

PART D

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# EMERGENCY MANAGEMENT



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## 8 Emergency management

Emergency management aims to reduce the level of risk to the community of emergencies occurring, 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, ambulance services (with ambulance defined as pre-hospital care, treatment and transport services) and emergency rescue services. While there is some 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, 8.5 and 8.6, and future directions for performance reporting are discussed in section 8.7. Jurisdictions' comments are provided in section 8.8. The chapter concludes with definitions in section 8.9.

Major changes in this year's chapter include the reporting of:

- expanded reporting on road rescue incident numbers and the number of road rescue incidents in which extrications occur
- more complete data on State and Territory Emergency Services (SES/TES) organisations' volunteer numbers
- improved information on fire services response times to structure fires, through the reporting of response times disaggregated by geographic remoteness areas
- more complete ambulance patient satisfaction data, by reporting on all jurisdictions.

Data have also been improved by refining data items. These improvements include revised definitions for fire personnel numbers and revised instructions for fire and ambulance asset valuation.

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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\2004\Attach8A.xls and in Adobe PDF format as \Publications\Reports\2004\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/2004/index.html](http://www.pc.gov.au/gsp/2004/index.html)). 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 2003). 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 includes 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 spills, 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 Australian, State, Territory and local governments, industry, community organisations and the community in general.

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## *Australian Government*

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

- coordinating the Australian Government's material and technical assistance to States and Territories in the event of large scale emergencies (through Emergency Management Australia [EMA]), which is a division within the Australian 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 EMA)
- providing funding for risk management (through the Natural Disaster Risk Management Studies Program of the Department of Transport and Regional Services) and undertaking comprehensive risk assessment (through Geoscience Australia)
- supporting community awareness activities (through EMA, the Bureau of Meteorology and Geoscience Australia).

Australian 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 they have the primary responsibility for delivering emergency services, including fire and ambulance services, directly to the community. Australian, 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 by 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
- 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 differs across jurisdictions and includes involvement in a variety of activities (table 8A.34).

The management structure of fire services also differs 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.

## Box 8.1 Delivery and scope of activity of primary fire services<sup>a</sup>

### *Urban*

***Attend residential and commercial structure fires; incidents involving hazardous materials; and road accidents within major urban centres.***

### *Rural*

***Attend local structure fires and other events outside major urban centres; rural nonstructure fires (including crop, bushland and grassland fires on private property); and fires in national parks and State forests.***

NSW	<i>NSW Fire Brigades</i> — this government department reports to the Minister for Emergency Services directly.	<i>NSW Rural Fire Service</i> — this government department reports to the Minister for Emergency Services directly.
Vic <sup>b</sup>	<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 Sustainability and Environment</i> — this department is responsible for public lands.
Qld	<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.	
WA	<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, the State Emergency Service and the Fire and Rescue Service.	
SA	<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.
Tas	<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.	
ACT	<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 and Emergency Services.	
NT	<i>NT Fire and Rescue Service</i> — 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.	<i>Bushfires Council</i> <sup>c</sup> — this is a board, which reports to the Minister for Infrastructure, Planning and Environment.

<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 Australian jurisdiction (for example, airport and defence installations). <sup>b</sup> The Metropolitan Fire and Emergency Services Board provides urban fire services coverage from the Melbourne Central Business District through to the middle and outer suburbs. The Country Fire Authority provides urban and rural fire services coverage for all parts of Victoria other than the Melbourne Metropolitan Fire District and public lands. This includes outer metropolitan Melbourne and regional centres. <sup>c</sup> The NT Bushfires 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 Bushfires Council unless stated.

Source: State and Territory governments (unpublished).

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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
- planning and coordinating patient services in multicasualty 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 Queensland and Tasmanian Ambulance Services, respectively, contract the Royal Flying Doctor Service to provide aircraft and pilots for their air ambulance services, and the costs of those services are included in the ambulance costs reported for these jurisdictions. Data relating to other Royal Flying Doctor Service activities are not included in the Report.

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).



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**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 and Emergency Services.
<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. For information on Indigenous access to air medical services, see SCRCSSP 2003, pp. 8.7–8.8.)

### *State Emergency Services and Territory Emergency Services (SES/TES)*

State and Territory governments contribute to a range of emergency management activities through SES/TES. These services include prevention, preparedness, response and recovery (see section 8.3). The role of SES/TES across jurisdictions encompasses a variety of activities (table 8A.35). In particular, SES/TES in most jurisdictions have a role in attending road rescue incidents and performing extrications, which are reported this year for the first time. Corresponding financial data for SES/TES are not reported.

### *Other emergency management organisations*

The Review does not yet report on the performance of Australian Government or local government emergency management services or their agencies.

## Funding

### Fire services

Total funding of the fire services covered in this Report was \$1.6 billion in 2002-03. Nationally, funding increased (when measured in real terms) each year from 1998-99 to 2002-03, with an average annual growth rate of 7.5 per cent. Within jurisdictions, funding increased (in real terms) both each year and overall in Victoria and Queensland, and increased overall for all other jurisdictions except the ACT and the NT (table 8.1). Funding for land management agencies is not included in the \$1612.8 million reported.

Table 8.1 Real funding of fire services (2002-03 dollars) (\$ million)<sup>a, b, c</sup>

	NSW <sup>d</sup>	Vic <sup>e</sup>	Qld <sup>f</sup>	WA <sup>g</sup>	SA <sup>h</sup>	Tas	ACT <sup>i</sup>	NT <sup>j</sup>	Aust <sup>k</sup>
1998-99	413.4	297.7	219.0	89.9	92.1	38.2	37.1	22.5	1 209.7
1999-2000	464.3	300.9	241.9	106.5	115.2	37.6	22.7	21.3	1 310.4
2000-01	451.8	325.9	251.2	101.9	116.0	39.4	26.0	22.0	1 334.2
2001-02	567.5	345.2	263.5	95.7	108.5	41.5	25.5	14.0	1 461.4
2002-03	641.0	377.8	284.5	99.7	119.8	47.9	25.7	15.5	1 612.8

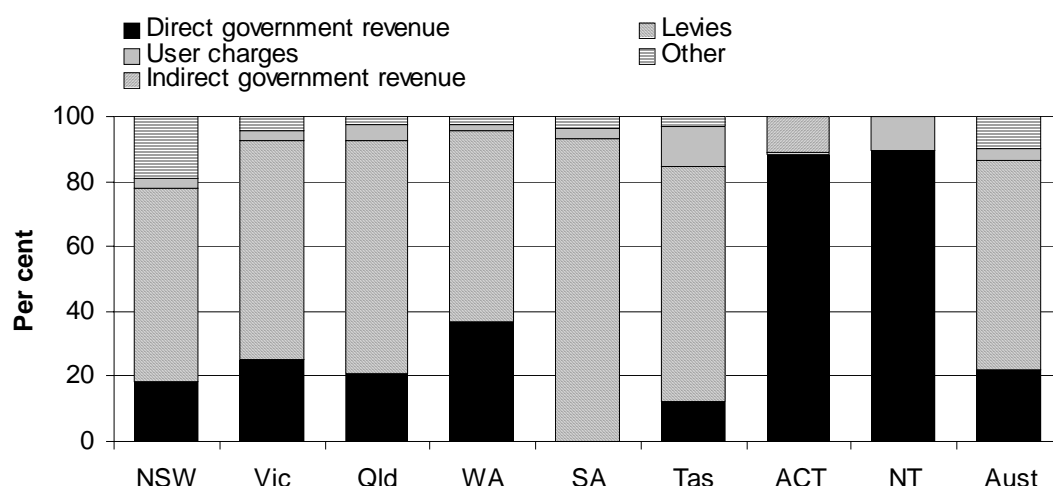
<sup>a</sup> Real funding is based on the Australian Bureau of Statistics (ABS) gross domestic product (GDP) price deflator 2002-03 = 100 (table A.26). <sup>b</sup> Indirect revenue is counted in government grants in table 8A.1. Funding reported is the sum of government grants, levies, user charges and miscellaneous revenue. Indirect revenue is shown on a separate line (where government grants are shown net of indirect revenue, and indirect revenue is included in indirect government and other revenue) and is, therefore, not to be interpreted as an additional amount. <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 Fire Services data for 1999-2000 are artificially inflated by abnormal items of \$23 million. <sup>e</sup> In Victorian data for 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. The first year of funding for a special resources initiative in Victoria was 2000-01. <sup>f</sup> Government grants for Queensland in 2002-03 include a 6 per cent equity return funded by the State Government, equal to \$15 032. <sup>g</sup> WA data for 1998-99 do not include Bush Fire Brigades, which are the responsibility of local government. <sup>h</sup> Funding for SA in 1998-99 includes \$1 million received from AUSAID for reimbursement of costs of the Indonesian Fire Suppression Exercise. The large increase in SA funding between 1998-99 and 1999-2000 is due to the \$12.1 million Government Radio Network, the estimated \$2.5 million for enterprise bargaining, the estimated \$1.5 million in CPI adjustments and capital investment increases. The SA increase in Australian Government grants in 2002-03 is due to the Country Fire Service matching to Australian Government funding. <sup>i</sup> The ACT data for 1998-99 include funds for all four response agencies under the Emergency Services Bureau: the ACT Fire Brigade, ACT Bushfire Service, ACT Emergency Service and 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. The high contribution by the ACT Government in 2001-02 reflects the cessation of the Emergency Services Levy and that the ACT Government has funded an expected revenue shortfall pending the finalisation of negotiations with the Australian Government on an agreement for the provision of fire services. The Australian Government has made interim payments to the ACT for 2001-02 and 2002-03. <sup>j</sup> NT data for 1999-2000 include an Australian Government (National Heritage Trust) grant for a fire management research project. The large decrease in NT funding between 2000-01 and 2001-02 is mainly due to a reduction in capital items expenditure. <sup>k</sup> Totals may not sum as a result of rounding.

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

Fire services are funded from a variety of sources, with non-government sources making a significant contribution. The primary sources of funding across all jurisdictions in 2002-03 were grants from State and Territory 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 largest contributors to fire services funding for Queensland, SA 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.

Nationally, 21.9 per cent of funding for fire services was provided directly by government in 2002-03. Across jurisdictions, the highest proportion of direct government funding was in the NT (89.7 per cent) and the lowest was in SA (0.1 per cent) (figure 8.1).

Figure 8.1 Major sources of fire services funding, 2002-03<sup>a, b, c</sup>



<sup>a</sup> Indirect revenue is counted in government grants in table 8A.1. Funding reported is the sum of government grants, levies, user charges and miscellaneous revenue. Indirect revenue is shown separately (where government grants are shown net of indirect revenue, and indirect revenue is included in indirect government and other revenue) and is, therefore, not to be interpreted as an additional amount. <sup>b</sup> Government grants for Queensland in 2002-03 include a 6 per cent equity return funded by the State Government, equal to \$15 032. <sup>c</sup> The SA increase in Australian Government grants in 2002-03 is due to the Country Fire Service matching Australian Government funding.

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

### Ambulance services

Total funding of ambulance services covered in this Report was \$1.1 billion in 2002-03. Nationally, funding increased (when measured in real terms) each year

from 1998-99 to 2002-03, with an average annual growth rate of 7.3 per cent. Within jurisdictions, funding increased (in real terms) both each year and overall in Victoria, Queensland and Tasmania. For all other jurisdictions, funding did not increase every year, but did increase overall between 1998-99 to 2002-03 (table 8.2).

**Table 8.2 Real funding of ambulance services (2002-03 dollars)**  
(\$ million)<sup>a, b, c</sup>

	NSW <sup>d</sup>	Vic <sup>e</sup>	Qld	WA <sup>f</sup>	SA	Tas	ACT <sup>g</sup>	NT <sup>h</sup>	Aust <sup>i</sup>
1998-99	262.8	211.2	191.0	50.5	65.1	15.7	na	10.1	806.5
1999-2000	283.7	216.3	215.6	61.6	75.4	16.2	9.4	9.4	887.7
2000-01	294.6	239.1	237.7	61.6	73.7	16.8	9.4	9.5	941.2
2001-02	288.6	274.3	239.8	66.7	89.1	18.0	10.0	9.8	996.4
2002-03	316.9	298.5	257.7	69.6	80.7	18.4	14.9	10.9	1 067.7

<sup>a</sup> Real funding is based on the ABS GDP price deflator 2002-03 = 100 (table A.26). <sup>b</sup> Indirect revenue is counted in government grants in table 8A.18. Funding reported is the sum of government grants, subscription fees, transport fees, donations and miscellaneous 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. Victoria's 2002-03 other revenue includes profit on sale of non current assets of \$489 million. <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 1998-99 are included in the ACT Emergency Services Bureau data reported in table 8.1 and could not be provided separately. 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 interhospital 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.

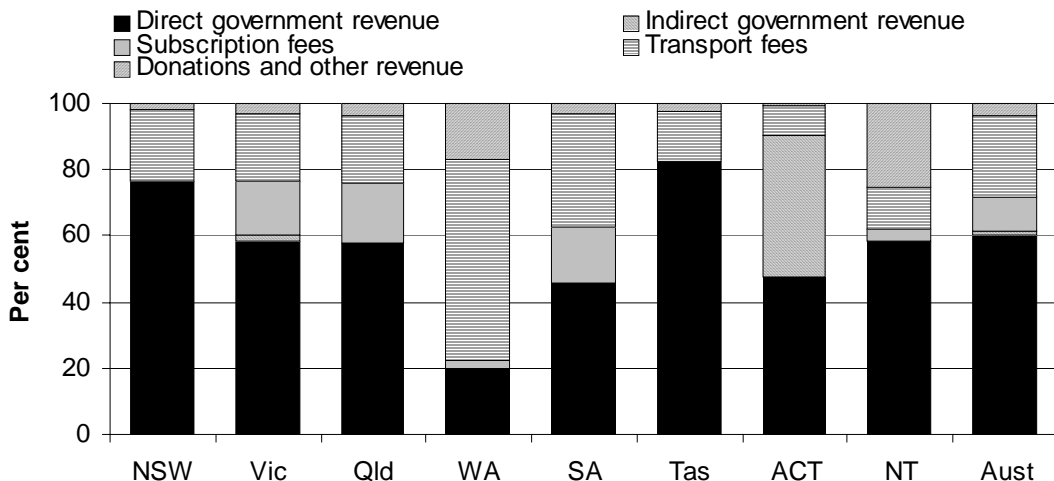
Source: State and Territory governments (unpublished); table 8A.18.

Ambulance services are funded by a variety of sources, with non-government sources making a significant contribution. The primary sources of funding across all jurisdictions in 2002-03 were grants from State and Territory governments, subscriptions, transport fees (from government hospitals, private citizens and insurance) and donations. State and Territory governments were the largest contributors to ambulance services funding in all States and Territories except WA. The contribution from this level of government in 2002-03, including direct and indirect funding, was highest in the ACT (90.2 per cent) and lowest in WA (19.8 per cent). The primary source of funds in WA was transport fees (60.5 per cent). All jurisdictions except NSW and Tasmania received funding from subscriptions. Queensland relied more on subscriptions as a funding source (18.4 per cent) than did any other jurisdiction (table 8A.18). There is an ambulance

subscription scheme in NSW, but these funds are deposited in the consolidated revenue of NSW Treasury.

Nationally, 60.4 per cent of funding for ambulance services was provided directly by government in 2002-03. Across jurisdictions, the highest proportion of direct government funding was in Tasmania (82.4 per cent), where a free service is provided due to State Government policy, and the lowest was in WA (19.8 per cent), where St John Ambulance provides services on behalf of the State Government (figure 8.2). Total government funding is equal to that provided by State and Territory governments, because either the Australian and local governments provided no funding, or funding from these sources was less than 0.1 per cent (figure 8.2).

Figure 8.2 Major sources of ambulance services funding, 2002-03<sup>a, b, c</sup>



<sup>a</sup> Indirect revenue is counted in government grants in table 8A.18. Funding reported is the sum of government grants, levies, user charges and miscellaneous revenue. Indirect revenue is shown separately (where government grants are shown net of indirect revenue, and indirect revenue is included in indirect government and other revenue) and is, therefore, not to be interpreted as an additional amount. <sup>b</sup> NSW has a subscription scheme but funds are deposited in the consolidated revenue of NSW Treasury. <sup>c</sup> Victoria's 2002-03 other revenue includes profit on sale of non current assets of \$489 million.

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

## Size and scope

### Fire services

The scope of activity within fire service delivery is broad and varies across jurisdictions (table 8A.34). A range of organisations that deliver services relating to various emergency management events is summarised in table 8A.37.

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## *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, 34.5 per cent of the 361 014 reported incidents were fires and 65.5 per cent were other emergencies and incidents in 2002-03 (table 8A.2). Nationally, fire services and land management agencies also reported 62 582 landscape fire incidents in 2002-03, an increase of 9.5 per cent from 2001-02 (table 8A.3).

