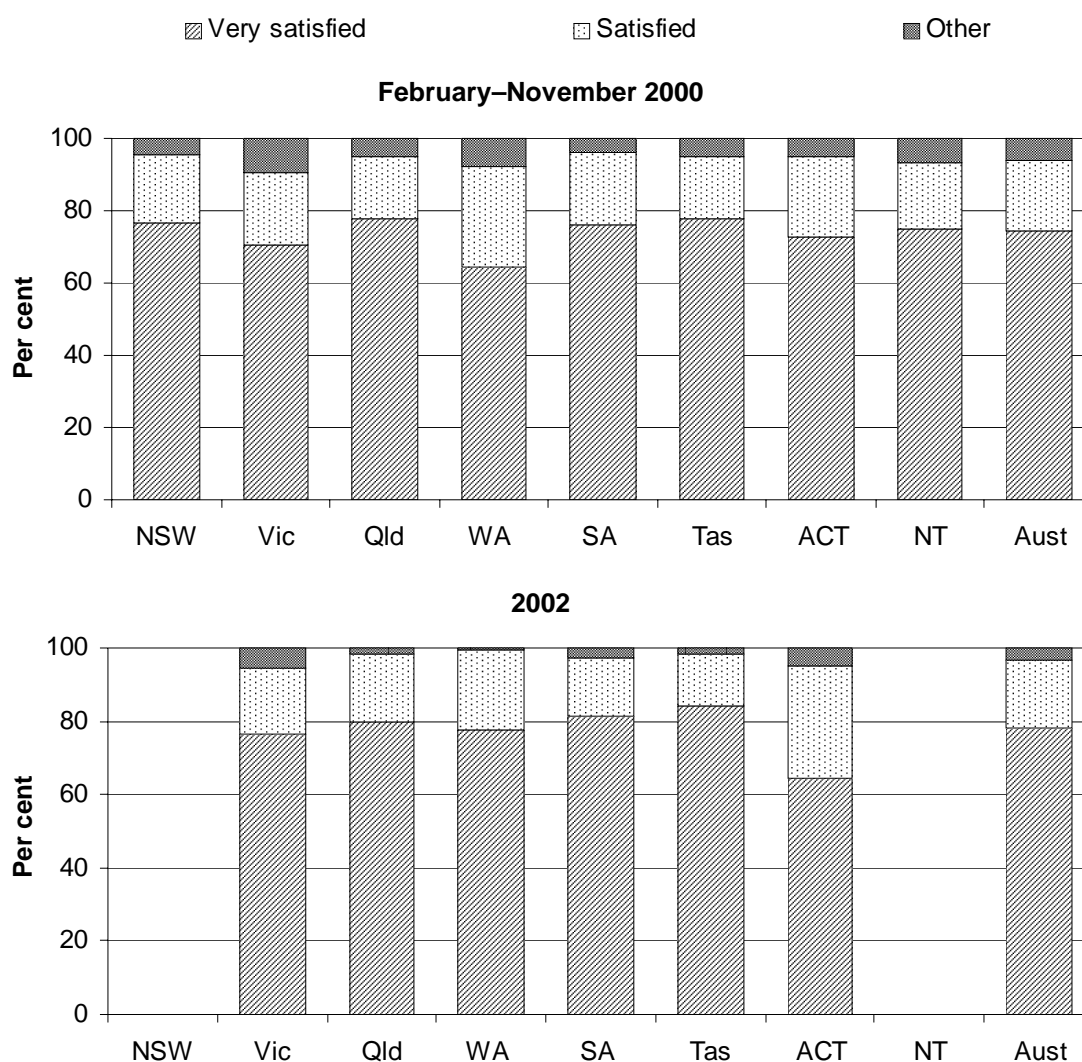
### *Response — levels of patient satisfaction*

The performance of ambulance services in providing response services can be measured in terms of the satisfaction of those people who directly used the service (table 8A.23). Data for 2001-02 were collected by jurisdictions and collated by the CAA. These data are not strictly comparable with data for earlier years (which were collected using the PSM), because the survey instrument is different. Data for people who did not use the service were not collected for 2001-02.

