9   Emergency management

Emergency management aims to reduce the level of risk to the community of emergencies occurring, reduce the adverse effects of emergency events, and improve the level and perception of safety in the community. This chapter reports on selected emergency events, including fire, ambulance (pre-hospital care, treatment and transport) and emergency road rescue events. While section 9.1 contains some information on the scope of emergency services organisation (ESO) activities, the chapter does not report on the total range of State, Territory and Local government activities.

An overview of emergency management appears in section 9.1. A framework of performance indicators is outlined in section 9.2. The data are discussed in sections 9.3 (fire), 9.4 (ambulance) and 9.5 (road rescue), and future directions for performance reporting are discussed in section 9.6. Jurisdictions' comments are provided in section 9.7. The chapter concludes with definitions (section 9.8), a list of attachment tables (section 9.9) and references in section 9.10. Attachment tables are identified in references throughout this chapter by an 'A' suffix. For example, table 9A.3 is table 3 in the 9A attachment tables.

9.1   Overview 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 ESOs engaged in areas as diverse as risk assessment, 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, tsunamis, 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 and restore their socioeconomic vitality after an emergency event.

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.

Australian Government

The Australian Government administrative arrangements referred to in this section reflect the arrangements in place as at 2 December 2007. The primary role of the Australian Government is to support and coordinate the development, by the states and territories, of a national emergency management capability. This is achieved by a range of activities, including:

- providing material and technical assistance to states and territories in the event of large scale emergencies (coordinated through Emergency Management Australia (EMA), a division within the Australian Government Attorney General's Department)

- providing financial assistance to states, territories and authorities for natural disaster and flood prevention/mitigation (through the Natural Disaster Mitigation Program and the Regional Flood Mitigation Program of the Department of Transport and Regional Services (DOTARS) and for helping to bear the costs of natural disasters (through DOTARS's Natural Disaster Relief Arrangements)

- providing information, best practice materials and training programs (through EMA)

- providing funding for risk management (through the DOTARS's Natural Disaster Risk Management Studies Program) and undertaking comprehensive risk assessment (through DOTARS and 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 regulatory arrangements for the protection of life, property and the environment, and they have primary responsibility for delivering emergency services (including fire and ambulance services) directly to the community.

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

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 bushfires and structure fires, floods, storms, landslides 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 and other emergency services

- allocating resources for response and recovery activities

- providing financial and operational assistance to rural fire brigades and/or other voluntary emergency service units.

Emergency service organisations

State, Territory and Local governments provide emergency management services to the community through a range of ESOs. The governance and reporting lines of ESOs vary across jurisdictions. These organisations range from government departments to statutory authorities, and to smaller branches, agencies or services within larger departments or authorities. In some instances, non-government organisations are also involved in the provision of emergency management services, such as St John Ambulance in WA and the NT.

In all jurisdictions, there is considerable cooperation and coordination among ESOs in response to major emergency events. There can also be substantial cooperative

efforts across government, particularly in the recovery stages after a major incident. Events of considerable magnitude and duration, such as earthquakes, cyclones and bushfires, can involve international, interstate and other cooperation and support. Jurisdictions are increasingly interacting and contributing to programs and operational response to a number of significant emergency events around the Pacific and Indian Ocean rim.

Fire service organisations

State and Territory governments provide a range of emergency management activities through agencies historically considered as fire service organisations, including prevention, preparedness, response and recovery (section 9.2). The role of fire service organisations varies across jurisdictions and includes involvement in an expanding variety of activities (table 9A.34). Fire service organisations are involved in:

- developing building fire safety codes and inspecting fire safety equipment and practices

- training and educating the community to achieve community awareness and behavioural change in relation to fire safety and road safety issues

- assisting individuals and communities to prepare for bushfires and other hazards

- responding to structure, bush, vehicle and other fires

- providing rural land management advice on the role and use of fire

- providing road accident rescue and other rescue services

- managing hazardous material incidents

- administering legislation relating to fire safety, hazardous materials facilities and hazard mitigation

- investigating fire cause and origin

- wide ranging industry research activities.

Fire service organisations work closely with other government departments and agencies — including ESOs such as the State Emergency Service/Territory Emergency Service (S/TES), police and ambulance services, and community service organisations — to minimise the impact of fire and other emergencies on the community. Their governance arrangements differ across jurisdictions (box 9.1).

Separate urban and rural fire service organisations deliver fire services in most jurisdictions. Land management agencies typically also provide rural fire services (although data on these agencies are not reported in this chapter unless stated).