The proportions of incident types varied substantially across jurisdictions in 2002-03. WA fire services, for example, attended 27 003 incidents, of which 54.4 per cent were fires and 45.6 per cent were other emergencies and incidents. By comparison, the ACT fire services attended 9773 incidents, of which 15.8 per cent were fires and 84.2 per cent were other emergencies and incidents. In NSW, Queensland, WA, SA, Tasmania and the NT, the highest proportion of fires attended were landscape, bush and grass fires. In Victoria and the ACT, other fires constituted the most attendances. Fires within a structure, involving a structure were the least attended type of fire for all jurisdictions (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)
- support personnel (any paid person or volunteer directly supporting the operational provider, including technical and communications personnel and personnel staff).

Nationally, 13 058 full time equivalent (FTE) paid personnel were involved in the delivery of fire services in 2002-03. Across jurisdictions, the number of FTE paid personnel ranged from 4626 in NSW to 194 in the NT. Nationally, the majority of paid personnel were firefighters (77.5 per cent). Across jurisdictions, this proportion was highest in SA (96.6 per cent) and lowest in Tasmania (65.4 per cent) (table 8A.4).

Volunteer firefighters (215 222 people) participated in the delivery of fire services in 2002-03. The number of volunteer firefighters varied across jurisdictions, from 68 676 in NSW to 455 in the NT (table 8A.4).

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## *Ambulance services*

The scope of activity within ambulance service delivery is broad and varies across jurisdictions. A range of organisations that deliver services relating to various emergency management events is summarised in table 8A.37.

## *Incidents*

Ambulance services attended 2.2 million incidents nationally in 2002-03. Most of these were emergency incidents (44.6 per cent), followed by nonemergency incidents (35.3 per cent) and urgent incidents (20.1 per cent). The proportion of emergency incidents was highest in NSW (65.7 per cent) and lowest in Queensland (28.1 per cent) (table 8A.19). Data for NSW are not strictly comparable with the data of other jurisdictions because NSW does not triage emergency calls. Urgent incident and response caseload data for NSW are included in emergency caseload figures.

## *Human resources*

Data on human resources for ambulance services are reported by operational status on an FTE basis to provide a detailed description of the human resources profile for ambulance agencies. Human resources include any person involved in delivering an ambulance service or managing the delivery of this service:

- ambulance operatives (including patient transport officers, students and base level ambulance officers, qualified ambulance 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, nonoperative communications and technical personnel)
- remunerated and nonremunerated volunteers (including any paid and unpaid volunteer personnel providing ambulance services on an on-call basis, and corporate support).

Nationally, 9452 FTE salaried personnel were involved in the delivery of ambulance services. Across jurisdictions, the number of FTE salaried ambulance personnel ranged from 3162 people in NSW to 113 people in the NT. The majority of salaried ambulance personnel in 2002-03 were ambulance operatives (77.3 per cent). Across jurisdictions, this proportion ranged from 86.7 per cent in NSW to 62.2 per cent in the NT (table 8A.20).

Nationally, 5801 volunteer ambulance personnel (comprising 5466 nonremunerated and 335 remunerated volunteer ambulance personnel) participated in the delivery of ambulance services in 2002-03. The number of nonremunerated volunteer and retained ambulance operatives varied across jurisdictions, from 2748 in WA to 22 in the NT. Volunteer operational and business support personnel were used in WA (726), SA (300) and the NT (one). Due to the decentralised structure of its ambulance services, WA has a high number of volunteer operational and business support personnel (table 8A.20).

### *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 Victoria's Country Fire Authority, for example, approximately 85 per cent of its 61 657 volunteers in 2001-02 functioned in rural areas (CFA, VRFBA and VUFBA 2001) (table 8.3).

**Table 8.3 Ambulance, fire and SES/TES volunteers in emergency services (number)**

	NSW <sup>a</sup>	Vic <sup>b</sup>	Qld <sup>a</sup>	WA	SA <sup>a</sup>	Tas <sup>a</sup>	ACT	NT <sup>a</sup>	Aust
2001-02									
Ambulance	67	358	352	2 705	1 753	516	–	24	5 775
Fire	68 710	61 657	46 534	21 676	17 000	4 866	650	461	221 554
<b>Total</b>	<b>68 777</b>	<b>62 015</b>	<b>46 886</b>	<b>24 381</b>	<b>18 753</b>	<b>5 382</b>	<b>650</b>	<b>485</b>	<b>227 329</b>
2002-03									
Ambulance	57	387	403	2 748	1 654	530	–	22	5 801
Fire	68 676	58 000	46 677	23 608	12 244	4 912	650	455	215 222
SES/TES	9 072	5 129	18 265	2 308	6 808	550	180	539	42 851
<b>Total</b>	<b>77 805</b>	<b>63 484</b>	<b>65 345</b>	<b>28 664</b>	<b>20 706</b>	<b>5 992</b>	<b>830</b>	<b>1 016</b>	<b>255 446</b>

<sup>a</sup> Numbers for fire services include part paid volunteers. <sup>b</sup> In 2001-02, 328 of the 358 Victorian ambulance service volunteers were remunerated for some time (usually response), but not for other time (usually on-call time). In 2002-03, 335 of the 387 Victorian ambulance service volunteers were remunerated for some time (usually response), but not for other time (usually on-call time). – Nil or rounded to zero.

Source: State and Territory governments (unpublished); tables 8A.4, 8A.20 and 8A.30.

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. Including the ambulance, fire and SES/TES volunteers, across Australia, over 500 000 volunteers participate each year in the



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management of a broad range of emergency situations and disasters (EMA 2001) from organisations such as the Red Cross.

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 cost to the Tasmanian Government in 2000-01 of services wholly provided by ambulance volunteers, for example, 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 (TAS and KPMG 2001). (For more information on estimates of volunteer participation in the provision of emergency services, see SCRCSSP 2003, pp. 8.16–8.19.)

#### *Other emergency management service categories*

The Review does not report on a number of emergency service categories including: rescues (other than road rescues); natural events (other than landscape fires); 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.37.

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

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

#### *Research initiatives*

A Bushfire Cooperative Research Centre (CRC) has been established with 16 core participants and 20 supporting participants, including fire agencies, the EMA, the Commonwealth Scientific and Industrial Research Organisation, the Bureau of Meteorology, universities and the private sector. The Bushfire CRC focuses on five major interrelated research areas: safe prevention, preparation and suppression; the management of prescribed and wild fires in the landscape; community self-sufficiency for fire safety; the protection of people and property; and education. The Centre for Risk and Community Safety Research was established in 2001. It has three partners: the Royal Melbourne Institute of Technology University, the Australian National University and the EMA. The centre focuses on social and economic policy research in emergency management.

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### *Growing demand for pre-hospital care, treatment and transport services*

All Australian ambulance services have been experiencing substantial growth in ambulance service demand. This growth has implications for performance, resourcing, staff fatigue and the sustainability of current service delivery models. Potentially many factors influence this increase in demand, ranging from an ageing population to changes in health service provision and technology (for example, the availability of general practitioners, day surgery and new treatments). Research is underway to gain a clearer understanding of factors affecting demand growth and funding, and to identify strategies to manage demand into the future.

### *Bushfire inquiries*

Following the severe bushfires that occurred in southeast Australia in the summer of 2002-03, the Australian, NSW, Victorian and ACT governments have held inquiries into the management of these events. The Council of Australian Governments has commenced an independent inquiry into bushfire mitigation and management in Australia, which will provide a final report in early 2004. In general, these inquiries focus on risk reduction measures, such as prescribed burning, community education and mutual aid arrangements across States and Territories.

### *Emergency services levies*

States have adopted different models for the administration of levies and charges for the emergency management sector. Fire service levies apply to insurance policy holders in NSW and Victoria, and to property ownership in Queensland, Tasmania and WA (from 1 July 2003). Ambulance services receive funds from transport fees and from subscriptions fees in all States and Territories except NSW and Tasmania. From 1 July 1999, SA established a Community Emergency Services Levy on mobile and fixed property to fund emergency services, including fire services, the SES, police search and rescue, Volunteer Marine Rescue and surf lifesaving. From 1 July 2003, Community Ambulance Cover has replaced the Queensland Ambulance Service Subscription scheme, and provided all Queensland residents with ambulance cover anywhere in Australia.

## **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

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to all Australian emergency management agencies (box 8.3). These objectives are nationally agreed and developed by the Emergency Management Working Group.

**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
- enhance public safety.

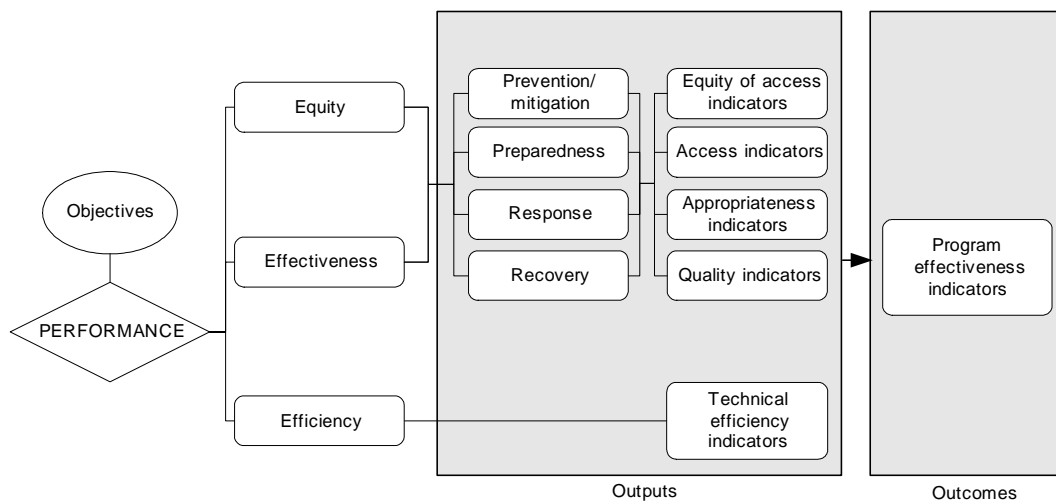
Emergency management agencies aim to reduce the number of emergency incidents through prevention activities. They work to reduce the impact of emergency incidents through community and operational preparedness. Fast, effective response and recovery services are critical to containing hazards and managing the consequences of emergency incidents. The prevention/mitigation, preparedness, response and recovery performance indicator framework (figure 8.3) used in this chapter reflects all these activities.

For the 2004 Report, the framework has been revised to provide information on the equity, efficiency and effectiveness of government provided and/or funded (that is, government funded in part) emergency services, and to distinguish the outputs and outcomes of government emergency services. This approach is consistent with the revised general performance indicator framework and service process diagram in chapter 1 (figures 1.2 and 1.3) that have been agreed by the Steering Committee.

The general performance indicator framework presented in figure 8.3 has been applied to road rescue, fire, and ambulance services (pre-hospital care, treatment and transport services). Revised frameworks for fire and ambulance services are included in sections 8.4 and 8.5. A framework for road rescue services is included in section 8.6, reported for the first time.

The outcomes indicators in the performance framework indicate the effects of a service on the community, economy and environment. The outcomes indicators currently reported are the fire death rate, the fire injury rate, the median dollar losses from structure fire incidents, total property losses from structure fire incidents, and the survival rate from out-of-hospital cardiac arrest.

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



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 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, if an emergency occurs, that 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.

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- *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 an 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.

## 8.4 Key performance indicator results — fire services

Figure 8.4 presents the performance indicator framework for fire services that has been developed from the general framework for all emergency services (figure 8.3). Definitions of all indicators are provided in table 8.4. Performance information has been reported for a number of indicators. These results might have been influenced by factors such as differences in climatic and weather conditions, the sociodemographic and topographic composition of jurisdictions, property values and dwelling construction types. Importantly, jurisdictions also have diverse legislative fire protection requirements.

Results need to be interpreted with care because data might have been derived from small samples (for example, the Australian Bureau of Statistics [ABS] Population Survey Monitor Population Survey Monitor and jurisdictions' fire safety measures surveys) or are highly variable as a result of the relatively small populations (as in, Tasmania, the ACT and the NT). The role of volunteers, particularly for country and rural fire brigades, also needs to be considered when interpreting some indicators (such as fire expenditure per 1000 people). Specifically, volunteer

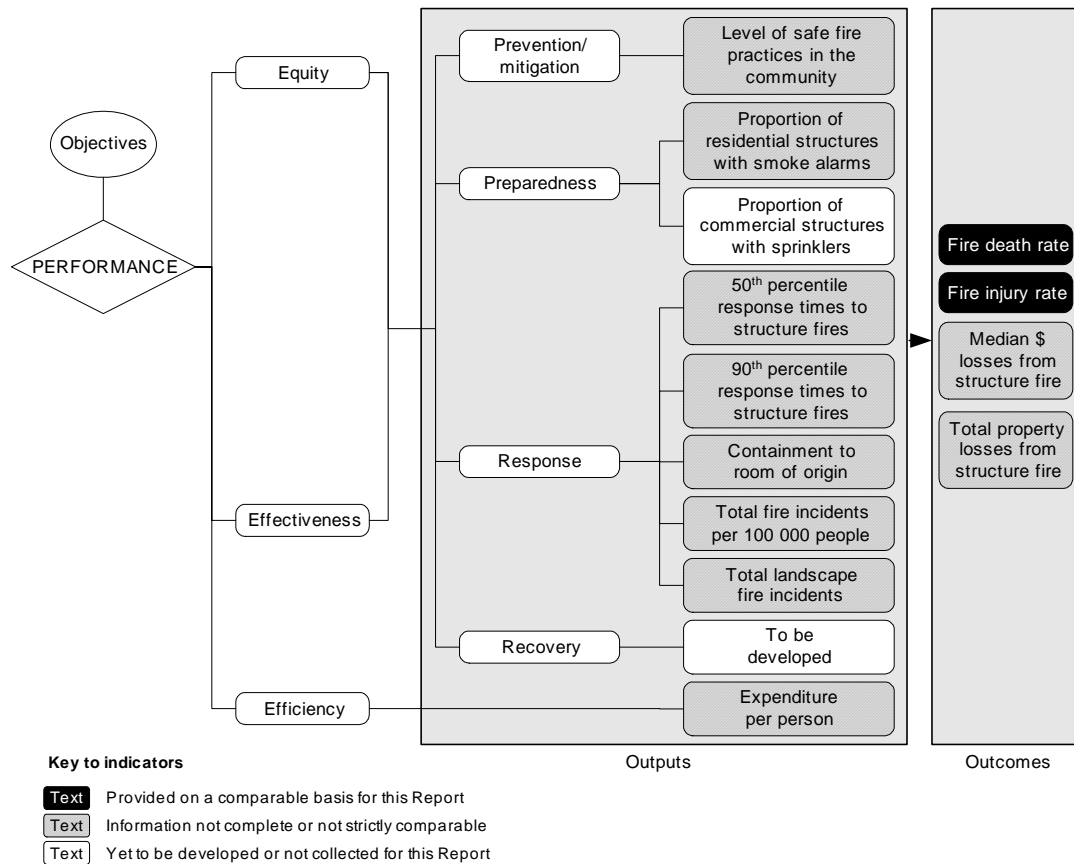
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personnel provide a substantial proportion of fire services (and emergency services more generally) (ABS 2001a). While costs such as the training and equipment associated with volunteers are included in the cost of fire service provision, the labour costs of providing fire services would be much greater without volunteers (assuming these functions were still performed).

Further, information has not been reported for all fire agencies in each jurisdiction consistently over time. Reported results sometimes exclude rural fire services. 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, which is evident by the inclusion of rural fire services data for more jurisdictions in more current years. 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 2004 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). For this Report, the performance indicator data for the fire death rate and the fire injury rate are provided on a comparable basis.

Figure 8.4 Performance indicators for fire services



## Outputs

Outputs are measured by the level of safe fire practices in the community; the proportion of residential structures with smoke alarms; the 50<sup>th</sup> and 90<sup>th</sup> percentile response times to structure fires; containment to the room of origin; total fire incidents per 100 000 people; total landscape fire incidents; and expenditure per person.

### *Equity and effectiveness*

#### *Prevention/mitigation — level of safe fire practices in the community*

Fire prevention output indicators focus on the level of fire safety practices in the community. Selected fire risk management/mitigation strategies across jurisdictions are identified in table 8A.32. The ABS Population Survey Monitor 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

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November 2000 (providing data for 1998-99 and 1999-2000) and were included in previous reports. The Population Survey Monitor has been discontinued. Data for 2001-02 and 2002-03 have been collected by jurisdictions and collated by the Australasian Fire Authorities Council (AFAC). Differences in the survey methods and instruments of these two collections mean that the data are not fully comparable over time. Comparison across jurisdictions should also be treated with caution because sample size influences the accuracy of sample estimates.

Data for this prevention indicator were not available for 2002-03. Table 8A.11 contains data for 2001-02 for Victoria and Queensland, and Population Survey Monitor data for households with a fire safety measure, by fire safety measure installed or followed.