The CAA surveyed approximately 2800 of the two million ambulance patients nationally who used an ambulance service in 2001-02 (table 8A.23). The satisfaction level for ambulance patients, nationally, increased to 96.6 per cent in 2001-02 from 94.0 per cent in 2000 (February to November) (figure 8.23).

Across jurisdictions, the proportion of ambulance users who were either very satisfied or satisfied increased in Victoria, Queensland, WA, SA and Tasmania, and remained constant in the ACT (95.2 per cent to 95.1 per cent) between 2000 and 2001-02. In 2001-02, the proportion of ambulance users who were either very satisfied or satisfied was highest in WA (99.2 per cent) and lowest in Victoria (94.3 per cent) (table 8A.23). No data are available for NSW and the NT for 2001-02.

Figure 8.23 Satisfaction with ambulance services, people who had used an ambulance service in the last 12 months<sup>a, b, c, d, e</sup>



<sup>a</sup> Caution needs to be used where there are small differences in the PSM results because they are affected by sample and estimate size (SCRCSSP 2002, p. 618). <sup>b</sup> Jurisdictions conducted surveys at various times during 2002. <sup>c</sup> Unusable survey responses are included under patients not surveyed. Includes missing responses to this question from usable patient surveys. <sup>d</sup> Only the final quarter for 2000 represents new data, due to the cessation of the PSM. Data relate to people aged 18 years and over who had used an ambulance service in the previous 12 months. <sup>e</sup> Data for NSW and the NT are not available.

Source: ABS (2001b); CAA (2002); table 8A.23.

## Efficiency

The main efficiency indicator is ambulance expenditure per person. As with fire services, the quality of efficiency data has improved for the 2003 Report, with the adoption of a consistent basis for reporting payroll tax.

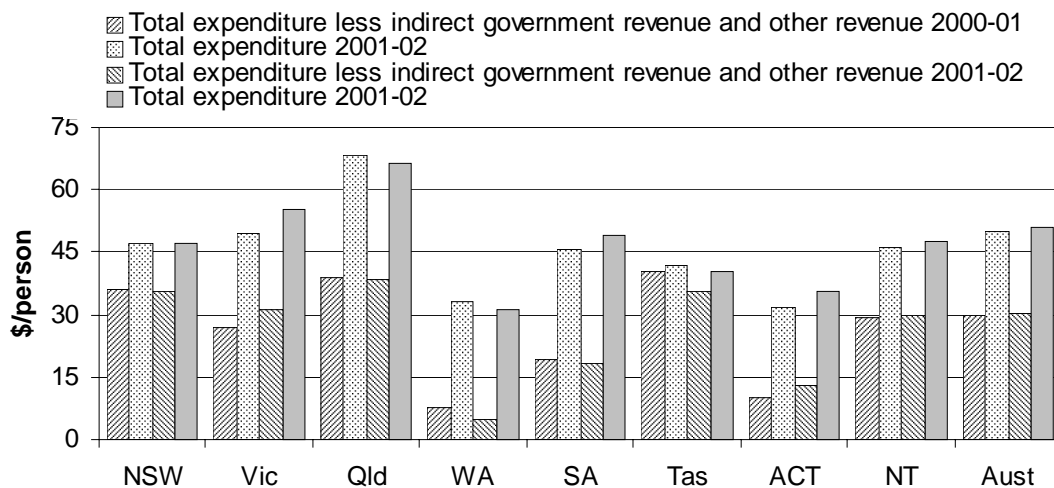
The data are still not fully comparable, however, because there are differences in geography and the reporting of asset related costs. Expenditure per urgent and non-urgent response will be presented in future reports.

*Input to outputs — expenditure per person*

Expenditure is reported as both the total cost (total expenditure) and net cost (expenditure less indirect government and non-government revenue) to government of ambulance services. Total expenditure is a more appropriate measure of efficiency for ambulance services, given that non-government revenue is significant for a number of jurisdictions.