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.

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.)

Box 9.1   Delivery and scope of activity of primary fire service organisations[a]

	Urban	*Rural*
	Attend: residential and commercial structure fires; incidents involving hazardous materials; and road accidents within major urban centres.	**Attend: local structure fires and other events outside major urban centres; rural non-structure fires (including crop, bushland and grassland fires on private property); and fires in national parks and State forests.**
NSW	*NSW Fire Brigades* — this government department reports to the Minister for Emergency Services directly.	
		NSW Rural Fire Service — this government department reports to the Minister for Emergency Services directly.
Vic[b]	*Metropolitan Fire and Emergency Services Board* — this statutory authority reports to the Minister for Police and Emergency Services.	*Department of Sustainability and Environment* — this department is responsible for public lands.
	Country Fire Authority — this statutory authority reports to the Minister for Police and Emergency Services.	
Qld	*Queensland Fire and Rescue Service* — 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[c]	*Fire and Emergency Services Authority of WA* (FESA) — this umbrella statutory authority reports to the Minister for Police and Emergency Services directly.	
SA	*South Australian Metropolitan Fire Service* — this body corporate reports to the SA Fire and Emergency Services Commission.	
	South Australian Country Fire Service — this body corporate reports to the SA Fire and Emergency Services Commission.	
Tas	*Tasmania Fire Service* — this is the operational arm of the State Fire Commission, which reports to the Minister for Police and Emergency Management.	
ACT	*ACT Fire Brigade and ACT Rural Fire Service* — these are services of the ACT Emergency Services Agency within the Department of Justice and Community Safety, which together report to the ACT Minister for Police and Emergency Services.	

Ambulance service organisations

Across jurisdictions the role of ambulance service organisations as an integral part of the health system generally includes:

- providing emergency and non-emergency pre-hospital and out-of-hospital patient care and transport

- undertaking inter-hospital patient transport including the movement of critical patients

- conducting specialised rescue services

- preparing for and providing capacity for the ambulance component of multi-casualty events

- enhancing the community's capacity to respond to emergencies

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 9.2).

There are fixed and rotary wing (helicopter) ambulance services in all jurisdictions. In most jurisdictions these services are provided by the ambulance service

organisations through various contractual arrangements. In WA, SA, QLD and the NT, all or most of the cost of air ambulance services falls outside of the ambulance service organisations (see also section 9.4 for a discussion of air ambulance services).

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│ Box 9.2        Relationships of primary ambulance response and               │
│                management organisations to government                        │
│                                                                              │
│ NSW        Ambulance Service of NSW — a division of the Department of Health │
│            reporting to the Minister for Health                              │
│                                                                              │
│ Vic        Metropolitan Ambulance Service, Rural Ambulance Victoria, and     │
│            Alexandra District Ambulance Service — separate statutory bodies  │
│            reporting to the Minister for Health                              │
│                                                                              │
│ Qld        Queensland Ambulance Service — a division of the Department of    │
│            Emergency Services, reporting to the Director-General, who reports│
│            to the Minister for Emergency Services                            │
│                                                                              │
│ WA         St John Ambulance — an incorporated not-for-profit organisation   │
│            under contract to the WA Government                               │
│                                                                              │
│ SA         SA Ambulance Service (SAAS) — an incorporated association         │
│            established under the Associations Incorporations Act 1985 (SA)   │
│            with a single member being the Minister for Health. The Ambulance │
│            Services Act 1992 (SA) authorises SAAS to provide ambulance       │
│            services in SA                                                    │
│                                                                              │
│ Tas        Tasmanian Ambulance Service — a statutory service of the Acute   │
│            Services group of the Department of Health and Human Services     │
│                                                                              │
│ ACT        ACT Ambulance Service — The ACT Ambulance Service is one of four  │
│            operational services that comprise the ACT Emergency Services     │
│            Agency, Department of Justice and Community Safety (the other     │
│            operational services are the ACT Fire Brigade, ACT Rural Fire     │
│            Service and ACT State Emergency Service). The Department reports   │
│            to the ACT Minister for Police and Emergency Services             │
│                                                                              │
│ NT         St John Ambulance — an incorporated not-for-profit organisation   │
│            under contract to the NT Government                               │
│                                                                              │
│ Source: State and Territory governments (unpublished).                       │
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State Emergency Services and Territory Emergency Services

State and Territory governments contribute to a range of emergency management activities through S/TES. The activities of S/TES (table 9A.35) include prevention, preparedness, response and recovery (section 9.2). The role of S/TES across jurisdictions encompasses a variety of activities. The S/TES have a role in searches, rescues, floods, cyclones and other storms and a major role in attending road rescue incidents and performing extrications.