*Preparedness — proportion of residential structures with smoke alarms*

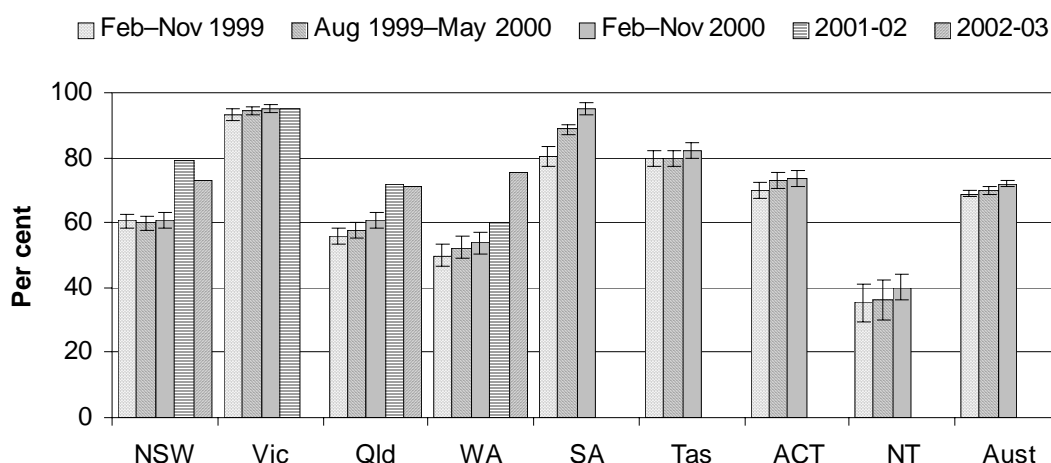
Caution needs to be exercised when interpreting the preparedness survey data presented in this section because of changes in sources over time and the reliability of sample data (as outlined above). Household fire safety measures include operational smoke alarms or detectors, sprinkler systems, safety switches, fire extinguishers, fire blankets, fire evacuation plans, external water supplies, the removal of external fuel sources and external sprinklers. Data for 2002-03 relate to operational smoke alarms installed.

Three jurisdictions (NSW, Queensland and WA) conducted surveys in 2002-03, collecting data on total households that had an operational smoke alarm or smoke detector installed. Some jurisdictions did not undertake a survey in 2002-03 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 that had an operational smoke alarm or smoke detector installed was highest in WA (75.2 per cent) and lowest in Queensland (71.4 per cent). The proportions in 2002-03 represented an increase from the 2001-02 figures for WA and a decrease for NSW and Queensland (figure 8.5).



Figure 8.5 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 Population Survey Monitor results, which are affected by sample and estimate size (see section 11.8 of the *2002 Report on Government Services*). Standard errors relating to the Population Survey Monitor 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 Population Survey Monitor ceased. The 2001-02 data are from jurisdictional collections for the first time. Data for 2001-02 are not strictly comparable with the Population Survey Monitor data, because the new survey instruments used to collect the data differ from that of the Population Survey Monitor. <sup>c</sup> NSW 2001-02 data are sourced from the 2002 NSW Department of Health's Continuous Health Survey Program. Data for 2001-02 represent six months of 2002. Ninety-five per cent of these data fell within the following confidence interval: 77.8–80.2 per cent of households that had at least one smoke alarm. NSW 2002-03 data are sourced from the 2002 NSW Health Survey (Centre for Epidemiology and Research, NSW Department of Health). Data for 2002-03 represent the full 12 month period of 2002. Ninety-five per cent of these data fell within the following confidence interval: 71.8–74 per cent of households that had at least one smoke alarm. <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 statistical regions of the State. Around three quarters (75.5 per cent) of Queensland homes had smoke alarms installed. In 95.3 per cent of these homes the smoke alarm was operational. Queensland 2002-03 data are sourced from the Queensland Household Survey (November 2002) conducted by Queensland's Office of Economic and Statistical Research. Values are based on 3000 completed telephone interviews conducted across all statistical regions of the State. <sup>f</sup> WA 2001-02 and 2002-03 data are sourced from a survey by a market research organisation (a random telephone survey with residents of Perth households).

Source: ABS (2001b); State and Territory governments (unpublished); table 8A.10.

### *Preparedness — proportion of residential structures with sprinklers*

The Review has identified this indicator for development and reporting in future.

### *Response*

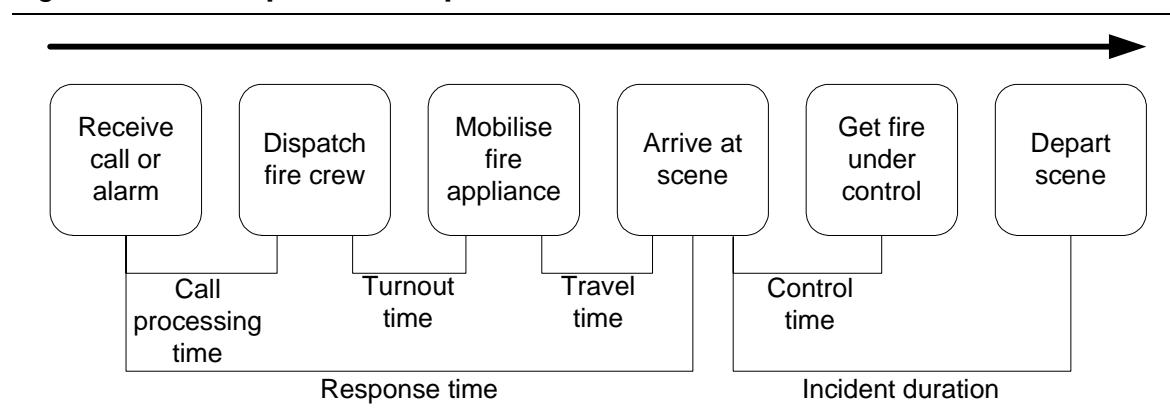
Response times and containment of structure fires (to the object or room of origin) are indicators of the effectiveness of fire services in terms of their ability to respond

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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 8.6. Response times are provided on a jurisdictional basis, so they are not agency specific (which is consistent with information provided for other indicators in this chapter).

**Figure 8.6 Response time points and indicators**



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 the following:

- 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.
- While definitions on response times are consistent, 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 definition of response times varies across jurisdictions (that is, the data provided by jurisdictions may diverge from the definitions agreed for the Report). This is partly because some agencies use a manual system to calculate response time figures while other services retrieve the data from computer aided dispatch (CAD) systems.

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### *Response — 50<sup>th</sup> and 90<sup>th</sup> percentile response times to structure fires*

The 50<sup>th</sup> percentile response time to structure fires refers to the time within which 50 per cent of the first responding fire resources arrived at the scenes. The 50<sup>th</sup> percentile response time in 2002-03 was highest in Tasmania (8.1 minutes) and lowest in the ACT (5.0 minutes) (figure 8.7).

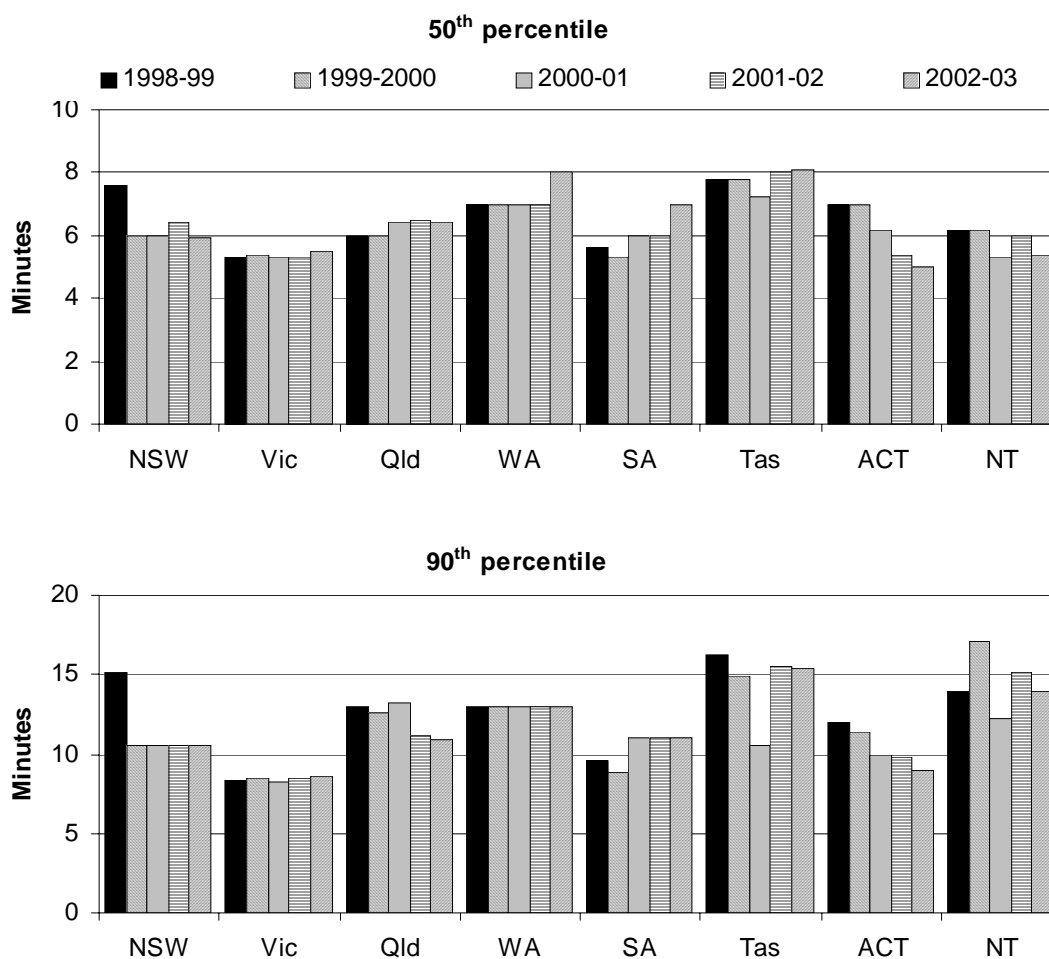
The 90<sup>th</sup> percentile response time to structure fires refers to the time within which 90 per cent of the first responding fire resources arrived at the scenes. The 90<sup>th</sup> percentile response time in 2002-03 was highest in Tasmania (15.4 minutes) and lowest in Victoria (8.6 minutes) (figure 8.7).

Response times vary within a jurisdiction depending on the remoteness of the area (among other factors) in which the responses occur. Response times are segmented into remoteness areas, based on the ABS Australian Standard Geographical Classification for the first time this year.

For major cities the 50<sup>th</sup> percentile response time in 2002-03 was highest in WA (8.0 minutes) and lowest in the ACT (5.0 minutes). For outer regional areas the 50<sup>th</sup> percentile response time in 2002-03 was highest in Tasmania (10.9 minutes) and lowest in the NT (5.3 minutes). For very remote areas the 50<sup>th</sup> percentile response time in 2002-03 was highest in Tasmania (16.7 minutes) and lowest in Queensland (5.8 minutes) (figure 8.8).

For major cities the 90<sup>th</sup> percentile response time in 2002-03 was highest in WA (13.0 minutes) and lowest in Victoria (7.7 minutes). For outer regional areas the 90<sup>th</sup> percentile response time in 2002-03 was highest in WA (23.0 minutes) and lowest in Queensland (11.8 minutes). For very remote areas the 90<sup>th</sup> percentile response time in 2002-03 was highest in WA (62.0 minutes) and lowest in Queensland (9.3 minutes) (figure 8.8).

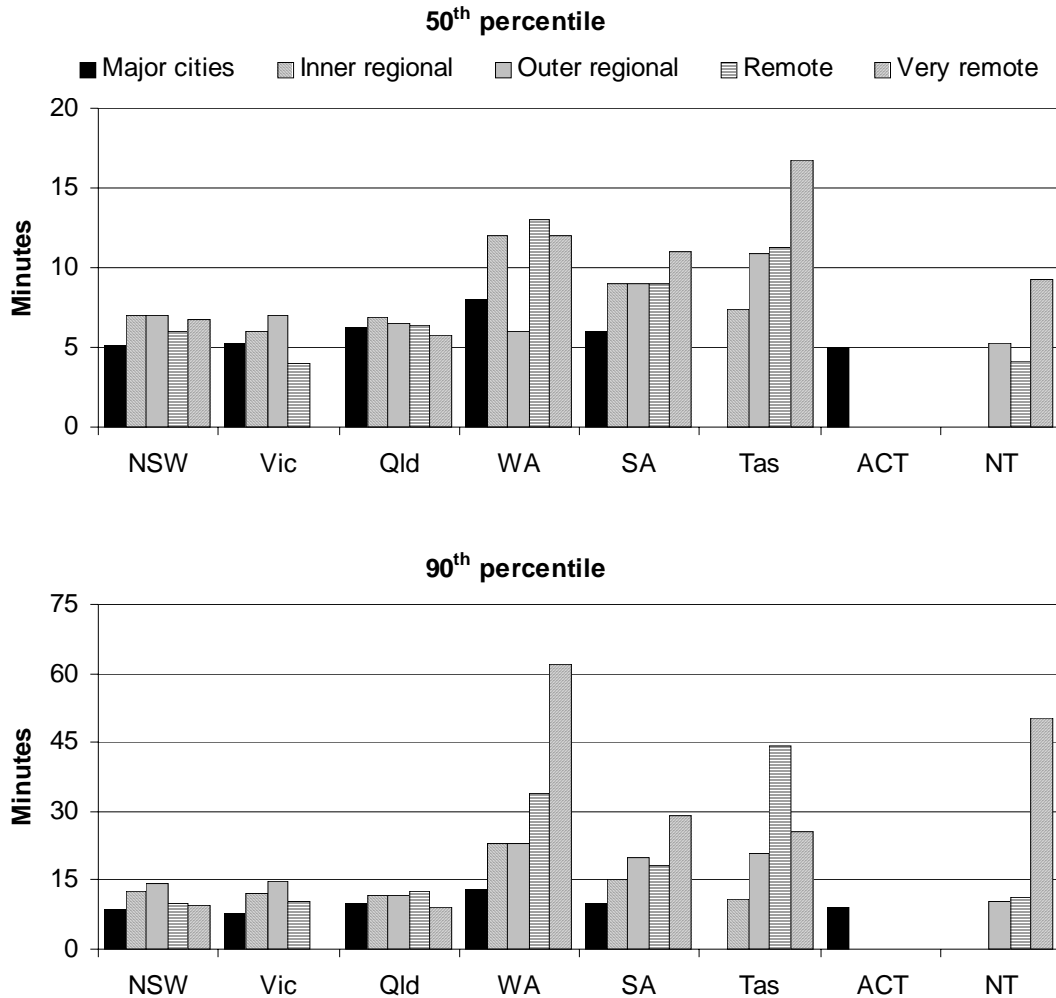
Figure 8.7 Response times to structure fires<sup>a, b, c, d, e, f, g, h, i, j</sup>



<sup>a</sup> Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type (manual or CAD), affect the comparability of response times data. <sup>b</sup> NSW data for 1998-99 to 2001-02 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. Data for 2002-03 include responses from the NSW Fire Brigades and the Rural Fire Service. <sup>c</sup> Victorian data are not uniformly consistent with the nationally agreed definition. Specifically, some inner metropolitan calls do not include all of the call processing time (approximately 36–40 seconds per response time) due to the time stamp generated by the computer aided dispatch system. <sup>d</sup> Queensland data for 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 1998-99 exclude the Bush Fire Brigades. <sup>f</sup> SA data for 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 from three months of data. 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. <sup>j</sup> See table 8A.38 for a summary of inclusions and exclusions.

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

Figure 8.8 **Response times to structure fires across geographic areas, 2002-03<sup>a, b, c, d, e, f</sup>**



<sup>a</sup> Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type (manual or CAD), affect the comparability of response times data. <sup>b</sup> NSW data (for some parts of the State) are not uniformly consistent with the nationally agreed definition. Data exclude reports with incomplete time details. <sup>c</sup> Queensland response times data for Queensland Fire and Rescue Service (QFRS) urban crews exclude incidents outside Urban Fire Levy boundaries. Three incidents within Urban Fire Levy boundaries could not be geocoded and have been excluded. Response times for the QFRS rural brigade crews are not recorded. <sup>d</sup> In SA, the Country Fire Service and the Metropolitan Fire Service do not have geocoded data. SA data include incident records with both alarm and arrival times. <sup>e</sup> Tasmanian data include 758 of the reported 780 structure fires. <sup>f</sup> ACT data exclude response time data for the January 2003 bushfires.