Nationally, total ambulance expenditure per person was \$51.01 in 2001-02. Across jurisdictions, Queensland had the highest (\$66.46 per person) and WA had the lowest (\$31.24 per person). Nationally, ambulance expenditure less indirect government and non-government revenue per person was \$30.28 in 2001-02. Across jurisdictions, Queensland had the highest (\$38.43 per person) and WA had the lowest (\$4.60 per person) (figure 8.24).

**Figure 8.24 Ambulance expenditure less indirect government and non-government revenue, and total expenditure, 2001-02<sup>a, b</sup>**



<sup>a</sup> Indirect government and non-government revenue includes subscription fees, transport fees, donations and indirect revenue. <sup>b</sup> Tasmanian expenditure data for 2000-01 are 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.

Source: State and Territory governments (unpublished); tables 8A.24 and 8A.25.

Care needs to be taken when comparing data across jurisdictions, because there are differences in the reporting of a range of cost items and funding arrangements

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(funding policies and taxing regimes). Some jurisdictions, for example, have a greater proportion of government funds than that of other jurisdictions. Differences in the reporting of payroll tax, however, have been eliminated for the first time in this Report.

## **8.6 Future directions in performance reporting**

A number of developments are underway to improve data quality and comparability.

### *Expanding the scope of reporting*

The Survey of Emergency Management Activities undertaken in 2000 (table 8A.29) identified the agencies involved in various event-type services. Road accident rescue was selected as the next event-type service to report, and a draft performance indicator framework, indicators and accompanying definitions were developed in 2002. The new road accident rescues framework, initial performance indicators and associated data are expected to be presented in the 2004 Report. The development of detailed indicators and data collection will be an iterative process extending over several years.

The survey also identified that land management agencies should be included in the Report to improve the coverage of data for fires. Data for landscape fire incidents are included this year, and expenditure data for landscape fires may be available for future reports. Other types of event-type service for which performance reporting has yet to be developed include: rescues (other than those relating to road accidents); natural events; technological and hazardous material incidents; emergency relief and recovery; and quarantine and disease control.

### *Improving data comparability*

Work to improve the comparability and accuracy of data is underway. Performance indicators for fire and ambulance services are being improved with the assistance of the AFAC and the CAA. Under the auspices of the Review, these two organisations are investigating methods for disaggregating response times data to account for geographic and other factors that may differ across jurisdictions. Preliminary work has resulted in the reporting of case study data (based on Queensland) for ambulance response times this year and is expected to develop into geographic reporting across jurisdictions. During 2002-03, ambulance services will collect and collate data at industry level (according to the segmentation of communities) with a

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view to evaluating how the segmented data may be used to provide more relevant comparisons across jurisdictions.

#### *Performance indicator framework developments*

More generally, the CAA is considering gaps in the performance indicator framework and identifying potential improvements as part of its ongoing work plan, which is likely to result in changes to the 2004 Report performance indicator framework for ambulance services.

#### *Survey data*

As outlined in the key performance indicator sections, the PSM is no longer part of the ABS collection. Data from the PSM were reported for the last time in the 2002 Report. New instruments and arrangements to collect these data were applied this year. In the future, it is envisaged that jurisdictions will be responsible for collecting similar data on fire safety measures (where appropriate) and ambulance services patient satisfaction.

## **8.7 Jurisdictions' comments**

This section provides comments from each jurisdiction on the services covered in this chapter. Appendix A contains data that may assist in interpreting the performance indicators presented in this chapter. These data cover a range of demographic and geographic characteristics including age profile, geographic distribution of the population, income levels, education levels, tenure of dwellings and cultural heritage (including Indigenous and ethnic status).

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## **New South Wales Government comments**

“ NSW continues to strongly support comparisons of performance between jurisdictions. While some of the indicators in the chapter need further development, they do provide emergency management stakeholders with a transparent assessment of recent performance in meeting community needs and expectations.

In response to the increased risks of terrorism, emergency services increased training, awareness and response capabilities for potential terrorist attacks. The NSW Government announced an increase in funding for police and the emergency services to develop and establish: public order management, tactical response, counter terrorist intelligence response, critical infrastructure protection, consequence management and training.