Other ESOs

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

Volunteers in emergency management

In 2006-07, over 254 000 fire, ambulance and S/TES volunteers played a significant role in the provision of emergency services in Australia (table 9.1). 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.

Volunteers in many ESOs — including fire, ambulance, S/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.

Table 9.1   **Volunteers in emergency service organisations (a)**

	NSW[b]	*Vic*[c]	*Qld*[d]	*WA*[e]	*SA*[f]	*Tas*	*ACT*	*NT*[g]	*Aust*
2004-05									
ASOs	118	819	575	2 624	1 530	448	–	17	6 131
FSOs	75 443	58 662	44 648	28 319	15 569	4 668	1 062	551	228 922
S/TES	9 835	4 350	12 456	2 015	1 998	575	244	495	31 968
Total	**85 396**	**63 831**	**57 679**	**32 958**	**19 097**	**5 691**	**1 306**	**1 063**	**267 021**
2005-06									
ASOs	84	915	427	2 851	1 479	503	–	14	6 273
FSOs	76 195	58 849	41 324	26 890	15 120	4 765	1 018	539	224 700
S/TES	10 302	4 437	9 394	1 863	1 896	577	168	392	29 029
Total	**86 581**	**64 201**	**51 145**	**31 604**	**18 495**	**5 845**	**1 186**	**945**	**260 002**
2006-07									
ASOs	121	897	416	2 839	1 619	507	–	10	6 409
FSOs	76 302	59 509	36 000	27 305	15 517	4 978	1 261	550	221 422
S/TES	10 331	4 411	7 000	1 854	1 821	525	191	347	26 480
Total	**86 754**	**64 817**	**43 416**	**31 998**	**18 957**	**6 010**	**1 452**	**907**	**254 311**

ASO = ambulance service organisation. FSO = fire services organisation. **a** Numbers for fire service organisations include volunteer support staff plus part paid volunteers for all jurisdictions except WA and the ACT. **b** NSW: For SES, active volunteers are termed 'active members' and non-active volunteers are termed 'reserve members'. **c** Vic: Data on volunteers includes some remunerated volunteers. These volunteers were remunerated for some time (usually response), but not for other time (usually on-call time). **d** Qld: For S/TES, the decrease in numbers is the result of an audit of volunteer records that identified and removed records of volunteers who have left the SES. **e** WA: S/TES data does not include 494 Volunteer Emergency Service members (included as FSO members). **f** SA SES data refer to active, operational members. **g** NT Transient persons in the NT see fluctuations in the numbers of volunteers. – Nil or rounded to zero.

Source: State and Territory governments (unpublished); tables 9A.5, 9A.20 and 9A.30.

Although volunteers make a valuable contribution, they should not be counted as an entirely free resource. For example, 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 effect of volunteer activity has implications for the interpretation of financial and non-financial performance indicators in this chapter. Notional wages costs for volunteers are not reflected in monetary estimates of inputs or outputs, which means that data for some performance indicators may be misleading 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.

9.2 Framework for measuring the performance of emergency management

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 objectives for emergency management that are common to all Australian ESOs (box 9.3).

Box 9.3   **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 service organisations aim to reduce the number of emergency events through prevention activities, and to reduce the impact of emergency events through community and operational preparedness. Fast, effective response and recovery services are critical to containing hazards and managing the consequences of emergency events. The prevention/mitigation, preparedness, response and recovery performance indicator framework (figure 9.1) used in this chapter reflects all these activities.

The general performance indicator framework presented in figure 9.1 has been applied to fire events (section 9.3), ambulance events (section 9.4) and road rescue events (section 9.5).

The outcome indicators in the performance framework indicate the contribution of ESOs to the community, economy and environment. Those currently reported are, for fire events, the 'fire death rate', the 'fire injury rate', the 'median dollar losses from structure fire', 'property losses from structure fire per person', and for ambulance events, patient satisfaction and the 'cardiac arrest survived event rate'.