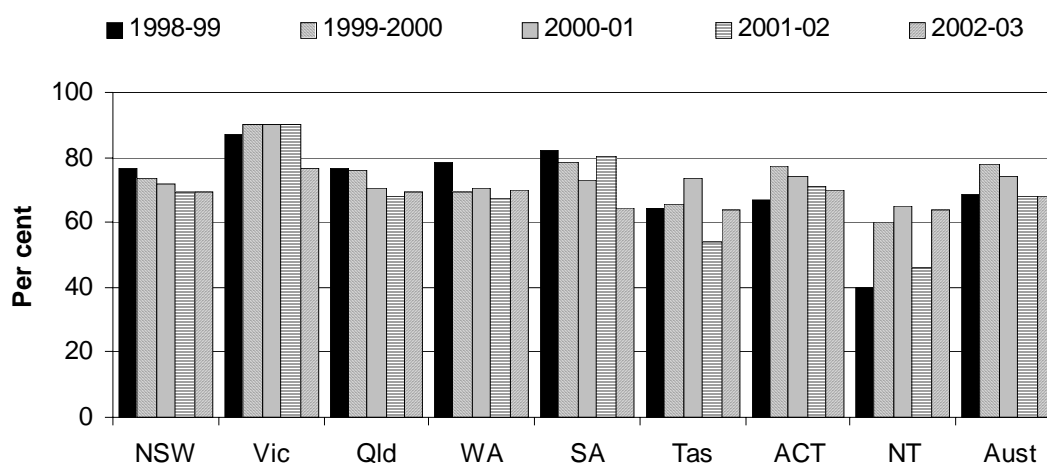
Source: State and Territory governments (unpublished); table 8A.13.

### *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 was 68.3 per cent in 2002-03. Across

jurisdictions, the proportion of fires contained to the object or room of origin was highest in Victoria (76.5 per cent) and lowest in the NT (63.5 per cent) in 2002-03 (figure 8.9).

Figure 8.9 **Structure fires contained to the object/room of origin**<sup>a, b, c, d, e, f, g, h</sup>



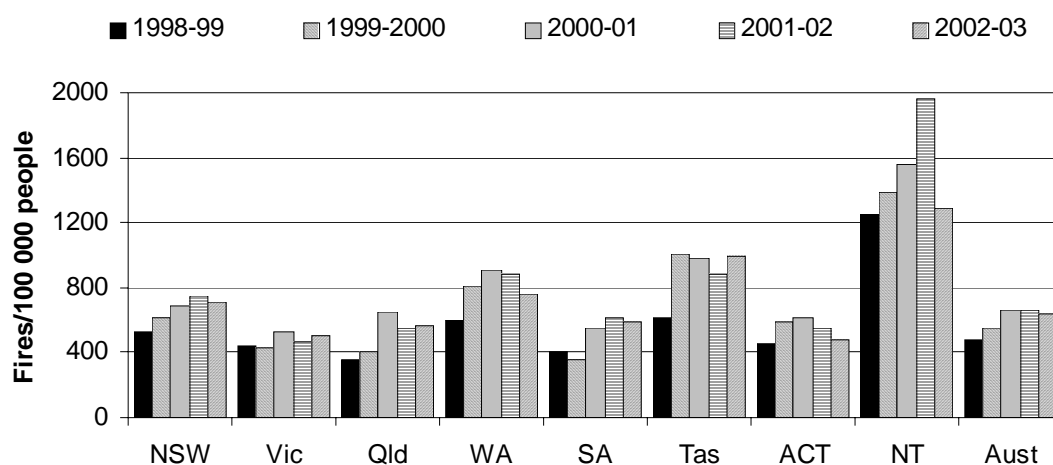
<sup>a</sup> NSW data exclude the Rural Fire Service, but include responses to calls outside the NSW Fire Brigades' designated fire districts. Due to industrial bans, 1999-2000 data are derived from a sample representing 80 per cent of the incidents, and 2000-01 data are derived from a sample representing 85 per cent of the incidents. <sup>b</sup> Victorian data for 1998-99 to 2001-02 exclude the Country Fire Authority. Data for 2002-03 include the Country Fire Authority. <sup>c</sup> Queensland data for all years exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA 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 from three months of data. Data exclude the ACT Bushfire Service. Data exclude response time data for the January 2003 bushfires. <sup>g</sup> The average for Australia excludes rural fire service data for some years as per the jurisdictions' caveats. <sup>h</sup> See table 8A.38 for a summary of inclusions and exclusions.

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

### *Response — total fire incidents per 100 000 people*

Nationally, there were 633 fire incidents per 100 000 people in 2002-03. Across jurisdictions, the total number of fire incidents was highest in the NT (1288 per 100 000 people) and lowest in the ACT (479 per 100 000 people). The total number of fire incidents per 100 000 people increased between 2001-02 and 2002-03 in Victoria, Queensland and Tasmania and decreased in all other jurisdictions (figure 8.10). Nationally, between 2000-01 and 2002-03, the number of other emergencies and incidents increased by 8.5 per cent (table 8A.2).

Figure 8.10 Total fire incidents<sup>a, b, c, d, e, f, g, h</sup>



<sup>a</sup> Total fire incidents data include landscape fire incidents. <sup>b</sup> 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 all Rural Fire Districts. <sup>c</sup> In Queensland, accurate identification of incidents attended by both QFRS urban and rural crews is not possible at this stage. Reporting of incident attendance by QFRS rural crews is incomplete due to voluntary reporting procedures. The extent of under reporting is unknown. It is expected, however, that both these anomalies will be addressed in the next 12 months. <sup>d</sup> WA data for 1998-99 exclude Bush Fire Brigades. <sup>e</sup> Industrial bans in the ACT mean data for 1998-99 and 1999-2000 are based on extrapolated results from three months of data. In the ACT, the January 2003 bushfires included in the 2002-03 data have been counted as one event. <sup>f</sup> In the NT data, 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 to 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. <sup>h</sup> See table 8A.38 for a summary of inclusions and exclusions.

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

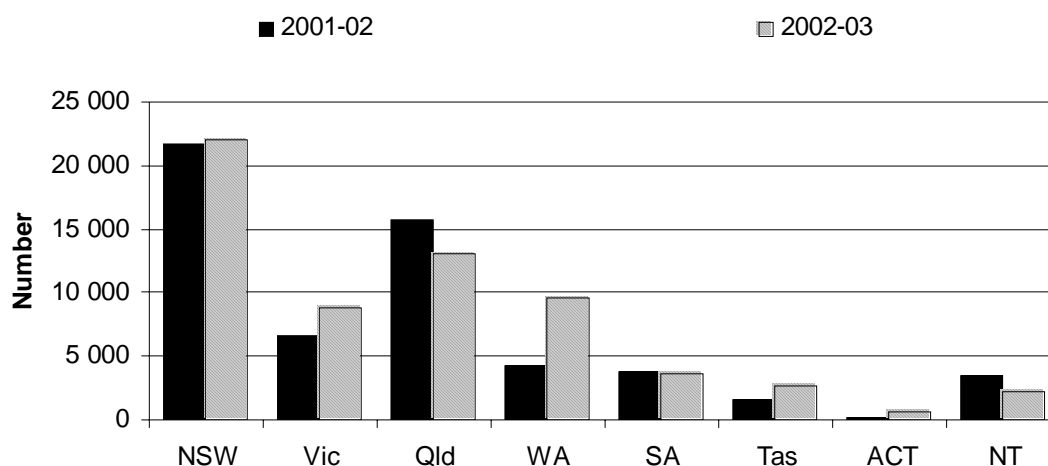
### Response — total landscape fire incidents

Interpreting landscape fires data across jurisdictions is problematic because current data limitations make it difficult to measure the number and impact of landscape fires. The number of landscape fires is likely to be understated to varying degrees across jurisdictions. Landscape fires data, for example, typically exclude undetected fires in very remote locations, grass fires of under one hectare on unoccupied lots in urban localities, and managed burns (fuel reduction, regeneration of native vegetation, land clearing or agriculture related burning) conducted by land management agencies. The emergency fire fighting activities of land management agencies are also excluded for some jurisdictions. The cost to government and the community is also difficult to estimate because landscape fire incidents are not

classified by the amount of damage caused or the resources deployed in extinguishment.

Nationally, the total number of landscape fire incidents in 2002-03 was 62 582 (table 8A.3). Across jurisdictions, the total number of landscape fire incidents was highest in NSW (21 942 incidents) and lowest in the ACT (623 incidents) (figure 8.11).

Figure 8.11 Landscape fire incidents<sup>a, b, c, d, e, f, g, h, i</sup>



<sup>a</sup> Financial data for 2001-02 and 2002-03 exclude funding for land management agencies. <sup>b</sup> These data may be different to those reported elsewhere in the chapter because these data reflect responses from fire and other services for some jurisdictions. <sup>c</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>d</sup> Victorian data for 2001-02 do not include incidents from the Department of Sustainability and Environment. Victorian data for 2002-03 include 857 incidents from the Department of Sustainability and Environment. These incidents burnt nearly 1.2 million hectares. <sup>e</sup> In Queensland, accurate identification of incidents attended by both QFRS urban and rural crews is not possible at this stage. Reporting of incident attendance by QFRS rural crews is incomplete due to voluntary reporting procedures. The extent of under reporting is unknown. It is expected, however, that both these anomalies will be addressed in the next 12 months. <sup>f</sup> WA data for 2001-02 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 — CALM) fires. Financial and personnel data related to CALM landscape fire data are not included in this report. Data for 2002-03 include 525 landscape fires in which the CALM was the lead agency. <sup>g</sup> Tasmanian data include vegetation fires over one hectare. <sup>h</sup> In the ACT, the January 2003 bushfires included in the 2002-03 data have been counted as one event. <sup>i</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.

## Efficiency

Efficiency indicators report on the unit cost of service delivery. The calculation of unit costs requires the specification of outputs. For fire services, this is a difficult



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task, given the diversity of activities undertaken. The fire sector has considered a range of options for specifying outputs.

### *Expenditure per person*

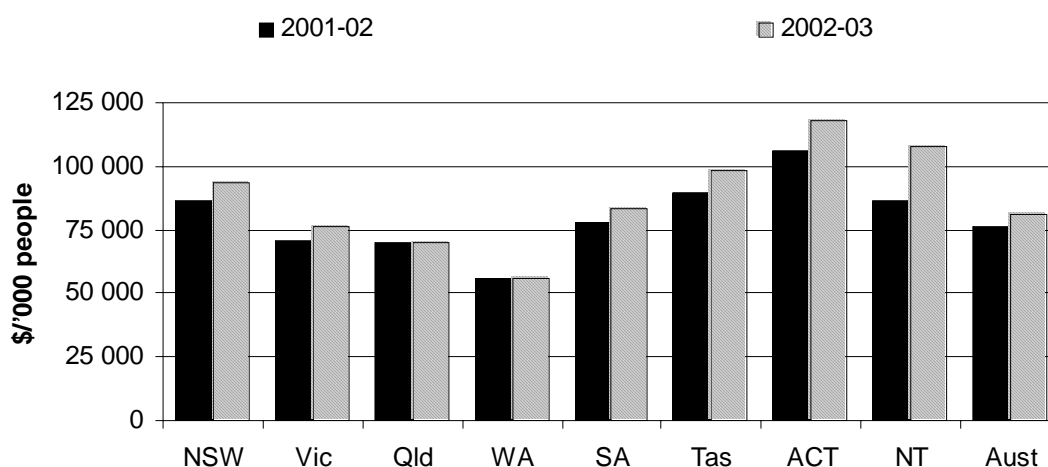
Expenditure and funding per person are employed as proxies for efficiency. Expenditure and funding per fire are not used as proxies for fire services efficiency because a fire service that devotes more resources to the prevention and preparedness components to reduce the number of fire incidents could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

The main efficiency indicator is fire services expenditure per 1000 people. Fire services funding per 1000 people is also reported, to show the contribution of governments and other funding sources. The quality of efficiency data improved for the 2003 Report, with the adoption of a consistent basis for reporting payroll tax. The quality of efficiency reporting for the 2004 Report has improved by replacing the previous method of reporting a proxy for cost per person, which used the difference between cost estimations and revenue. Efficiency data in previous Reports will, therefore, differ from those reported here. The time series has been recalculated in the 2004 Report to include comparable data over time. Efficiency data are not fully comparable, however, because there are differences in the reporting of asset related costs.

Expenditure is reported as the total cost (total direct and indirect government and other fire expenditure) of fire services. Cost to government is reported as total government funding of fire services. Total expenditure is a measure of efficiency for fire services, and government funding is a measure of the cost to government of fire services. Both are reported, because revenue from other sources is significant for a number of jurisdictions.

Nationally, the total expenditure on fire services per 1000 people in 2002-03 was \$81 046. Across jurisdictions, it ranged from \$118 219 in the ACT to \$55 838 in WA (figure 8.12).

Figure 8.12 Real fire services expenditure (2002-03 dollars)<sup>a, b, c, d, e</sup>

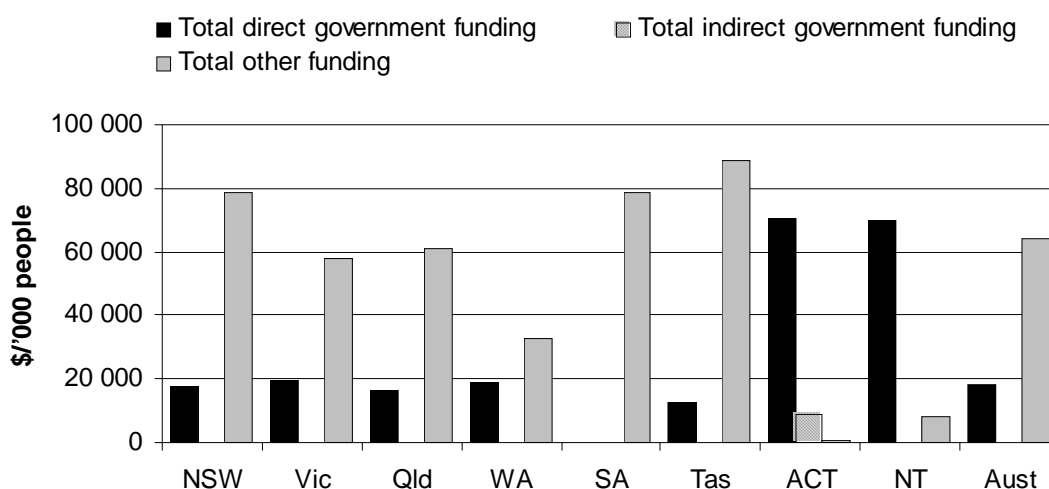


<sup>a</sup> Total fire expenditure includes levies on insurance companies and property owners, user charges, fundraising and donations and indirect revenue. Data for some jurisdictions prior to 2000-01 have been adjusted to reflect population coverage by fire agencies. <sup>b</sup> Total government fire expenditure per person is reported in the 2004 Report for the time series replacing total fire expenditure less indirect government and non-government revenue per person. Non-government revenue is now termed 'other revenue' because some items in this category (for example, levies) are not strictly non-government. <sup>c</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 upward 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 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>d</sup> The high contribution by the ACT Government in 2001-02 reflects the cessation of the Emergency Services Levy and that the ACT Government has funded an expected revenue shortfall pending the finalisation of negotiations with the Australian Government on an agreement for the provision of fire services. The Australian Government has made interim payments to the ACT for 2001-02 and 2002-03. <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 in 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.16.

Nationally, direct and indirect government funding on fire services per 1000 people in 2002-03 was \$18 117. Across jurisdictions it ranged from \$78 771 in the ACT to \$59 in SA. Nationally, direct government funding per 1000 people in 2002-03 was \$17 933, ranging across jurisdictions from \$70 195 in the ACT to \$59 in SA. Other funding per 1000 people in 2002-03 was \$63 904 nationally, ranging across jurisdictions from \$88 874 in Tasmania to \$942 in the ACT (figure 8.13).

Figure 8.13 Fire services funding 2002-03<sup>a, b, c, d, e</sup>



<sup>a</sup> Total fire expenditure includes levies on insurance companies and property owners, user charges, fundraising and donations and indirect revenue. Data for some jurisdictions prior to 2000-01 have been adjusted to reflect population coverage by fire agencies. <sup>b</sup> Total government fire expenditure per person is reported in the 2004 Report for the time series replacing total fire expenditure less indirect government and non-government revenue per person. Non-government revenue is now termed other revenue because some items in this category (for example, levies) are not strictly non-government. <sup>c</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>d</sup> The high contribution by the ACT Government in 2001-02 reflects the cessation of the Emergency Services Levy and that the ACT Government has funded an expected revenue shortfall pending the finalisation of negotiations with the Australian Government on an agreement for the provision of fire services. The Australian Government has made interim payments to the ACT for 2001-02 and 2002-03. <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 in 2000-01 include charges to landholders for aerial control burning and firebreaks, and the sale of assets.

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

## 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, fire injury rate, median dollar losses from structure fire incidents and total property losses from structure fire incidents are indicators of outcomes in terms of the effect of fire on life. Caution in interpreting data for some indicators must be exercised (for example, because of the relatively small numbers of deaths and significant fluctuations from year to year), particularly for jurisdictions with relatively smaller populations.