The Christmas 2001 bushfires demonstrated the capacity of the emergency services to deal with a State-wide disaster. Emergency services were committed to these bushfires for 23 days, during which no lives were lost and far less property damage occurred than in previous bushfires. This was due to superior planning and coordination among the services, higher standards of fire-fighting equipment and personal protective equipment, the use of aircraft and the coordination of interstate resources. All these factors resulted in more effective fire-fighting operations. Bushfires continue to be a major focus in 2002 because of the unfavourable weather conditions and the State's severe drought.

In the wake of the Christmas bushfires, the Government has shown a continuing commitment to upgrading resources for bushfire protection. The powers of the Commissioner of the NSW Rural Fire Service have been enhanced to ensure bushfire hazard reduction is undertaken on any land where the owner has failed to do so. In addition, the approval process for hazard reduction has been streamlined. The Commissioner has also been included in the approval process for development applications relating to bushfire prone land.

The NSW Fire Brigades' Community Fire Unit (CFU) program, which enables residents to assist firefighters in defending their homes against the bushfires, has been supported by the allocation of additional funding to establish more units. At the end of the financial year there were 160 CFUs with more than 2000 community members of the urban/bushland interface, supported by local fire stations. Seven CFUs have been established in Aboriginal communities.

The Ambulance Service of NSW undertook an Operational Review to deliver improved emergency response times within current resources. Substantial improvement in response times have already been realised despite a significant increase in demand. The procurement and phased implementation of Ambulance 000 medical prioritisation dispatch procedures will ensure that the most urgent cases receive the quickest response.

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## Victorian Government comments

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The Victorian Government continues its commitment to ensure consistent service to the community and maximum resource sharing across agencies. The Office of the Emergency Services Commissioner is developing a Model of Fire Cover as part of a fire safety strategy for Victoria, to provide a consistent, Statewide fire risk profiling methodology, contributing to the achievement of equitable fire safety outcomes for like-risk environments.

During 2001-02 the Metropolitan Fire Brigade's Emergency Medical Response pilot program improved response times to cases of suspected cardiac arrest and the program gained permanent status. The urgent need for assistance with the Christmas wildfires in NSW and the ACT resulted in a total deployment of 2794 Country Fire Authority (CFA) and 750 Department of Natural Resources and Environment (DNRE) firefighters. During the summer fire season a CFA and DNRE Joint State Aircraft Unit became operational. The Victorian Government approved the State-wide Integrated Public Safety Communications Strategy to coordinate the communications of all Emergency Services Organisations. The CFA received additional funding of \$35.15 million under the Strategic Resource Initiative for priority projects in areas such as recruitment, training, infrastructure, equipment and volunteer support. The completion of a 26 per cent expansion of metropolitan emergency ambulance services has also improved response time performance, particularly in outer metropolitan areas. In addition, 31 000 people were trained to administer CPR through the free 'Learn CPR — the Key to Survival' initiative. All ambulance paramedics commenced training in advanced life support skills.

In a continuing Government initiative with benefits of particular importance to Victorians living in rural and regional areas, Air Ambulance has significantly enhanced its transport capability. A new state-of-the-art ambulance helicopter service began operating in Bendigo, with the two existing air ambulance helicopter services scheduled to be upgraded to "Category A" by December 2001 and arrangements were made with private helicopter operators to provide back-up craft when necessary. In addition, four old Cessna Titan aircraft were replaced with new pressurised King Air planes. Other initiatives to improve ambulance services in Regional and Rural Victoria included the establishment of new professional branches, the extension of two-officer crewing and the provision of 24 hour intensive care paramedics in provincial cities.

Contract execution occurred for the implementation of electronic data capture in the field through the Victorian Ambulance Clinical Information System. The system will offer unprecedented opportunities for pre-hospital research and will provide a comprehensive picture of the profile of ambulance patients and the level of paramedic intervention.

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## Queensland Government comments

“ The past year has been one of continuing developments in the Department of Emergency Services (DES) in seeking to contribute to the Government’s policy priorities and create safer communities in Queensland.