Figure 9.1   **General performance indicator framework for emergency management**
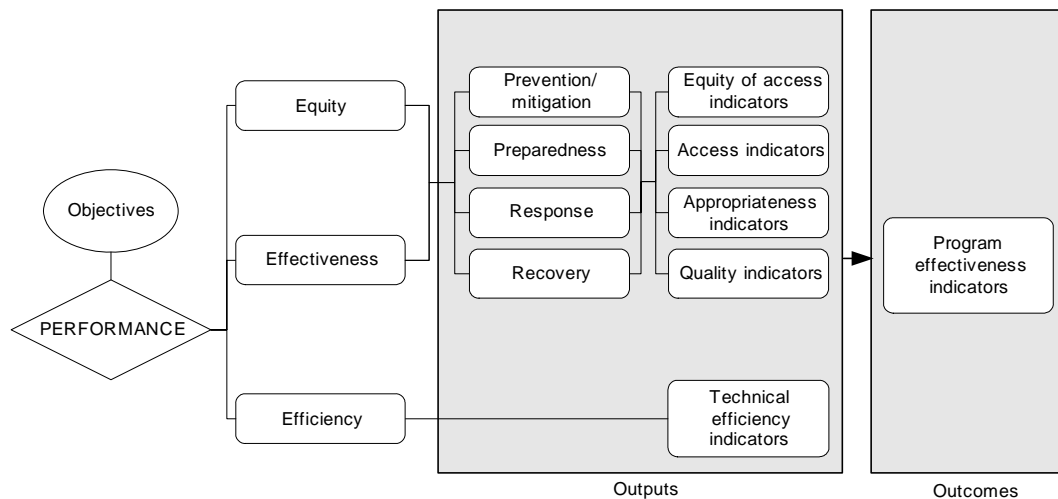
The framework uses the widely accepted 'comprehensive approach' (prevention/mitigation, preparedness, response and recovery) to classify the key functions common to ESOs in managing emergency events. Outputs in the emergency event frameworks are grouped accordingly.

- *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 prevention and mitigation include: advice on land management practice and planning; 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 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 those standards.

- *Response* — the results of strategies and services to control, limit or modify the emergency to reduce its consequences. Activities that contribute to 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 (ESOs)* — the results of strategies and services to return agencies to a state of preparedness after emergency situations. Activities that contribute to emergency services recovery include: critical incident stress debriefing; and the return of ESO resources to the state of readiness specified in their response plan(s).

- *Recovery (community)* — the results of strategies and services to support affected individuals and communities in their reconstruction of physical infrastructure and their restoration of emotional, social, economic and physical wellbeing. Activities that contribute to 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. Every jurisdiction is placing a greater emphasis on preventative activities. Efficient resource use reduces the cost of delivering a service of specified quality.

9.3   Fire events

This section contains information on the performance of ESOs in providing emergency management services for fire events. A fire event is an incident that is reported to a fire service organisation and requires a response. Fire events include (but are not limited to):

- structure fires (that is, fires inside a building or structure), regardless of whether there is damage to the structure

- landscape fires, including bushfires and grass fires, regardless of the size of the area burnt

- other fires, including vehicle and other mobile property fires, and outside rubbish fires.

Emergency management services for fire events

Fire service organisations are the primary agencies involved in providing emergency management services for fire events. A range of other agencies may also be involved, including ambulance service organisations, S/TES, police and community services (table 9A.37).

Full reporting would ideally include information on the resources allocated by all ESOs to managing fire events. Although this information is currently unavailable, work is underway to improve this information for future reports. The descriptive information provided below on funding, incidents and human resources relate to fire service organisations only. (As discussed in section 9.1, fire service organisations are also involved in other activities not directly related to fire events).

Funding

Total funding of the fire service organisations covered in this Report was $2.5 billion in 2006–07. Over the period 2002-03 to 2006-07 funding increased (in real terms) for all jurisdictions except Tasmania (table 9.2).

Table 9.2   **Funding of fire service organisations (2006-07 dollars) ($ million)[a]**

	NSW[b]	Vic[c]	Qld	WA[d]	SA	Tas	ACT[e]	NT	Aust
2002-03	756.9	445.5	335.6	117.5	141.2	56.5	33.5	18.2	1 905.0
2003-04	648.8	495.1	338.4	132.8	147.5	54.9	42.8	18.0	1 878.3
2004-05	682.8	518.0	325.2	126.6	145.8	54.3	48.6	20.7	1 922.0
2005-06	697.7	542.6	333.0	142.0	147.5	49.7	54.1	21.8	1 988.4
2006-07	774.6	889.9	343.9	227.8	146.6	53.4	50.4	22.0	2 508.7