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### Fire death rate

The fire deaths data reported are not comparable to those in previous reports due to the adoption of ABS data as a more reliable source. Data for the time series have been replaced using the new source, therefore, data across years in the 2004 Report are comparable, across and between jurisdictions.

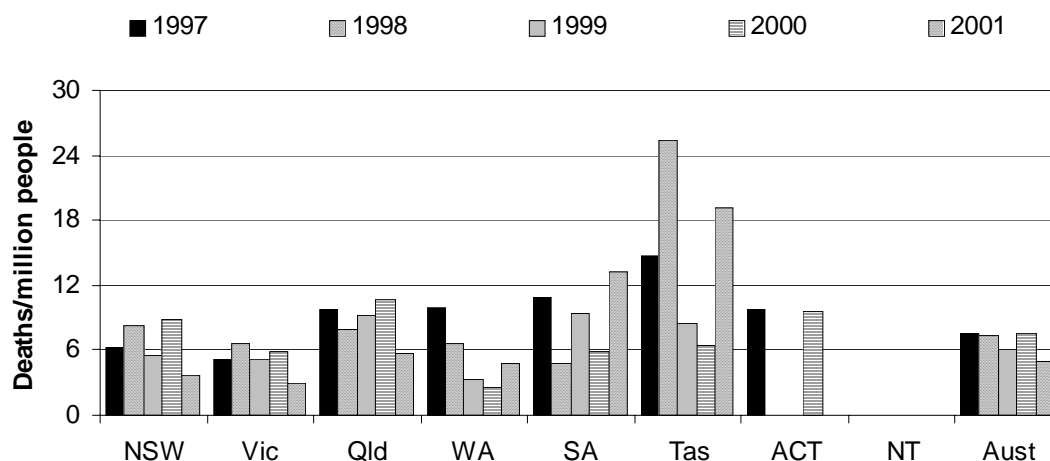
Nationally, there were 97 fire deaths in 2001. Exposure to smoke, fire and flames accounted for the largest proportion (60.8 per cent), followed by fire deaths from intentional self-harm by smoke, fire and flames (31.9 per cent) (table 8A.5).

Nationally, the fire death rate was 5.0 per million people in 2001. The fire death rate was highest in Tasmania (19.1 fire deaths per million people) and lowest in the ACT and the NT (both had no fire deaths) (figure 8.14).

Fire deaths data are volatile over time due to the small numbers of fire deaths. To overcome data volatility, a three year average fire death rate is reported. Nationally, the three year average fire death rate was 6.2 per million people, from 1999–2001. The three year average fire death rate was highest in Tasmania (11.3 deaths per million people) and lowest in the NT (no fire deaths) (table 8A.5).

Figure 8.14 Fire death rate<sup>a, b, c, d</sup>

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<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 fluctuation demonstrates the data volatility, which must be taken into account in any interpretation of data. <sup>b</sup> Population relates to the population used to calculate data for the corresponding year. This is not the same as the population for that year due to the time lag between available fire data and available population estimates. This means that, for example, population data relating to June 2001 have been used as the denominator in calculating the 2001 data. <sup>c</sup> The ACT had no fire deaths in 1998, 1999 and 2001. <sup>d</sup> The NT had no fire deaths in 1997–2001.

Source: ABS, *Causes of Death Australia*, Cat. no. 3303.0 (unpublished); ABS (unpublished); table 8A.5.

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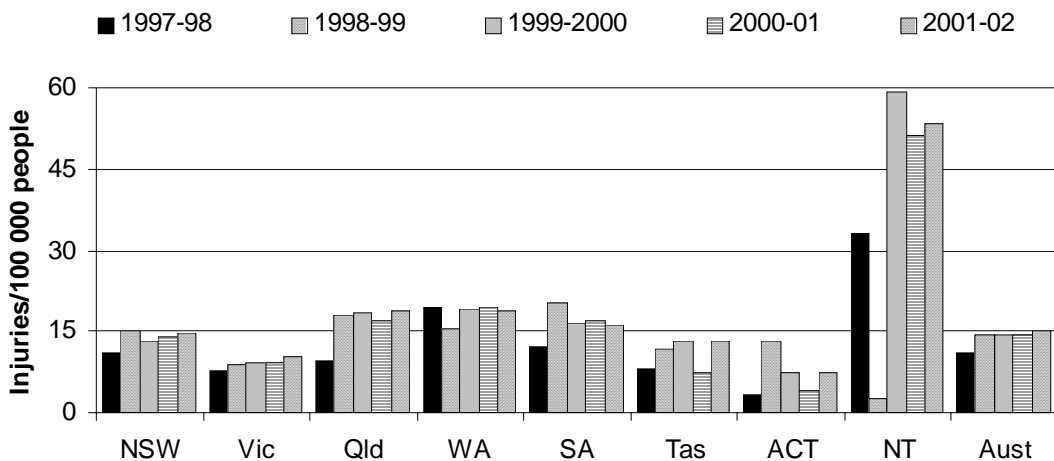
### Fire injury rate

Fire injuries are represented by 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, there were 2975 hospital admissions for fire injuries in 2001-02. This is equivalent to a fire injury rate of 15.3 per 100 000 people. Across jurisdictions, the fire injury hospitalisation rate was highest in the NT (53.6 fire injuries per 100 000 people) and lowest in the ACT (7.5 per 100 000 people) (figure 8.15).

Fire injury rates are volatile over time due to the small numbers of fire injuries. To overcome data volatility, a three year average fire injury rate is reported. Nationally, the three year average fire injury rate for 1999-2000 to 2001-02 was 14.8 per 100 000 people. Across jurisdictions, the three year average fire injury rate was highest in the NT (55.5 fire injuries per 100 000 people) and lowest in the ACT (6.3 fire injuries per 100 000 people) (table 8A.6).

Figure 8.15 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. The data exclude emergency department nonadmitted casualties and fire injuries arising from arson, secondary fires resulting from explosions, and transport accidents. <sup>b</sup> The data exclude fire deaths for all years. The *Report on Government Services 2001* 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*.

Source: AIHW (unpublished); ABS (unpublished); table 8A.6.

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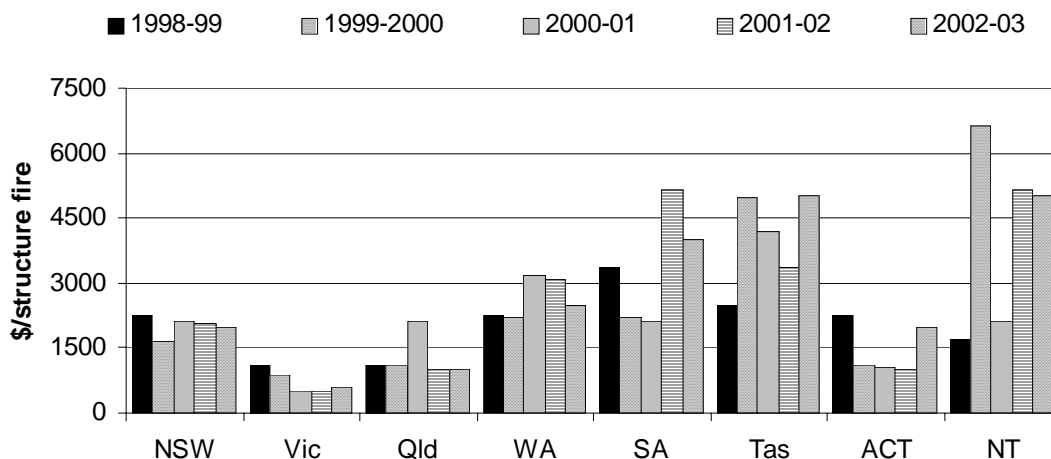
### *Losses from structure fire*

The median dollar loss per structure fire and the total property loss from structure fire are indicators of outcomes in terms of the effect of fire on property. Structure fires are those fires in housing and other buildings. These data are expressed in real terms. The data have not been adjusted for jurisdictional differences in the costs and values of various types of building. NSW, Queensland and the NT were able to provide data for urban fire services only, 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 2002-03 was highest in Tasmania and the NT (both \$5000 per structure fire) and lowest in Victoria (\$600 per structure fire) (figure 8.16). Across jurisdictions, the median dollar loss increased (in real terms) in Victoria, SA, Tasmania and the ACT from 2001-02 to 2002-03, and decreased in all other jurisdictions. The increases in Tasmania and the ACT need to be considered with care because data for the relatively smaller jurisdictions can be subject to high volatility (table 8A.7).

Figure 8.16 Real median dollar loss from structure fire (2002-03 dollars)<sup>a, b, c, d, e, f, g, h</sup>



<sup>a</sup> Real expenditure is based on the ABS GDP price deflator 2002-03 = 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 1998-99 to 2002-03 are for NSW Fire Brigades only, but include responses to calls outside NSW Fire Brigades' designated fire districts. Due to industrial bans, NSW 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 include an outlier that resulted in direct dollar loss of more than \$60 million. <sup>c</sup> Queensland data for all years exclude incidents solely attended by the Rural Fire Service. <sup>d</sup> WA data for 1998-99 exclude Bush Fire Brigades. <sup>e</sup> SA 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> Due to industrial bans, the ACT 1998-99 and 1999-2000 data are based on extrapolated results from three months of data. Data for 2001-02 exclude the ACT Bushfire Service. Data for 2002-03 exclude the January 2003 wildfire which destroyed over 500 houses and resulted in losses in excess of \$200 million. <sup>g</sup> NT data exclude incidents attended by the NT Bushfires Council and some NT Fire and Rescue Service volunteer brigades. <sup>h</sup> See table 8A.38 for a summary of inclusions and exclusions.

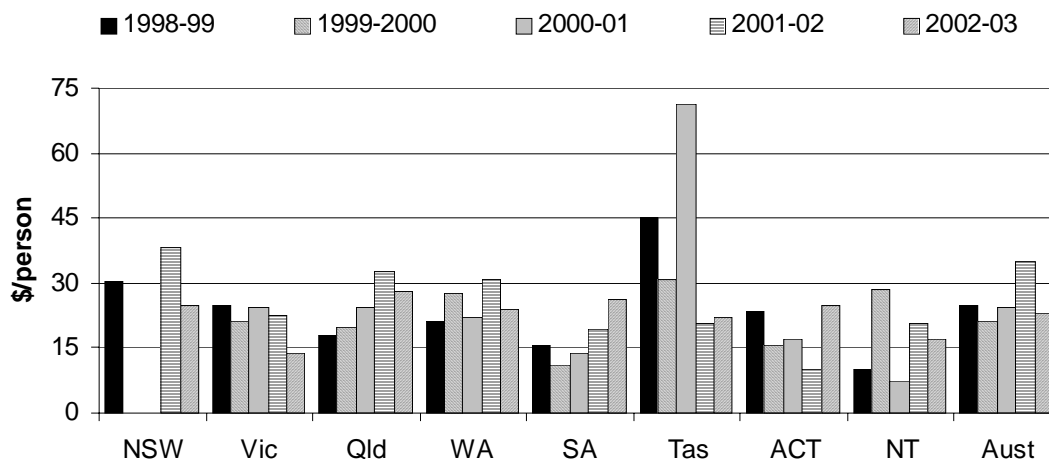
Source: State and Territory governments (unpublished); table 8A.7.

### Total property losses from structure fire

Nationally, the total property loss from structure fire in 2002-03 was \$23 per person. Across jurisdictions, it was highest in Queensland (\$28 per person) and lowest in Victoria (\$14 per person). The total property loss increased (in real terms) from 2001-02 to 2002-03 in SA, Tasmania and the ACT, and decreased in all other jurisdictions (figure 8.17).

Nationally, the three year average total dollar loss from structure fire to 2002-03 was \$27 per person. Across jurisdictions, the three year average total dollar loss from structure fires was highest in Tasmania (\$38 per person) and lowest in the NT (\$15 per person) (table 8A.8).

Figure 8.17 Real total property loss from structure fire (2002-03 dollars)<sup>a, b, c, d, e, f, g, h, i</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 1998-99, 2001-02 and 2002-03 are for NSW Fire Brigades only, but include responses to calls outside NSW Fire Brigades' designated fire districts. Data for 2001-02 include an outlier that resulted in direct dollar loss of more than \$60 million. No data are available for NSW for 1999-2000 and 2000-01. <sup>c</sup> In Queensland, accurate identification of incidents attended by both QFRS urban and rural crews is not possible at this stage. Reporting of incident attendance by QFRS rural crews is incomplete due to voluntary reporting procedures. The extent of under reporting is unknown. It is expected, however, that both these anomalies will be addressed in the next 12 months. <sup>d</sup> WA data for 1998-99 exclude Bush Fire Brigades. Data for 2002-03 include 86 per cent of the reported property losses. <sup>e</sup> SA data for 1999-2000 exclude the Country Fire Service. <sup>f</sup> Due to industrial bans, the ACT 1998-99 and 1999-2000 data are based on extrapolated results from three months of data. Data for 2001-02 exclude the ACT Bushfire Service. Data for 2002-03 exclude the January 2003 wildfire, which destroyed over 500 houses and resulted in losses in excess of \$200 million. <sup>g</sup> NT data exclude incidents attended by the NT Bushfires Council and some NT Fire and Rescue Service volunteer brigades. <sup>h</sup> Average for Australia excludes rural fire service data for some years as per the jurisdictions' caveats. <sup>i</sup> See table 8A.38 for a summary of inclusions and exclusions.

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

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

Figure 8.18 presents the performance indicator framework for ambulance services (pre-hospital care, treatment and transport services) that has been developed from the general framework for all emergency services (figure 8.3). Definitions of all indicators are provided in table 8.4.

Performance has been reported for a number of indicators, but different delivery contexts, locations and types of client may affect these indicators. Appendix A



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contains demographic and socioeconomic data that may assist in interpreting the performance indicators presented in this section.

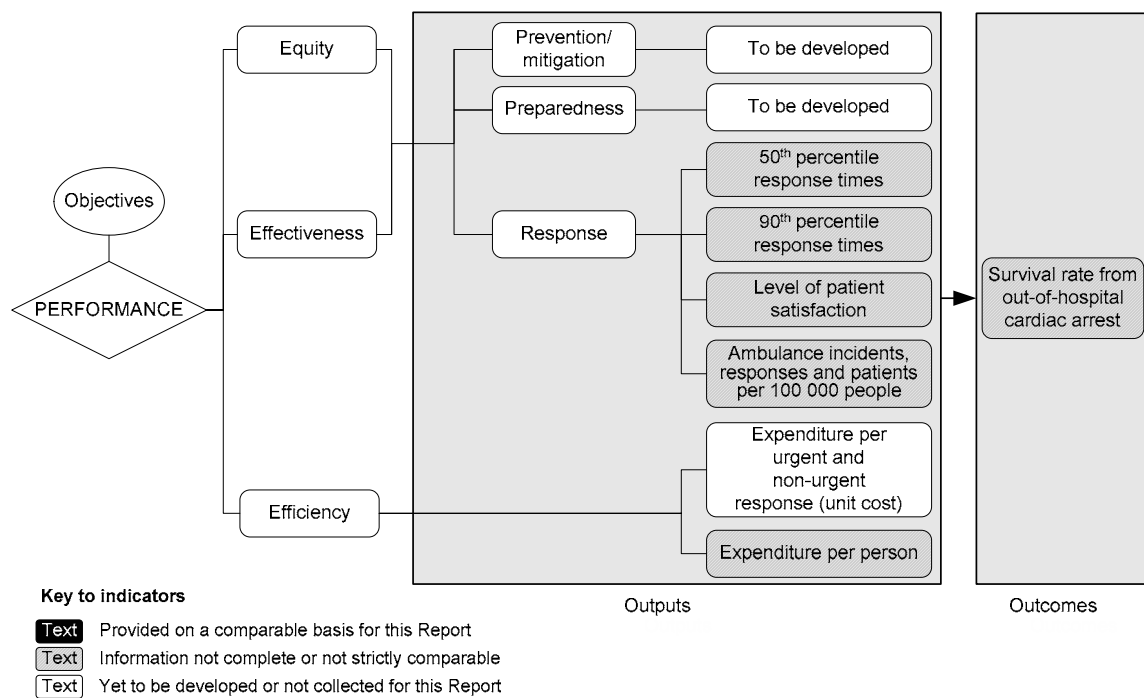
The performance indicator framework for ambulance services shows which data are comparable in the 2004 Report (figure 8.18). For data that are not considered strictly comparable, the text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability from a Report-wide perspective (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, which 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 continues to examine data on rural and remote service provision in the emergency services sector.

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

**Figure 8.18 Performance indicators for ambulance services (pre-hospital care, treatment and transport services)**



## Outputs

### *Equity and effectiveness*

Outputs are measured by response indicators: 50<sup>th</sup> and 90<sup>th</sup> percentile response times, the level of patient satisfaction, and the numbers of ambulance incidents, responses and patients per 100 000 people.