Queensland has, in a single department, skills in areas of ambulance, fire, search, rescue, disaster management and mitigation, and hazardous materials. Changes to governing legislation were introduced during the year to facilitate more cost effective, coordinated, and integrated service delivery outcomes for the community and improved governance and public administration.

Growth in demand for ambulance services continued to have an impact on service provision with Queensland Ambulance Service providing 558 078 responses — an increase of approximately 10 per cent over last year. The number of emergency and urgent responses totalled 335 629. Emergency responses increased by 7.5 per cent to 162 393, while urgent responses increased by 26.6 per cent to 173 236.

Findings by the Building Fire Safety Taskforce of inadequate fire safety provisions to protect the lives of occupants in many budget accommodation buildings (backpacker hostels, boarding houses, hotels and other similar shared accommodation style buildings) resulted in legislation being amended to ensure that occupiers of budget accommodation are afforded enhanced safety and a reasonable measure of protection in the event of fire.

The *Dangerous Goods Safety Management Act 2001* commenced on 7 May 2002. It provides strict guidelines for major hazard facilities designed to prevent potentially catastrophic incidents arising from the storage and handling of hazardous materials. Implementation of its provisions will greatly improve the protection of Queensland communities, workers and the environment from the potential dangers of hazardous chemicals.

The DES and the Department of Local Government and Planning are jointly developing the State Planning Policy and Guideline for Natural Disaster Mitigation to provide a more consistent approach in Queensland to land use planning in areas subject to flood, bushfire and landslide.

A review of the *State Counter-Disaster Organisation Act 1975* commenced to ensure it is modernised to provide comprehensive guidance for many modern disaster management issues.

Support for emergency service volunteers was enhanced, with emphasis given to ensuring the ongoing safety and wellbeing of all our volunteers through the provision of structured training and increased standards of operational and personal protective equipment and support.

Support to Indigenous communities was enhanced through initiatives that seek to achieve greater participation by Indigenous communities in the establishment of flexible models of service delivery in rural and remote Indigenous Australian communities.

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## Western Australian Government comments

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Challenges influencing the provision of emergency services throughout the State continue to be addressed. Many relate to the State's size and sparse, widely dispersed regional population. Associated issues include the reliance on volunteers, and providing adequate levels of service according to different demand profiles and (often low) economies of scale.

In relation to ambulance, the model of service provision is via St John Ambulance as a non-government provider. Government contributes to the operation of the service that is funded through a combination of user-pays and community fund raising. Metropolitan ambulance services are provided almost entirely using paid ambulance officers and paramedics. Services are also provided by more than 3500 volunteers who contribute over 3 000 000 hours of service annually. St John Ambulance provides services with a total cost per capita significantly less than that of any other State.

In working towards community centred emergency management, three Fire and Emergency Services Authority (FESA) Units have been established. A FESA Unit is a multi-skilled emergency services body, formed to make more effective use of volunteers and resources in regional communities where these assets are limited. The establishment of more FESA Units is anticipated.

Legislation has been passed, formally establishing, empowering and providing liability protection for volunteers in the State Emergency Service, Volunteer Marine Rescue Services and FESA Units. Provision has also been made to increase penalties under the *Bush Fires Act 1954* to encourage compliance with fire prevention and safety measures.

A replacement funding system for the State's emergency services, the Emergency Services Levy (ESL), will come into effect in July 2003. A levy on all properties, the ESL will replace a complex mix of insurance levies, local government rates, State contributions and volunteer fundraising. It will remove the inequity of uninsured property owners escaping contributions to fire services in major centres and, equally important, will improve support to volunteers.

In August 2001, the State Mitigation Committee was established. Comprised of chief executive officers from relevant Government agencies and the WA Local Government Association, it coordinates a whole-of-Government approach to natural hazard mitigation. The State Mitigation Framework will include strategies relating to emergency mitigation in remote Indigenous communities, land use planning guidelines, and the marketing of, and investment in, mitigation.