a Funding levels are adjusted using the Australian Bureau of Statistics (ABS) gross domestic product price deflator (2006-07 = 100) (table AA.26) to arrive at a constant price measure. **b** NSW: Figures vary from year to year as a result of abnormal grants for specific major emergencies. **c** Vic: 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 2006-07 year is the first in which the Victorian data includes revenue for the Department of Sustainability and Environment (DSE) and explains the marked increase for that year. **d** WA: FESA provides a wide range of emergency services under an integrated management structure. Data for 2006-07 cannot be segregated by service and include funding related to delivery of other emergency services including SES and volunteer marine rescue. **e** ACT: The increase in 2005-06 is due to a significant upgrade of Emergency Services Communications systems and inclusion of Joint Emergency Services Training Costs. In 2006-07 funding is included under 'miscellaneous revenue' for the placement of an Ericson sky crane in the ACT as part of the National Aerial Firefighting Strategy.

Source: State and Territory governments (unpublished); table 9A.1.

Fire levies were the primary source of funding in 2006-07 in all jurisdictions except the ACT and the NT, where Territory governments were the most important source of funds. Governments usually provide the legislative framework for the imposition of fire levies, rather than directly collecting the levies themselves. In 2006-07, fire levies were raised from levies on property owners or, in some jurisdictions, from levies on both insurance companies and property owners (table 9A.1). In addition to relying on funded resources, all States and Territories rely on volunteer firefighters, who make a significant contribution to community safety.

Nationally, nearly 34 per cent of funding for fire service organisations was provided by government as government grants and indirect government revenue in 2006-07, with the proportion varying across jurisdictions (figure 9.2).

Figure 9.2   **Major sources of fire service organisation funding, 2006-07**
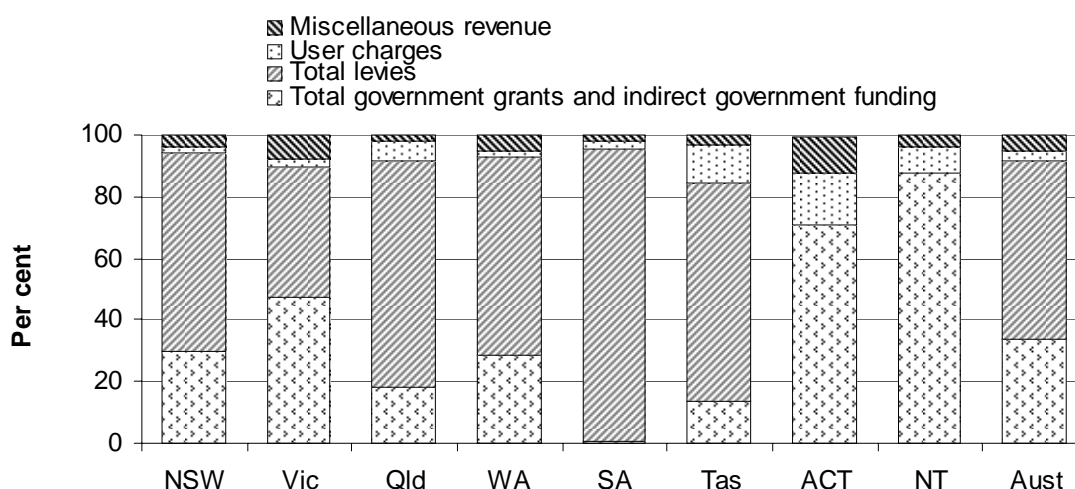
Human resources

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 administrative, technical and communications personnel).

Nationally, 17 188 full time equivalent (FTE) paid personnel were employed by fire service organisations in 2006-07. Nationally, 12 842 FTE or 74.7 per cent of the 17 188 FTE were paid firefighters. A large number of volunteer firefighters (221 422 people) also participated in the delivery of fire services in 2006-07 (table 9A.5).

Fires and other emergency incidents

As noted in box 9.1, various urban and rural fire service organisations operate within jurisdictions. Data on reported fires and other incidents were not available for all fire service organisations in all jurisdictions.

Nationally, 31.1 per cent or 120 317 of the 386 752 reported incidents attended to by fire service organisations were fires, and 68.9 per cent were other emergencies and incidents in 2006-07, with these proportions varying across jurisdictions (table

9A.2). A significant proportion of all calls for assistance across all jurisdictions are found, upon investigation, to be false alarms. However, fire service organisations are required by legislation to respond to all calls, and an incident cannot be deemed to be a false report until the fire service organisation has responded and investigated the site.