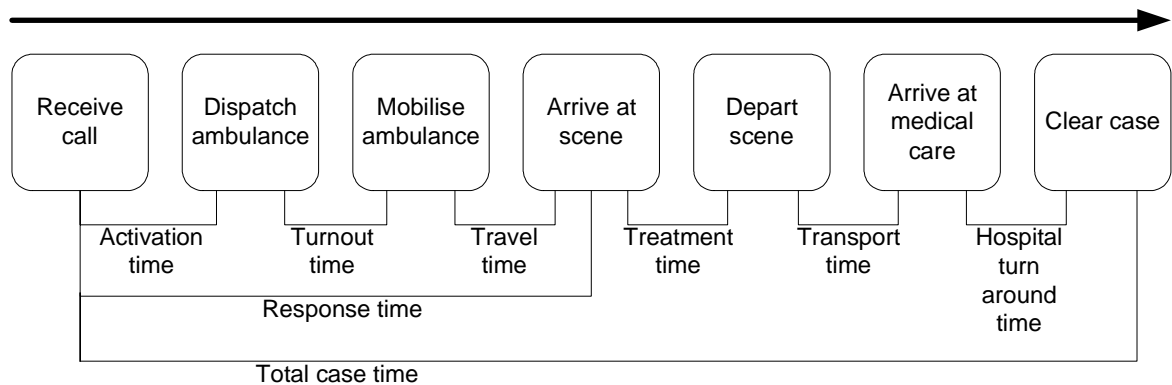
### *Response*

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 8.19).

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Figure 8.19 Response time points and indicators

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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
- 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:

- 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.
- While definitions of response times are consistent, 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 respond in code 1 situations (figure 8.20). Information is also reported on the national level of patient satisfaction.

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### *Response — 50<sup>th</sup> and 90<sup>th</sup> percentile response times*

The 50<sup>th</sup> percentile response time — the time within which 50 per cent of first ambulance resources actually responded — was highest in Tasmania (10.2 minutes) and lowest in the ACT (7.4 minutes), in 2002-03. The 90<sup>th</sup> percentile response time was highest in Tasmania (20.9 minutes) and lowest in the ACT (12.0 minutes) in 2002-03 (figure 8.20).

Within jurisdictions, over time, response times at both the 50<sup>th</sup> and 90<sup>th</sup> percentile are relatively stable.

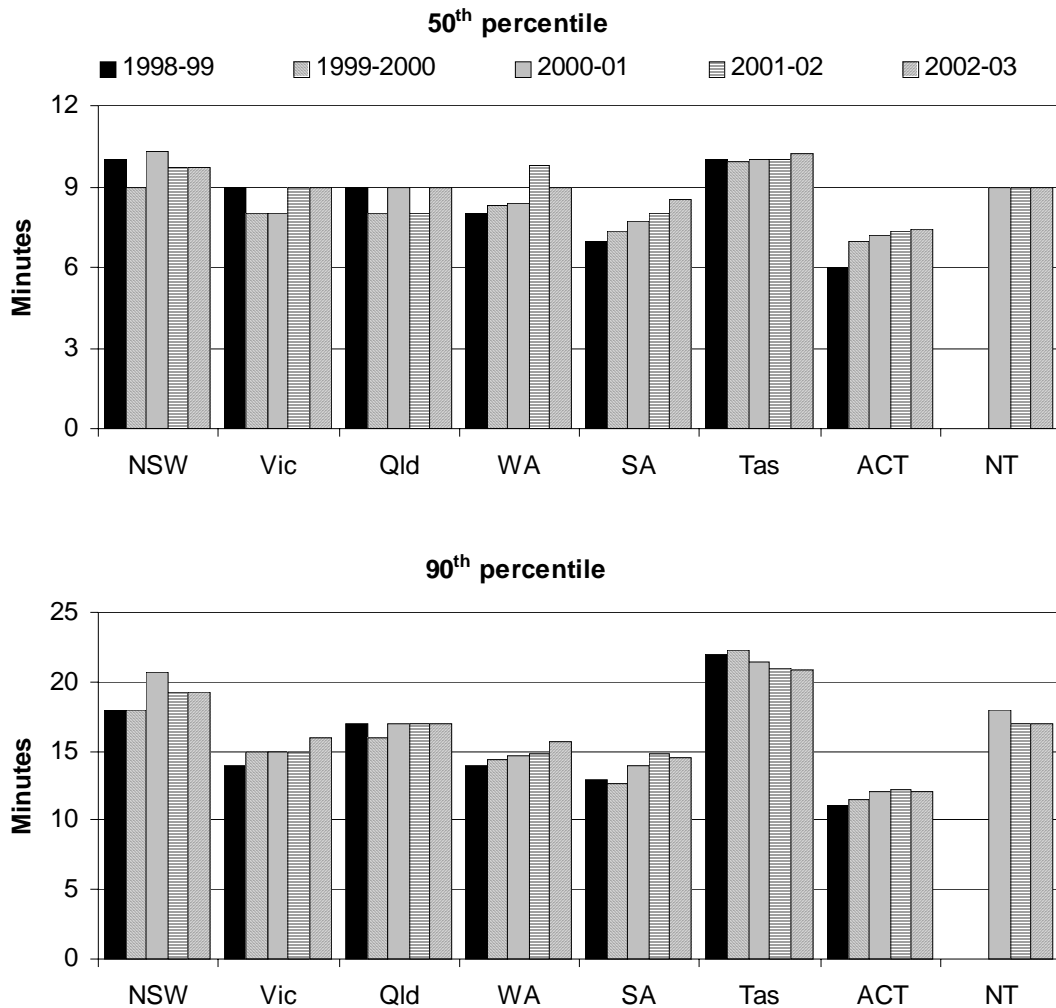
### *Response — level of patient satisfaction*

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.24). Data for 2002 and 2003 were collected by jurisdictions and collated by the Convention of Ambulance Authorities (CAA). These data are not strictly comparable with data for earlier years (which were collected using the Population Survey Monitor), because the survey instrument is different. Data for people who did not use the service were not collected for 2002 and 2003.

The CAA surveyed approximately 3800 of the 2.1 million ambulance patients nationally who used an ambulance service in 2003 (table 8A.24). The satisfaction level for ambulance patients nationally increased to 97.1 per cent in 2003 from 96.6 per cent in 2002 (figure 8.21).

Across jurisdictions, the proportion of ambulance users who were either very satisfied or satisfied increased in Victoria, SA, Tasmania and the ACT, and decreased in Queensland and WA between 2002 and 2003. In 2003, the proportion of ambulance users who were either very satisfied or satisfied was highest in Tasmania (98.6 per cent) and lowest in the NT (95.1 per cent) (table 8A.24). Analysis by the CAA suggests the differences between Tasmania and the NT, and Tasmania and the ACT were statistically significantly different and that there were no other statistically significant differences across jurisdictions (CAA 2003). No data were available for NSW and the NT for 2002.

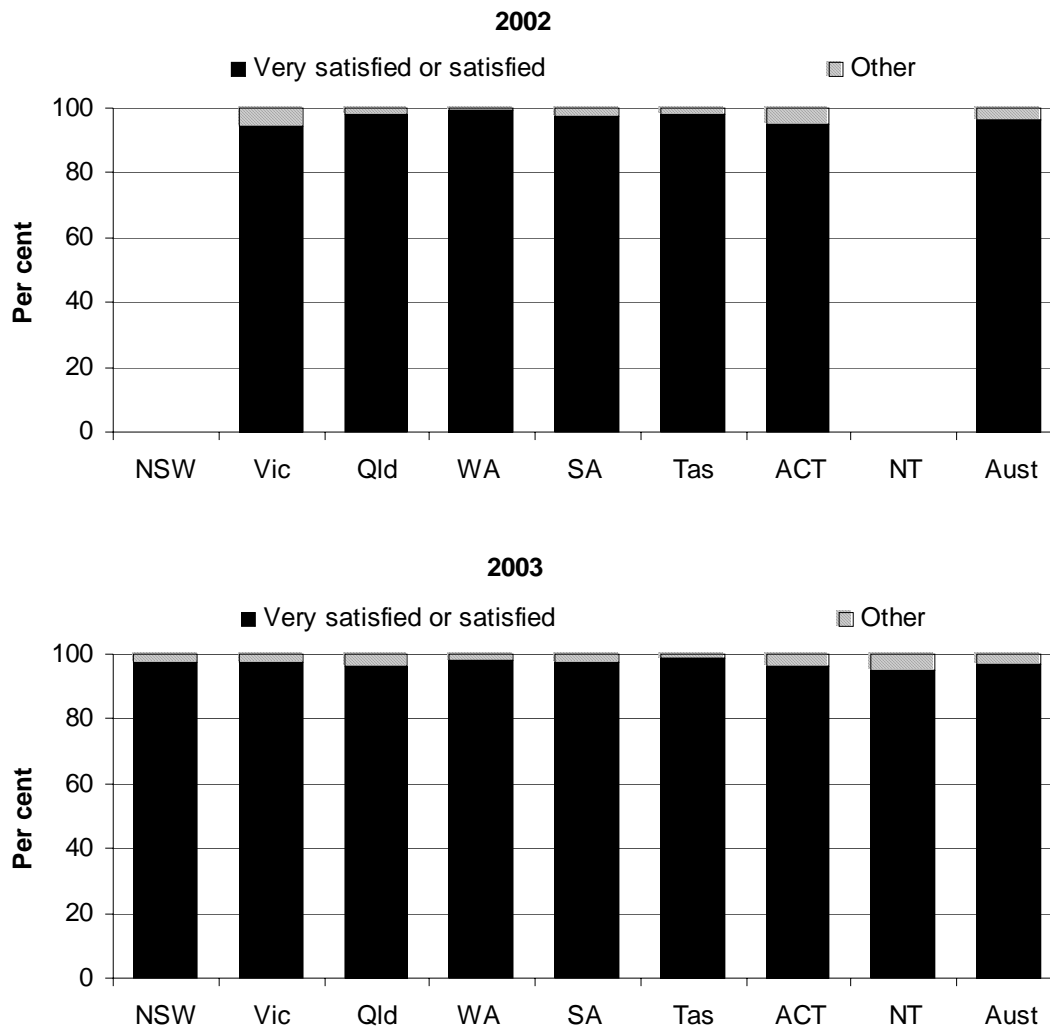
Figure 8.20 Ambulance response times<sup>a, b, c, d, e, f, g</sup>



<sup>a</sup> Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type for capturing data, affect the comparability of response times. <sup>b</sup> NSW does not triage emergency calls. Results for code 1 cases represent '000' and urgent medical incidents. <sup>c</sup> Victorian data for 1998-99 relate to Metropolitan Ambulance Service responses only. Response times are estimated. Data are incomplete due to industrial action. <sup>d</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>e</sup> WA data relate to urban responses only. <sup>f</sup> Tasmania has the largest proportion of rural population (figure A.4). <sup>g</sup> Data for the NT were not available for 1998-99 and were not published for 1999-2000.

Source: State and Territory governments (unpublished); table 8A.23.

Figure 8.21 Satisfaction with ambulance services, people who had used an ambulance service in the previous 12 months<sup>a, b, c</sup>



<sup>a</sup> Jurisdictions conducted surveys at various times during 2002 and 2003. <sup>b</sup> Reported categories differ from 2002 to 2003, enabling comparisons of these years in two aggregated categories only. <sup>c</sup> Data for NSW and the NT were not available for 2002.

Source: CAA (2002, 2003); table 8A.24.

### *Response — ambulance incidents, responses and patients per 100 000 people*

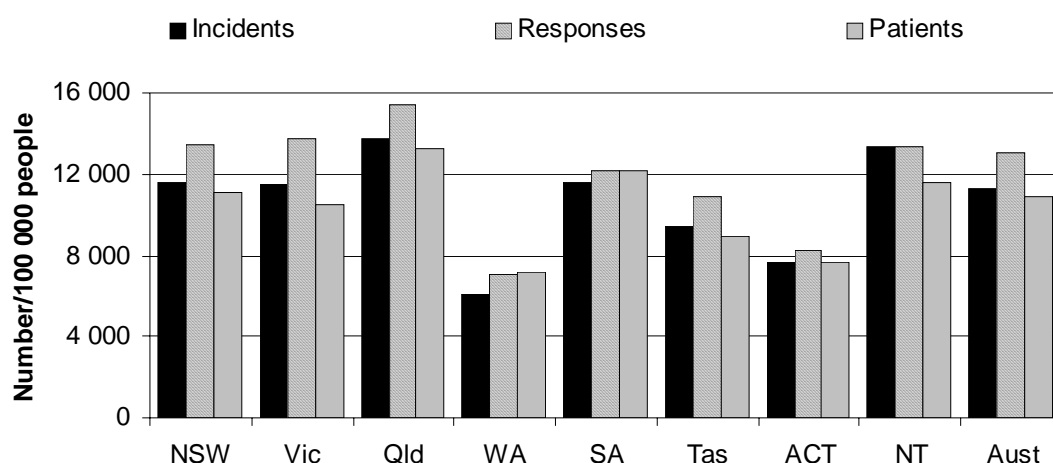
The numbers of incidents, responses and patients are interrelated. There may be multiple responses/vehicles sent to a single incident, and there may be more than one patient per incident. There may also be responses to incidents that do not have people requiring treatment (therefore, no patients).

Nationally, there were 11 322 incidents per 100 000 people, 13 021 responses per 100 000 people and 10 933 patients per 100 000 people in 2002-03. Across

jurisdictions, the number of incidents per 100 000 people was highest in Queensland (13 762) and lowest in WA (6123). The number of responses per 100 000 people was highest in Queensland (15 437) and lowest in WA (7042), and the number of patients per 100 000 people was highest in Queensland (13 241) and lowest in WA (7152) (figure 8.22).

Nationally, between 2001-02 and 2002-03, the number of incidents increased by 2.2 per cent, the number of responses increased by 4.1 per cent and the number of patients increased by 5.5 per cent (table 8A.19).

Figure 8.22 **Reported ambulance incidents, responses and patients, 2002-03**<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 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. In 2002-03, there were 6944 air ambulance (fixed and rotary wing) incidents involving 6191 ambulance patients. <sup>d</sup> Incidents, responses and patients data for Queensland are from the Ambulance Integrated Management System (AIMS database). Casualty room attendances for Queensland are not included in the response count. Total fleet road kilometres include operational vehicles only. <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.19.

### Efficiency

The main efficiency indicator is ambulance services expenditure per 1000 people. Ambulance services funding per 1000 people is also reported to show the contribution of governments and other funding sources. The quality of efficiency

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data has improved from the 2003 Report, with the adoption of a consistent basis for reporting payroll tax. The quality of efficiency reporting for the 2004 Report has improved by replacing the previous method of reporting a proxy for cost per person, which used the difference between cost estimations and revenue. Efficiency data in previous reports, therefore, will differ from those reported here. The time series has been recalculated to include comparable data over time in the 2004 Report. Efficiency data are not fully comparable, however, because there are differences in the reporting of asset related costs. Expenditure per urgent and nonurgent response will be presented in future reports.

*Expenditure per urgent and non-urgent response*

The Review has identified this indicator for development and reporting in future.

*Expenditure per person*

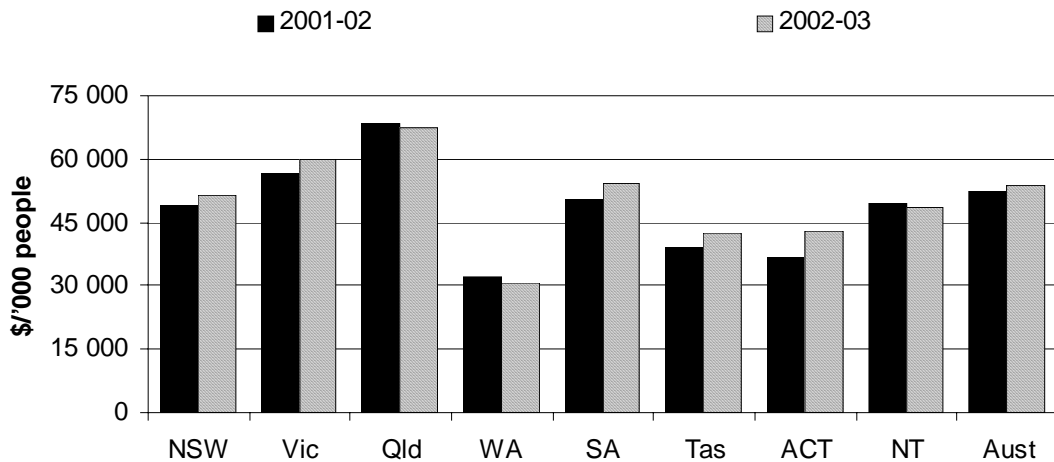
Expenditure is reported as both the total cost (total direct and indirect government and other ambulance expenditure) of ambulance services. The cost to government is reported as total government funding of ambulance services. Total expenditure is a measure of efficiency for ambulance services, and government funding is a measure of the cost to government of ambulance services. Both are reported, because revenue from other sources is significant for a number of jurisdictions.