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## South Australian Government comments

“ The South Australian Government has been committed to the following strategic priorities for emergency services to better achieve outcomes in public safety:

- revising structural and governance arrangements to deliver services more effectively and efficiently;
- increasing support for voluntarism and regional communities;
- collocating emergency services for integrated service delivery;
- introducing a strategic framework for resource management;
- adopting a strategic approach to providing emergency services;
- achieving more cost effective delivery of emergency services; and
- improving telecommunications for emergency services and police.

The strategic reform agenda has delivered:

- a Strategic Directions Framework for all emergency services to provide a context for agency planning and performance measurement; and
- enhanced processes for emergency risk management.

SA Ambulance Service (SAAS) is a stand-alone agency that is not funded by the CESF, except for its rescue activity. SAAS continues to work closely with the other emergency agencies to ensure effective management of incidents. SAAS pursues co-location with these services wherever feasible, conducts and is party to, State disaster planning and regular exercises involving all emergency agencies and is heavily involved in a number of multi-agency projects.

Major emergency management initiatives for 2002-03 include:

- a review to examine and identify improvements to the management, administration and governance arrangements of emergency services;
  - a review of the *State Disaster Act 1980* and all other associated disaster prevention and management arrangements;
  - a review of workload and workforce planning to ensure that SAAS can continue to deliver world class ambulance services;
  - developing systems to ensure SAAS volunteers have access to training, communication, support and recognition. This will enable SAAS to retain and recruit volunteers in the long term. SAAS also aims to respond to the recommendations of the Stand Up and Be Counted survey via a newly developed Volunteer Support Team;
  - consolidating the SAAS communication centres to facilitate the effective and efficient dispatch of ambulances Statewide; and
  - implementing the SAAS Targeted Ambulance Response (STAR) dispatch system to enable a more detailed and accurate analysis of a patient's condition, ensuring the appropriate priority is given to an incident response.
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## Tasmanian Government Comments

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Tasmania has a number of key issues which have an impact on the provision of both fire and ambulance services throughout the State. These issues include the small population (and subsequent lack of economies of scale), the reliance on a network of dedicated volunteers in rural and remote areas (affecting turnout times) and the State's rugged topography which also has an impact on response times and infrastructure costs (for example, the radio system).

Unlike some other jurisdictions, Tasmania includes both urban and rural response times for both fire and ambulance data. As Tasmania has the largest proportion of rural population of all jurisdictions, this affects response time comparisons significantly.

The Tasmania Fire Service (TFS) is comprised of four career brigades and 235 volunteer brigades that respond to fires in all metropolitan and rural areas. All incidents attended by the TFS brigades are reported on, and the TFS bears the full cost of funding both the operating and capital costs of these brigades.

Due to weather conditions, the number of bushfires and the area burnt by them was significantly less than usual this year. Only three bushfires managed by TFS grew larger than 100 ha and fewer than 30 per cent of fires were greater than one hectare. No deaths or serious injuries occurred as a result of these fires.

The TFS continued its commitment to the other key responsibility of fire prevention and the fostering of greater fire safety in the community. TFS has identified those in the community who are most at risk from fire and has established a broad range of programs to assist these people to prevent fires and minimise the impact of fires when they occur. Figures suggest that fire prevention programs targeting at-risk sectors of the community are particularly effective, with significant reductions in residential fire losses in low-income communities.

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 and it does include operating an aeromedical service.

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

During the 2001-02 financial year the ambulance service completed major upgrade programs for its fleet and radio communications systems, the latter in conjunction with the TFS.

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## 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, it combines city/State functions and contains a high proportion of urban area. These elements all impact on the provision of emergency services to the Territory. There are no other counterparts in Australia that provide both Territorial (State) and municipal functions from 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 through 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 are such that the Emergency Services Bureau budget reflects both Territorial (State) and municipal type contributions that in other States are not directly reflected in Service-wide budgets. The Bureau's Standards of Emergency Response are time and risk based, and the positioning of resources affects the impact of the multiple town centres, 'greenbelts' and Commonwealth assets of national importance.