The proportion of fire types varied substantially across jurisdictions in 2006-07, with fires within or involving a structure the least attended type of fire (table 9A.2). Although there are fewer structure fires than landscape (bush and grass) fires, nationally, they impose a high threat to life and property and are a focus of this chapter.

Total fire incidents attended by fire service organisations per 100 000 people

Nationally, 581 fire incidents per 100 000 people were attended in 2006-07 (figure 9.3).

Figure 9.3   **Fire incidents attended by fire service
organisations per 100 000 people[a, b, c, d, e, f, g, h]**
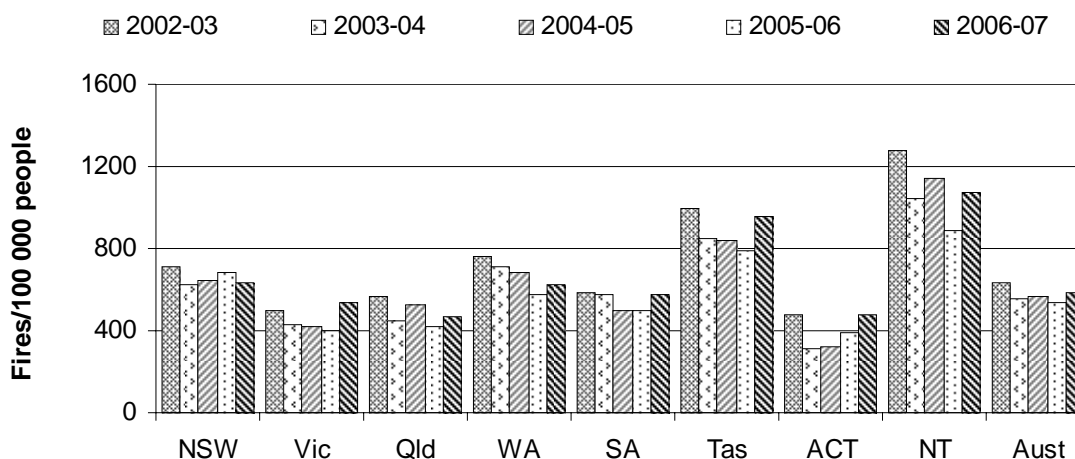
a Fire incidents include landscape fire incidents attended by fire service organisations. Data in the table may be different from other tables in the chapter because these data only reflect responses from fire service organisations. These data report the type of incident that reflects the most serious situation as determined by operational personnel after arriving at the scene and not the incident type relayed by the communication centre. **b** Vic: Due to data collection issues, data is incomplete for 2005-06. Landscape fires data include incidents from the Department of Sustainability and Environment from 2004-05 onwards. Some degree of duplicate counting may be present across Country Fire Authority and Department of Sustainability and Environment figures. This will be resolved in the 2008-09 data return. **c** Qld: 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. **d** WA: Data includes reported turnouts by career and volunteer services to fire. **e** Tas: Figures include data provided by *all* fire brigades, both full-time and volunteer. **f** ACT: Includes data for urban and rural fire service organisations. **g** NT: The higher number of incidents per 100 000 persons in 2006-07 can be attributed to the large number of grass fires in Northern Australia caused by a large wet season which contributed to increased growth of native grasses. **h** Aust: The average for Australia excludes rural fire service data as per the jurisdictions' caveats.

Source: State and Territory governments (unpublished); table 9A.10.

Ignition factor for structure fires

The ignition factors causing structure fires vary from jurisdiction to jurisdiction. Cause identification assists fire service organisations and other emergency management stakeholders in formulating fire prevention, community safety and public education programs. By examining the ignition factor, lessons are learnt and communities face reduced risk. Cause identification also helps formulate legislation and standards, and is used to assist in recovery through the provision of information to facilitate insurance claims and settlements.

Total reported landscape fire incidents

Nationally, 54 555 landscape (bush and grass) fire incidents were reported by fire service organisations and land management agencies in 2006-07 (table 9A.3) The number of landscape fires in different jurisdictions is influenced by seasonal conditions (figure 9.4). Landscape fire incidents reported to land management agencies are excluded for some jurisdictions.