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 (funding policies and taxing regimes). Some jurisdictions, for example, have a greater proportion of government funds than that of other jurisdictions.

Nationally, total expenditure on ambulance services per 1000 people was \$53 599 in 2002-03. Across jurisdictions, Queensland had the highest expenditure (\$67 660) and WA had the lowest (\$30 840) (figure 8.23).



Figure 8.23 Real ambulance services expenditure (2002-03 dollars)<sup>a, b</sup>

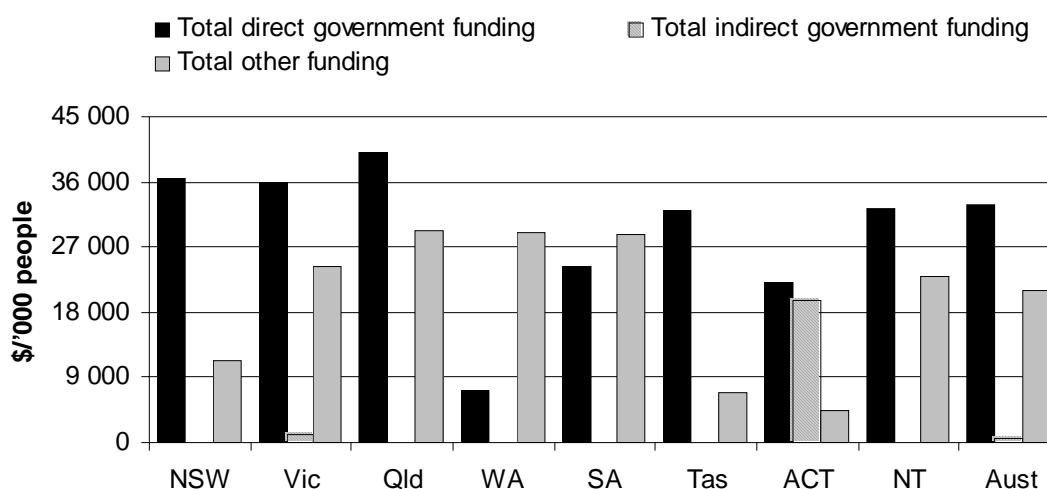


<sup>a</sup> Total government ambulance expenditure per person is reported in the 2004 Report for the time series replacing total fire expenditure less indirect government and non-government revenue per person. Non-government revenue is now termed 'other revenue' because some items in this category (for example, Veterans' Affairs) are not strictly non-government. <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.25 and 8A.26.

Nationally, direct and indirect government funding on ambulance services per 1000 people was \$33 403 in 2002-03. Across jurisdictions, it was highest in the ACT (\$41 735) and lowest in WA (\$7159). Nationally, direct government funding per 1000 people was \$32 822. Across jurisdictions, Queensland had the highest (\$40 128) and WA had the lowest (\$7159). Nationally, other funding per 1000 people was \$20 896 per 1000 people. Across jurisdictions, it ranged from \$29 394 in Queensland to \$4521 in the ACT (figure 8.24).

Figure 8.24 Ambulance services funding, 2002-03<sup>a, b</sup>



<sup>a</sup> Total government ambulance expenditure per person is reported in the 2004 Report for the time series replacing total fire expenditure less indirect government and non-government revenue per person. Non-government revenue is now termed 'other revenue' because some items in this category (for example, Veterans' Affairs) are not strictly non-government. <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); table 8A.27.

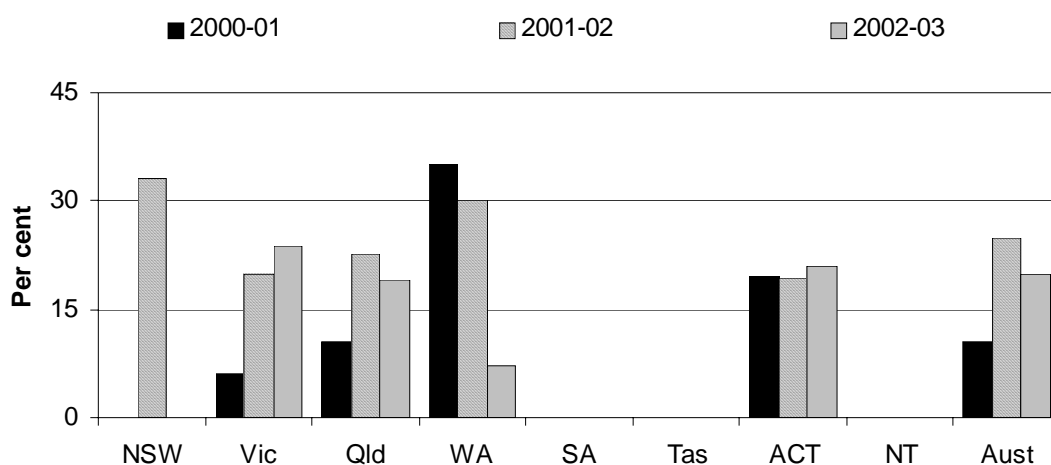
## Outcomes

The measure of outcomes for ambulance services is the survival rate from out-of-hospital witnessed cardiac arrest.

### *Survival rate from 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. Nationally, the survival rate from out-of-hospital witnessed cardiac arrest was 19.8 per cent in 2002-03. Across jurisdictions that provided data, the highest survival rate from out-of-hospital witnessed cardiac arrest was in Victoria (23.9 per cent) and the lowest was in WA (7.2 per cent) (figure 8.25).

Figure 8.25 Cardiac arrest survival rate<sup>a, b, c, d, e, f</sup>



<sup>a</sup> The definition of witnessed cardiac arrest survival rate relates to the 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 are inconsistent both within and across jurisdictions, resulting in substantial variation in cardiac arrest survival numbers and rates. The CAA is considering the definition of cardiac arrest survival and expects to provide advice to the Review in time to collect more comparable data for 2003-04. Data, therefore, need to be interpreted with caution. <sup>b</sup> Data were not available for NSW in 2000-01 and 2002-03 or for SA, Tasmania and the NT in 2000-01, 2001-02 and 2002-03. <sup>c</sup> Results for NSW need to be used with caution because 2001-02 is the first year for which NSW has reported cardiac arrest survival data. <sup>d</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>e</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 a 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>f</sup> The ACT survival rate from out-of-hospital cardiac arrests data for all years is a six year rolling average.

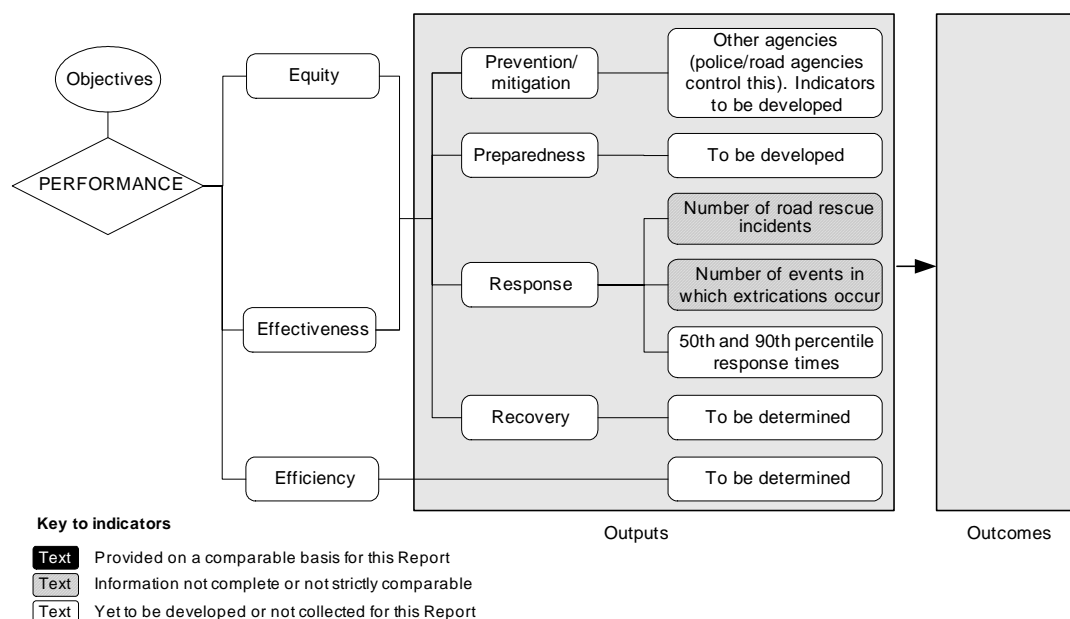
Source: State and Territory governments (unpublished); table 8A.22.

## 8.6 Key performance indicator results — road rescue services

Figure 8.26 presents the performance indicator framework for road rescue services that has been developed from the general framework for all emergency services (figure 8.3). Road rescue indicators and data are reported for the first time in the 2004 Report, however, the data included do not yet show the full extent of road rescue activities. The level of road rescue activity undertaken in NSW and by SES/TES in general is understated because the data for the 140 NSW volunteer rescue units, for example, will not become available until 2004. Definitions of all indicators are provided in table 8.4.

The performance indicator framework for road rescue services shows which data are comparable in the 2004 Report (figure 8.26). 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 8.26 Performance indicators for road rescue services



There are no outcomes indicators yet developed for road rescue services. Useful and reliable road rescue output indicators for preparedness and recovery are yet to be developed. Prevention/mitigation indicators for road safety and traffic management are reported in chapter 5 (on police services). Road rescue data are closely related to the road safety and traffic management data reported. Appendix A contains demographic and socioeconomic data that may assist in interpreting the following performance indicators.

## Outputs

### *Equity and effectiveness*

### *Response*

Outputs are measured by response indicators: the number of road rescue incidents, the number of events in which extrications occur; and response times to road rescue

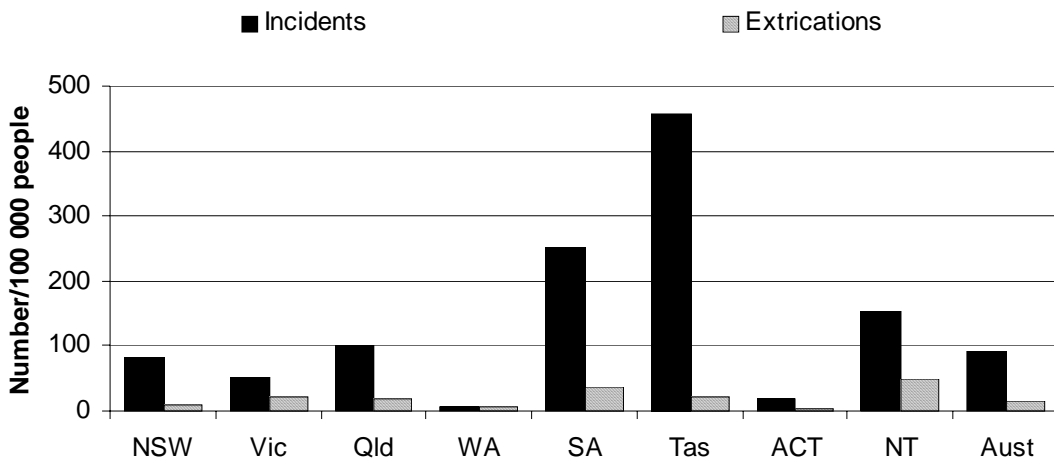
incidents. Incidents are used as a proxy for events because data for the number of events are not available. Data are not available for reporting response times.

*Response — number of road rescue incidents and extrications*

Nationally, there were 16 639 road rescue incidents in 2002-03, which equates to 84.6 incidents per 100 000 people. The total number of extrications was 3294, which equates to 16.8 extrications per 100 000 people (table 8A.28).

Across jurisdictions, the number of road rescue incidents per 100 000 people was highest in SA (250.2) and lowest in WA (7.5). The number of extrications per 100 000 people was highest in the NT (53.0) and lowest in the ACT (3.4) (figure 8.27).

**Figure 8.27 Reported road rescue incidents and extrications per 100 000 people, 2002-03<sup>a, b, c, d, e</sup>**



<sup>a</sup> In NSW, five agencies provided road rescue services. Data on road rescue have been reported for two agencies: the NSW Ambulance Service and the NSW Fire Brigades. <sup>b</sup> In Victoria, SES incidents reported are those where SES responded as the primary rescue crew. SES extricated 1310 people (which included 268 with no injuries, 879 with injuries and 163 deceased). <sup>c</sup> Queensland numbers of extrications relate to QFRS only. Extrications for SES were not recorded prior to 1 July 2003. <sup>d</sup> The Tasmanian Ambulance Service (TAS) performs the road accident rescue function in the urban areas in Tasmania (Hobart, Launceston and Burnie/Devonport) using salaried staff. The TAS attended the 2155 total incidents, of which 56 were extrications. <sup>e</sup> The ACT TES do not perform road rescue.

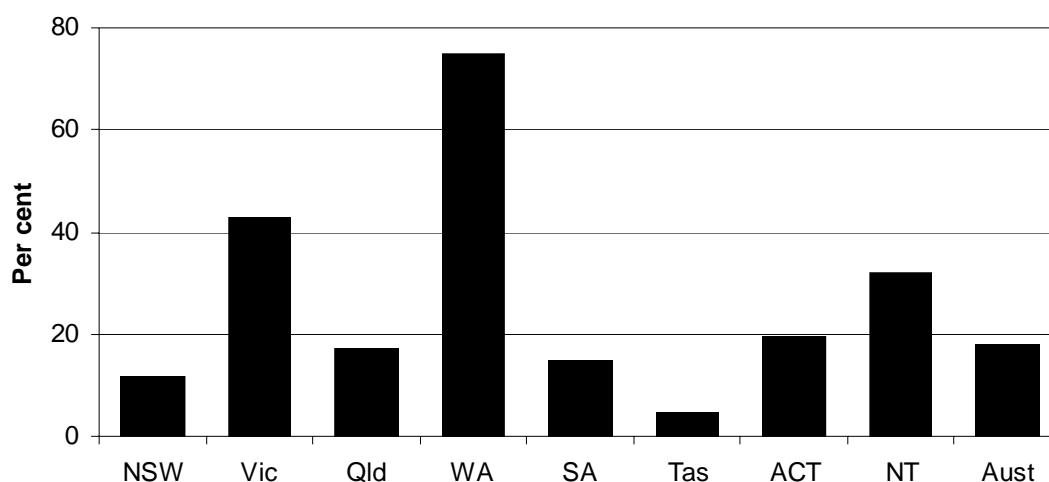
Source: State and Territory governments (unpublished); table 8A.28.

*Response — number of events in which extrications occur*

Nationally, 19.8 per cent of road rescue incidents involved an extrication in 2002-03. Across jurisdictions, the proportion of road rescue incidents in which

extractions occurred was highest in WA (75.0 per cent) and lowest in NSW (11.7 per cent) (figure 8.28).

Figure 8.28 Reported incidents in which extractions occur, 2002-03<sup>a, b, c, d, e</sup>



<sup>a</sup> In NSW, five agencies provided road rescue services. Data on road rescue have been reported for two agencies, the NSW Ambulance Service and the NSW Fire Brigades. <sup>b</sup> In Victoria, SES incidents reported are those where SES responded as the primary rescue crew. SES extricated 1310 people (which included 268 with no injuries, 879 with injuries and 163 deceased). <sup>c</sup> Queensland numbers of extractions relate to QFRS only. Extractions for SES were not recorded prior to 1 July 2003. <sup>d</sup> The TAS performs the road accident rescue function in the urban areas in Tasmania (Hobart, Launceston and Burnie/Devonport using salaried staff. The TAS attended the 2155 total incidents, of which 56 were extractions. <sup>e</sup> The ACT TES do not perform road rescue.

Source: State and Territory governments (unpublished); table 8A.29.

### *Response — 50<sup>th</sup> and 90<sup>th</sup> percentile response times*

The Review has identified these indicators for development and reporting in future.

### *Efficiency*

Efficiency indicators for road rescue services are yet to be developed. No financial data are available for SES/TES services. Further, while efficiency data relating to fire and ambulance services reported include expenditure on road rescue services, these data cannot be disaggregated by event type to identify the expenditure specific to road rescue.

## **Outcomes**

Outcomes indicators for road rescue services are yet to be developed.

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## 8.7 Future directions in performance reporting

A number of developments are underway to improve data quality and comparability, and to expand the scope of reporting on emergency services.

### *Expanding the scope of reporting*

The Survey of Emergency Management Activities undertaken in 2000 identified the agencies involved in various event-type services (table 8A.37). Road rescue was selected as the next event-type service to report, and initial reporting has occurred. The road rescue performance indicator framework is expected to be reported against more fully in the future, with response times data becoming available. Response times data for road rescue will be reported on a State/Territory-wide basis, as well as disaggregated by remoteness area. The development of detailed indicators and data collection for road rescue will be an iterative process over several years.

Other event-type services for which performance reporting has yet to be developed include: rescues (other than road rescues); natural events (other than landscape fires); technological and hazardous material incidents; emergency relief and recovery; and quarantine and disease control.