Emergency activities, that in other jurisdictions are spread across many agencies, are concentrated in the fewer agencies comprising the ACT Emergency Services Bureau. Consequently, the expenditure per person in the ACT for the reported fire and ambulance agencies may be inflated by the cost of those activities not yet included for other jurisdictions.

Due to the significant Commonwealth presence and national related functions in the Territory the Commonwealth contributed one third share of fire services funding until recently. The increased funding proportion by ACT Government for fire services partly reflects this shortfall in revenue due to the non-payment by the Commonwealth, pending renegotiated arrangements desired by the Commonwealth.

As a result of heightened terrorism threats the ACT formed a Critical Infrastructure Review Working Group to identify risk and examine the security of critical infrastructure and protection of people at major public venues and entertainment areas. Emergency response plans have also been reviewed in the light of this heightened awareness.

Although, tragically, fire deaths did occur in this reporting year, the ACT maintains the lowest fire death rate and continues to have the lowest fire injury rate of all jurisdictions across the three-year moving averages.

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## Northern Territory Government comments

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In 1993 the Government of the day amalgamated emergency management and law enforcement agencies in the NT and formed Police, Fire and Emergency Services as a single government department. The Commissioner of Police also has the dual role of Chief Executive Officer of Fire and Emergency Services.

The primary focus of the NT Fire and Rescue Service (NTFRS) during the reporting period remains prevention, preparedness, response and recovery. The past 12 months have seen a continuation of those programs developed to help reduce the impact of fires on the community and the environment.

Government continues to provide brigades in rural and country locations with better resources to help them carry out the important task of emergency response in those areas. A new fully equipped rescue vehicle has been purchased for Yulara and another fully equipped rescue vehicle has been relocated to Nhulunbuy. These vehicles and the equipment they carry enable the NTFRS to provide a comprehensive road accident rescue service in those areas.

The NT has been fortunate to experience no fire deaths during the year. Even though the number of incidents attended by the NTFRS has increased, the number of structure fires within the NT continues to remain at a low level, as does the dollar loss from structure fires however because of the small population in the NT these figures can fluctuate markedly from year to year.

Government has increased the number of full time firefighter positions by five during the reporting period as part of its commitment to increase the overall number of full time firefighters by 16 over a three-year period.

The Ambulance Service in the NT is run by St John Ambulance Australia (NT) Inc. under a purchaser–provider model contract with the NT Government. The Ambulance Service has centres located in Darwin (two), Palmerston, Katherine, Tennant Creek, Alice Springs and Gove with a volunteer centre located in Batchelor.

The NT jurisdiction is the third largest in Australia but covers only 1 per cent of Australia’s population. This creates some diverse working environments and cultural differences regarding workloads and health issues. With such a small population, the statistical category for metropolitan is not met but is defined as the Darwin and Palmerston regions.

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## 8.8 Definitions

Table 8.6 Terms and indicators

<i>Term or indicator</i>	<i>Definition</i>
50 <sup>th</sup> percentile ambulance service response times	The time within which 50 per cent of first ambulance resources actually respond.
50 <sup>th</sup> percentile fire service response times	The time within which 50 per cent of first fire resources actually respond.
90 <sup>th</sup> percentile ambulance service response times	The time within which 90 per cent of first ambulance resources actually respond.
90 <sup>th</sup> percentile fire service response times	The time within which 90 per cent of first fire resources actually respond.
Alarm notification not involving fire	Fire alarm notification due to the accidental operation of an alarm, the failure to notify fire services of an incorrect test by service personnel or a storm induced voltage surge.
Ambulance expenditure	Includes salaries and payments in the nature of salaries to ambulance personnel, capital expenditure (such as depreciation and user cost of capital) and other operating expenditure (such as running expenditure, contract expenditure, provision for losses and other recurrent expenditure). Excludes interest on borrowings.
Ambulance incident	An incident is an event that results in a demand for ambulance resources to respond.
Ambulance patient	A patient is someone assessed, treated or transported by the ambulance service.
Ambulance response	An ambulance response is a vehicle or vehicles sent to an incident. There may be multiple responses/vehicles sent to a single incident.
Ambulance services	Pre-hospital care, treatment and transport services.
Ambulance personnel	Any person employed by the ambulance service provider who delivers an ambulance service, manages the delivery of this service or provides support for the delivery of this service. This includes salaried ambulance personnel, remunerated volunteer and nonremunerated volunteer ambulance personnel.
Ambulance non-government revenue	Includes revenue from subscription fees, transport fees, donations and other non-government revenue. Excludes funding revenue from Commonwealth, State and local governments.
Emergency ambulance response	An emergency ambulance response to a pre-hospital medical incident or accident which necessitates the use of ambulance warning (lights and sirens) devices.
False report	An incident in which the fire service responds to and investigates a site, and may restore a detection system.
Fire non-government revenue	Includes revenue from levies on insurance companies and property owners, user charges (such as subscriptions and other fees) and other non-government revenue (such as sale of plant and equipment, donations and industry contributions). Excludes funding revenue from Commonwealth, State and local governments.