Figure 9.4 **Fire service organisations and land management agencies reported total landscape (bush and grass) fire incidents**[a, b, c, d, e, f, g ,h ,i]
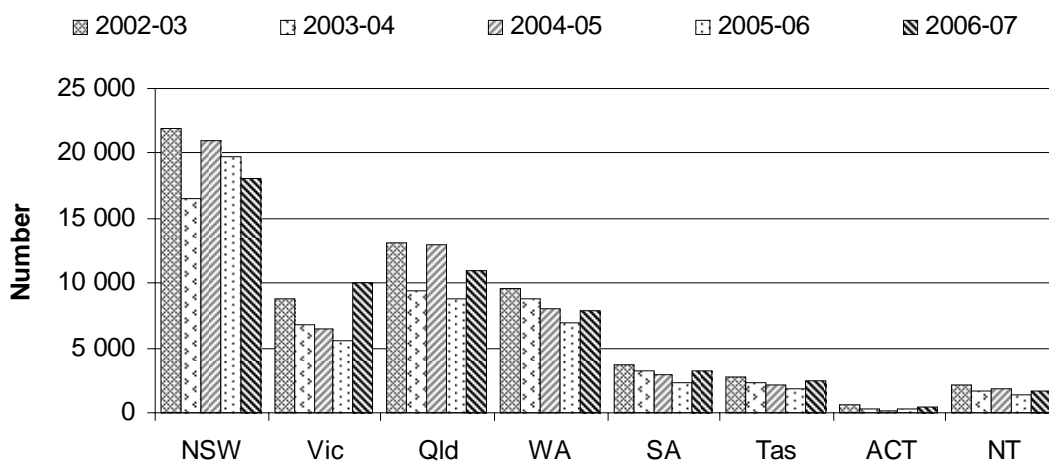

a These data may be different from other tables in the chapter because these data reflect responses from fire service organisations, land management agencies and other services for some jurisdictions. **b** NSW: Data include fires from the NSW Department of Environment and Conservation, the NSW Rural Fire Service and the NSW Fire Brigades for all bush and grass fires regardless of size of area burnt. **c** Vic: Due to data collection issues, data for 2005-06 are incomplete. Landscape fires data include incidents from the Department of Sustainability and Environment from 2004-05 onwards. Some degree of duplicate counting may be present across Country Fire Authority and Department of Sustainability and Environment figures. This will be resolved in the 2008-09 data return. **d** Qld: Does not include data from Land Management Agencies and reporting of incident attendance by rural fire crews is incomplete due to voluntary reporting procedures. **e** WA: Data also include landscape fires reported by the Department of Environment and Conservation as a lead agency, with 493 fires recorded for 2006-07. **f** SA: MFS industrial action: 18/4/05 0800 hrs to 20/06/05 1800 hrs (no incident reports in this period). **g** Tas: Figures supplied include all vegetation fires, regardless of size, from all fire brigades (full-time and volunteer) and land management agencies. **h** ACT: The January 2003 bushfires included in the 2002-03 data have been counted as one event. **i** NT: Data excludes data from Bushfires NT and some NT Fire and Rescue Service volunteer brigades.

Source: State and Territory governments (unpublished); table 9A.3.

Accidental residential structure fires reported to fire service organisations per 100 000 households

The rate of accidental residential structure fires per 100 000 households is reported in figure 9.5. Although the national rate has been relatively constant, different trends appear in different jurisdictions.

Figure 9.5 **Accidental residential structure fires reported to fire service organisations[a, b, c, d]**
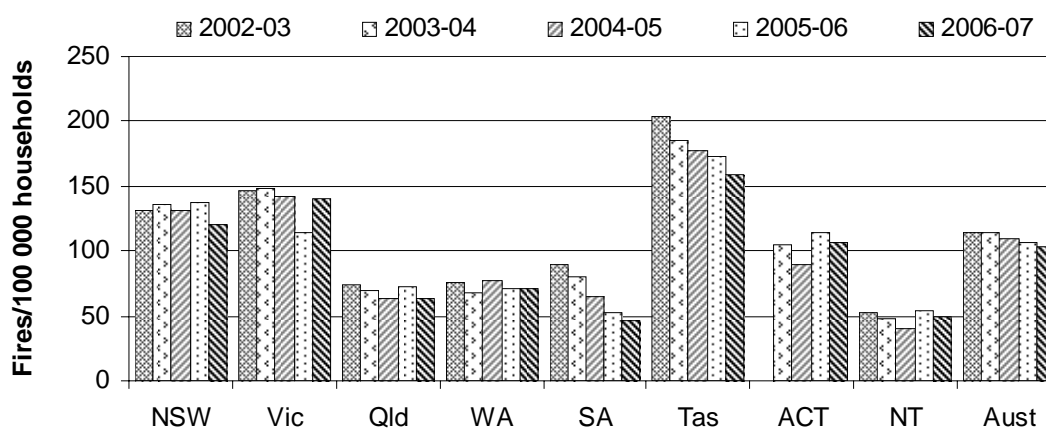
a This measure may not be entirely comparable. The rate of accidental residential structure fires per 100 000 households is affected by the number of fires where the cause has been determined and classified by fire service personnel. The data series for the estimated number of households used in calculations for this table, is currently under review by the ABS. As a result, the series has not been updated recently. Accordingly, the household numbers used in the calculations for this figure have remained the same for the last 5 years. **b** Vic: Due to data collection issues, data is incomplete for 2005-06. **c** Qld: QFRS Rural Incident Database does not currently record the necessary information to calculate this measure. QFRS Urban stations (Agency 1) are estimated to serve 87.6 per cent of Queensland's population. **d** SA: MFS industrial action: 18/4/05 0800 hrs to 20/06/05 1800 hrs (no incident reports completed during this period).