### *Improving data comparability and completeness*

Work to improve the comparability and accuracy of data is underway. Performance indicators for fire, ambulance and road rescue services are being improved with the assistance of the AFAC, the CAA and the Australian Council for State/Territory Emergency Services. These organisations will continue to expand the scope of the road rescue data collected, and to refine data items and data definitions (particularly for road rescue items and reported out-of-hospital cardiac arrest survival rates data).

## 8.8 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**

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The expansion of the chapter in this years Report to include more performance information on the range of services provided by emergency management agencies highlights the NSW Government's continued commitment to aligning service delivery more closely to community needs, and demonstrating the results that agencies are achieving for the community. This year the NSW Fire Brigades and NSW Ambulance Service have reported on the major role they play in road rescues across the state. However the data published do not yet show the full extent of road rescue activities in NSW as the data for the 140 NSW volunteer rescue units will not become available until the 2005 Report.

In 2002-03 the NSW Rural Fire Service (RFS) implemented a service delivery model for district resource allocation based on a risk management approach. In the future the RFS will be able to report on the progress of risk-based resource allocation. During the same period RFS commenced implementation of a bushfire risk management information system which will be used by a number of bushfire fighting and land management agencies in NSW to report on bushfire mitigation activities.

In 2002-03 emergency management agencies continued to enhance their overall capability to deal with the consequences of a terrorist attack. This has included unprecedented levels of funding to purchase additional chemical biological and radiological (CBR) response equipment, and urban search and rescue (USAR) equipment for the NSW Fire Brigades. Funding was also provided for dedicated specialist staff and enhanced training programs to ensure that in the wake of a terrorist attack the fire services, Department of Health, Ambulance Service and other emergency services could work effectively together.

The Ambulance Service of New South Wales continued to improve both performance and organisational systems in key clinical, operational, technical and managerial priority areas. Requests for emergency assistance through the 000 emergency line rose by 3.6 per cent resulting in the Service responding to more than 895 000 incidents. Operational reforms in the Sydney Division progressed with the adjustment of shift patterns and introduction of more Patient Transport Service vehicles for non-emergency patient transports. An additional 230 ambulance officers over the next four years has given companion reforms in rural and regional NSW a boost. A Clinical Governance Committee of the Ambulance Service Board was established to govern advancements in clinical quality systems and professional support, and skills upgrade programs for Ambulance Officers were completed.

In August 2003, the NSW Treasurer requested the NSW Legislative Assembly Public Accounts Committee review fire services funding. The Committee is due to report on its evaluation of current arrangements and alternative funding arrangements in February 2004.

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## Victorian Government comments

“ Victoria's emergency management sector faced considerable challenges throughout the year. In the early months of 2003, Victoria had the most extensive bushfires since 1939. Because of the manner in which multiple landscape fires may be combined into a single fire complex, the number and size of these fires is not evident from the performance indicators used in this chapter. The fires moved across approximately 1.3 million hectares for about 60 days, involved approximately 16 000 volunteer and career firefighters working on rotation, more than 1000 VICSES volunteers and 4620 support people from 34 different state, interstate and overseas fire agencies. The urgent need for additional resources resulted in an additional \$14 million of direct State Government funding to CFA. Despite a thousand homes being inside the perimeter of the fires and thousands more within one kilometre of it, only 41 homes were lost and, more importantly no lives were lost as a direct result of the fire. The Emergency Services Commissioner conducted an independent inquiry to examine the effectiveness of preparation, response and recovery for the fire season.

This is the first year of reporting for Victoria State Emergency Services (VICSES). VICSES has a wide range of roles and provides crucial support to other emergency service agencies. A new state-of-the-art \$6.9 million (VICSES) Headquarters opened in 2002. Emergency Communications Victoria, a new state body responsible for emergency call-taking and dispatch commenced operation. New road rescue arrangements were implemented requiring road rescue units to meet training and equipment standards. A new Water Safety Unit was created in the Office of the Emergency Services Commissioner as part of the formal incorporation of lifesaving into the Emergency Services Portfolio.

Victoria continued its multi-agency approach to delivery of superior emergency response technology, funding three projects from the Statewide Integrated Public Safety Communications Strategy. These are the Mobile Data Network Project, the Metropolitan Melbourne Radio Project and the Emergency Alerting System Project. Government funding of \$5m has been provided to rural areas to upgrade radio networks and operations and despatch centres. The Victorian Ambulance Service successfully implemented Stage 1 of its mobile data collection and information management system, the Victorian Ambulance Clinical Information System, in 18 Metropolitan Ambulance Service (MAS) ambulance branches. The MAS published planning kits that prepare people to be able to respond appropriately to medical emergencies. The introduction of Community Emergency Response Teams have enhanced pre-hospital services in isolated Victorian townships. Paramedic Community Support Co-ordinators have been introduced to respond to specific community safety issues in partnership with other health care agencies and providers. The Government, in conjunction with Ambulance Services, also commenced a project to develop quality standards in Service Responsiveness, Level of Paramedic Care and Clinical Management.

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## Queensland Government comments

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The Queensland Government continues its commitment to ensuring safer and more supportive Queensland communities through the delivery of cost effective, coordinated and integrated emergency services, and the further strengthening of governance arrangements.

Growth in demand for ambulance services continued to have an impact on service provision and response times. Queensland Ambulance Service continues to proactively manage the growth in demand and has implemented a number of strategies to maintain ambulance response times including roster reform, review of station work practices and further development of Patient Transport Services. The Government has announced, as part of the 2003-04 State Budget, additional funding to enhance service delivery and to alleviate pressures on paramedic staff through the employment of an additional 110 ambulance officers. From 1 July 2003 Community Ambulance Cover has replaced the Queensland Ambulance Service Subscription Scheme and provides all Queensland residents with ambulance cover anywhere in Australia. Community first responders are being established in rural and remote locations to further enhance service delivery.

The Queensland Fire and Rescue Service (QFRS) undertook more than 126 000 hours of fire safety and public education activities in the first nine months of the 2002-03 financial year, including almost 9000 building inspections at hospitals, nursing homes, hostels, budget accommodation and licensed premises. The QFRS will continue to progress the recommendations of the Childers Taskforce Report including the ongoing development of guidelines, the continuation of working with industry on occupational licensing, and the implementation of legislative requirements and guidelines for high risk to life buildings.

The threat of terrorist activity and the recent inter-state bushfires have brought a heightened awareness of the need to be prepared. The Government has provided funding to enhance operational readiness, management and response to a broad range of rescue situations and to possible terrorism incidents. In addition, the QFRS have commenced a review of key policy, procedures and processes pertaining to the urban/rural interface (iZone).

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## Western Australian Government comments

“ The WA Government’s commitment to safer communities continues. In addition to the continuing challenge of provision of emergency services to a state with one third of the land mass of Australia, the issue of counter terrorism has impacted upon WA. In response, the first phase of training career staff for Chemical Biological and Radiological (CBR) incidents has been completed and training for Urban Search and Rescue (USAR) has also commenced. There has also been an increase in preparedness through the running of a number of major CBR and counter terrorism exercises. A number of other issues affect the provision of services in WA. In particular, the response time to incidents is impacted by factors such as having more remote and very remote regions than any other jurisdiction, a small and widely distributed population and reliance on a network of dedicated volunteers. A highly successful initiative has been the concept of multiskilled emergency services. Volunteers in Fire and Emergency Services Units not only improve Community Centred Emergency Management for remote, population limited communities such as Hall’s Creek on the edge of the Great Sandy Desert, but increasingly also assist other communities throughout WA.

WA had its busiest fire season on record. Almost 2600 calls were received on the 000 number within an eight hour period in late December 2002. At one point 8.5 calls per minute were handled. The introduction of Helitacs — small, manoeuvrable helicopters carrying 1100 litres of water and having a turn around time of less than a minute — saved several crews and 50 houses. Analysis after events such as these is also a critical factor for more efficient and effective future services. An Incident Analysis Policy has been implemented with a specialised ongoing training program producing a significant number of facilitators. An important foundation for improved service delivery was preparation for the introduction of the Emergency Services Levy (ESL) which commenced 1 July 2003. Under the ESL, equity and strategically focused delivery of equipment and training is ensured on a needs basis rather than an ability to pay. In May 2003, the first grants for bushfire brigades and SES units were announced as part of grants worth over \$15 million during the next 12 month period.

Ambulance services in Western Australia are comprised of road and fixed wing air ambulance services. As in a number of other states, the Royal Flying Doctor Service provides air ambulance services. Non-government providers supply road ambulance services for most of the State. St John Ambulance Australia — WA Ambulance Service is the principal provider of ambulance services in WA. Three smaller private providers also deliver non-emergency ambulance services. Data included in this report relate only to the activities of St John Ambulance. Metropolitan road ambulance services are provided almost entirely by paid ambulance officers and paramedics. Outer metropolitan and country services are provided by nearly 3000 volunteers who contribute over three million hours of service annually, a much greater contribution than in other jurisdictions.”

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## South Australian Government comments



To better achieve outcomes in Public Safety the SA Government's vision is for emergency services:

- Comprising dedicated, highly trained people;
- Using modern technology and equipment;
- Providing a community focus for Prevention, Preparedness, Response and Recovery;
- Efficiently working together and with the community;
- Efficiently managed and supported; and
- Efficiently meeting modern challenges.

The Government is establishing a Fire and Emergency Services Commission to enhance community safety, retain strength of emergency response, make the best possible use of resources, and balance positioning and alignment by emergency services for prevention, preparedness, response and recovery.

SA Ambulance Service (SAAS) is a stand-alone agency that works 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. A review of SAAS was commissioned by the Department of Justice in early 2003 and a final report will be delivered in December 2003.

Major emergency management initiatives for 2003-04 include:

- Establishing a Fire and Emergency Services Commission;
- Preparing to implement the recommendations of the COAG Review of Natural Disaster Management arrangements;
- Establishing a Security and Emergency Management Office;
- Reviewing workloads 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 to ensure SAAS retains and recruits volunteers long term;
- Introducing a new level of ambulance operations, the Regional Medical Transfer Service using operational crews located at strategic locations to undertake long-distance medical transfers and to manage regional workload growth. The additional crews will support both career and volunteer crews in response to increased workload, and will also help SAAS reduce its reliance on on-call rostering and overtime; and
- Centralising the SAAS regional communication centres' functions to provide more effective coordination of dispatch and efficient use of resources statewide.



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## Tasmanian Government Comments



Tasmania has a number of key issues which 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 impacts 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.

Tasmania Fire Service (TFS) is comprised of four career brigades and 234 volunteer brigades that respond to fires in all metropolitan and rural areas. All incidents attended by 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 dry summer conditions, the number of bushfires and the area burnt by them was significantly more than the previous year. However, no deaths or serious injuries occurred as a result of these fires. There were 23 bushfires which were considered significant during the period. Eighteen of these were managed on a multi-agency basis by TFS, Forestry Tasmania and the Parks AND Wildlife Service.

TFS continues to deliver a broad range of programs to assist at-risk sectors of the community to prevent fires and minimise the impact of fires when they occur. Figures indicate that fire prevention programs targeting at-risk households are particularly effective, with significant decreases in residential fires experienced over the last ten years.

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 all other jurisdictions.

Unlike most other jurisdictions expenditure on ambulance service provision in Tasmania does not include expenditure on operating an ambulance subscription scheme but it does include operating an aeromedical service.

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

This is the first year road accident rescue services have been reported and in Tasmania that role is shared by the Tasmanian Ambulance Service (urban areas) and the State Emergency service (rural areas).



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## Australian Capital Territory Government Comments

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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 interim-payment by the Commonwealth, pending renegotiated arrangements desired by the Commonwealth.

The ACT was subjected to significant bushfires during January 2003 that resulted in the tragic death of four people and in significant property losses.

The fires are the subject of a coronial inquiry, but the event has been classified as a single occurrence for reporting purposes due to the complexities of attempting to categorise various components of such a large scale disaster.

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## Northern Territory Government comments

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The primary focus of the Northern Territory 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 and improve the response capabilities of the Fire and Rescue Service throughout the Northern Territory (NT).

Fire reduction strategies in the NT have resulted in a decrease in the overall number of fires throughout the NT. This was a significant effort during a drought affected year and after a number of large fires caused severe damage in Central Australia in late 2002. A reduction of 1420 incidents over the previous year was attributed to a pro-active hazard reduction program in Alice Springs and the Darwin Rural interface areas. Grass and scrub fires were down across the NT by 1342.

As well response times to structure fires in all centres have improved over previous years and are one of the prime reason damage and property loss due to fire has been reduced during the reporting period. Unfortunately one person died during the reporting period as a direct result of fire.

Government continues to support the Fire and Rescue Service with the addition to its firefighting fleet of two new 3000 litre fire tankers. Government also approved an increase of 5 additional firefighters to NTFRS fulltime fire fighter numbers in order to improve the level of service delivery provided by the Fire and Rescue Service.

An internal review of NTFRS Hazmat equipment and procedures was conducted during the year and a peer review by the NSW Fire Brigades of the NTFRS Breathing Apparatus equipment and procedures was also carried out. Both reviews enabled the NTFRS to benchmark itself against other fire services and improve the way this type of equipment is used at incidents.

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## 8.9 Definitions

Table 8.4 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 responded.
50 <sup>th</sup> percentile fire service response times	The time within which 50 per cent of first fire resources responded.
90 <sup>th</sup> percentile ambulance service response times	The time within which 90 per cent of first ambulance resources responded.
90 <sup>th</sup> percentile fire service response times	The time within which 90 per cent of first fire resources responded.
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 the 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 event that results in a demand for ambulance resources to respond.
Ambulance non-government revenue	Includes revenue from subscription fees, transport fees, donations and other non-government revenue. This excludes funding revenue from Australian, State and local governments.
Ambulance patient	A person assessed, treated or transported by the ambulance service.
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 response	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.
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.
Events in which extrication(s) occurred	An event in which the assisted removal of a casualty occurred. An incident with multiple people extricated is counted the same as an incident with one person extricated.
Extrication	Assisted removal of a casualty.
False report	An incident in which the fire service responded to and investigated a site, and may have restored a detection system.

(Continued on next page)



**Table 8.4 (Continued)**

<i>Term or indicator</i>	<i>Definition</i>
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 the sale of plant and equipment, donations and industry contributions). This excludes funding revenue from Australian, State and local governments.
Fire death	A fatality where fire was determined to be the underlying cause of death. This information is 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 the 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 reported to a fire service that 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 such entity) 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.
Nonemergency ambulance response	A non-emergency ambulance response that does not necessitate the use of ambulance warning (lights and sirens) devices.
Nonstructure 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.

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**Table 8.4 (Continued)**

<i>Term or indicator</i>	<i>Definition</i>
Other incident	An incident (other than fire) reported to a fire service that requires a response. This may include: <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, the escape of hazardous materials)</li><li>• salvage</li><li>• a storm or extreme weather.</li></ul>
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).
Road rescue	An accident or incident involving a motor vehicle and the presumption that there are injuries or that assistance is required from emergency services organisations.
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 fire in unconfined spaces). A room is an enclosed space, regardless of its dimensions or configuration. This category includes fires in residential and nonresidential structures.
Survival rate for out-of-hospital witnessed cardiac arrest incidents	The percentage of patients with cardiac arrest of presumed cardiac cause, who have vital signs on arrival at hospital. This excludes incidents to children (younger than 16 years), drownings, trauma and other cases where aetiology is known (for example, asthma).
Urgent ambulance response	An urgent ambulance response to a pre-hospital medical incident or accident that 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 noncurrent physical assets (including land, plant and equipment).

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## 8.10 References

ABS (Australian Bureau of Statistics) 2001a, *Voluntary Work Australia*, Cat. no. 4441.0, Canberra.

— 2001b, *Population Survey Monitor*, Cat. no. 4103.0, Canberra.

CAA (Convention of Ambulance Authorities) 2002, *National Patient Mailout Satisfaction Research 2002*, Adelaide.

— 2003, *National Patient Mailout Satisfaction Research 2003*, Adelaide.

CFA, VRFBA and VUFBA (Country Fire Authority, Victorian Rural Fire Brigades Association and Victorian Urban Fire Brigades Association) 2001, *Submission to the Charities Definition Inquiry*, Victoria.

EMA (Emergency Management Australia) 2001, *Summit Report: Value Your Volunteers or Lose Them — A National Summit for Volunteer Leaders/Managers*, Canberra.

— 2003, *What is Emergency Management?*, [www.ema.gov.au](http://www.ema.gov.au) (accessed 14 October 2003).

SCRCSSP (Steering Committee for the Review of Commonwealth/State Service Provision) 2002, *Report on Government Services 2002*, AusInfo, Canberra.

— 2003, *Report on Government Services 2003*, AusInfo, Canberra.

TAS and KPMG (Tasmanian Ambulance Service and KPMG) 2001, *Full Cost Attribution Costing Study*, Tasmania.