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**Table 8.6 (Continued)**

<i>Term or indicator</i>	<i>Definition</i>
Fire death	A fatality that the reporting officer deems as directly attributable to the incident or the action of handling the fire incident. Excludes fatalities where a fire conceals a death that occurred before the fire incident. This information may be verified by coronial information.
Fire death rate	The number of fire deaths per 100 000 people in the total population.
Fire expenditure	Includes salaries and payments in the nature of salaries to fire personnel, capital expenditure (such as depreciation and user cost of capital) and other operating expenditure (such as running expenditure, training expenditure, maintenance expenditure, communications expenditure, provision for losses and other recurrent expenditure). Excludes interest on borrowings.
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. Excludes emergency department outpatients.
Fire injury rate	The number of fire injuries per 100 000 people in the total population.
Fire safety measure	<ul style="list-style-type: none"> <li>• Operational smoke alarm or detector.</li> <li>• Fire sprinkler system.</li> <li>• Safety switch or circuit breaker.</li> <li>• Fire extinguisher.</li> <li>• Fire blanket.</li> <li>• Fire evacuation plan.</li> <li>• External water supply;</li> <li>• The removal of an external fuel source.</li> <li>• External sprinkler.</li> <li>• Other fire safety measure.</li> </ul>
Fire personnel	Any person employed by the fire service provider who delivers a firefighting or firefighting related service, or manages the delivery of this service. This includes paid and volunteer firefighters and support personnel.
Indirect revenue	All revenue or funding received indirectly by the agency (for example directly to treasury or other entity such) that arises from the agency's actions.
Landscape fires	Vegetation fires (for example: bush, grass, forest, orchard and harvest fires) regardless of the size of the area burnt.
Median dollar loss per structure fire	The median (middle number in a given sequence) of the structure loss in \$'000 per structure fire incident.
Non-emergency ambulance response	A non-emergency ambulance response which does not necessitate the use of ambulance warning (lights and sirens) devices.
Non-structure fire	A fire outside a building or structure — including a fire involving mobile properties (such as vehicles), a rubbish fire, a bush or grass fire, and an explosion.
Other incident	<p>An incident other than fire that is reported to a fire service and requires a response. This may include:</p> <ul style="list-style-type: none"> <li>• an overpressure rupture (for example, steam or gas), explosion or excess heat (no combustion);</li> <li>• a rescue (for example, industrial accidents or vehicle accidents);</li> <li>• a hazardous condition (for example, escape of hazardous materials);</li> <li>• salvage; and</li> <li>• a storm or extreme weather.</li> </ul>

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**Table 8.6 (Continued)**

<i>Term or indicator</i>	<i>Definition</i>
Paramedic response	A level of emergency care categorised as advanced life support.
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).
Structure fire	A fire inside a building or structure, whether or not there is damage to the structure.
Structure fire 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 in residential and nonresidential structures.
Urgent ambulance response	An urgent ambulance response to a pre-hospital medical incident or accident which does not necessitate the use of ambulance warning devices.
User cost of capital	The opportunity cost of funds tied up in the capital used to deliver services. Calculated as 8 per cent of the current value of non-current physical assets (including land, plant and equipment).

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