Source: ABS Cat. no. 4102.0 (various years); State and Territory governments (unpublished); table 9A.4.

Hazardous materials incidents

Hazardous materials include paints, adhesives, solvents, fuels, soap, detergents, cosmetics, pharmaceuticals, cleaners, household chemicals, acids, farm and garden chemicals, explosives, industrial chemicals, plastics raw materials, gases and many others. All of these materials have hazardous properties that must be controlled or contained. The materials must be effectively managed and cleaned up in an emergency, when the primary controls have failed.

Australian Governments aim to minimise the adverse effects of hazardous materials incidents on the Australian community to enhance public safety. There is increasing community expectation that governments will prevent hazardous materials incidents that threaten community safety and the environment. There are rising expectations that fire service organisations will respond to these incidents with the minimum possible further impact on the environment.

Fire service organisations provide 'Hazmat' (hazardous material) services that contribute to achieving enhanced community safety and quality of life, business confidence and protection of the environment by:

- influencing government policy and legislation to ensure integration of prevention and response activities

- effective planning, prevention, safe response and recovery from incidents

The prevention/mitigation, preparedness, response and recovery services provided and delivered by fire service organisations for hazardous materials incidents have the potential to avoid the need for downstream services. The use of downstream services may be undesirable because it reflects negative outcomes and/or involves significant social costs.

Nationally, fire service organisations responded to 4429 hazardous materials incidents in 2006-07 (table 9.3), a drop of 6.9 per cent on 2005–06. In addition to fire service organisations, other agencies and organisations contribute to the emergency management and risk management of hazardous materials incidents. Different arrangements exist across jurisdictions.

Table 9.3 **Number of hazardous materials incidents attended to by fire service organisations[a, b, c]**

	NSW[d]	Vic	Qld[e]	WA	SA[f]	Tas	ACT[f]	NT	Aust
2002-03	977	1 819	231	1 098	1 313	16	87	163	5 704
2003-04	767	1 891	253	1 063	1 331	24	60	122	5 511
2004-05	782	1 714	296	1 269	1 018	22	77	265	5 443
2005-06	848	1 245	288	928	1 116	30	62	238	4 755
2006-07	971	1 637	324	1 147	1 077	36	127	164	4 429

a Data may differ from that in table 9A.2 because these data include fires involving or releasing hazardous materials. **b** The data represent incidents attended by fire service organisations (FSOs). FSOs may not be notified of all hazardous materials incidents occurring in the community. **c** The coding of hazardous materials incidents is based on the judgement of the reporting fire officer shortly after the time of the incident. Some coding of incidents may be inaccurate due to the information available at the time of reporting. **d** NSW: These data exclude minor fuel or other flammable liquid spills/leaks less than 200 litres. **e** Qld: 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. **f** SA and ACT: This data includes minor combustible liquid spills and minor gas leaks under 200 litres.

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

Framework of performance indicators

Figure 9.6 presents the performance indicator framework for fire events, based on the general framework for all emergency events. Definitions of all indicators are provided in section 9.8.

The performance indicator framework for fire events shows which data are comparable in the 2008 Report. For data that are not considered directly comparable, the text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability from a Report wide perspective (see section 1.6).

Performance information is reported for a number of indicators. These results might have been influenced by factors such as differences in climatic and weather conditions, the socio-demographic and topographic composition of jurisdictions, property values and dwelling construction types. Importantly, jurisdictions also have diverse legislative fire protection requirements.

Figure 9.6   **Performance indicators for fire events**
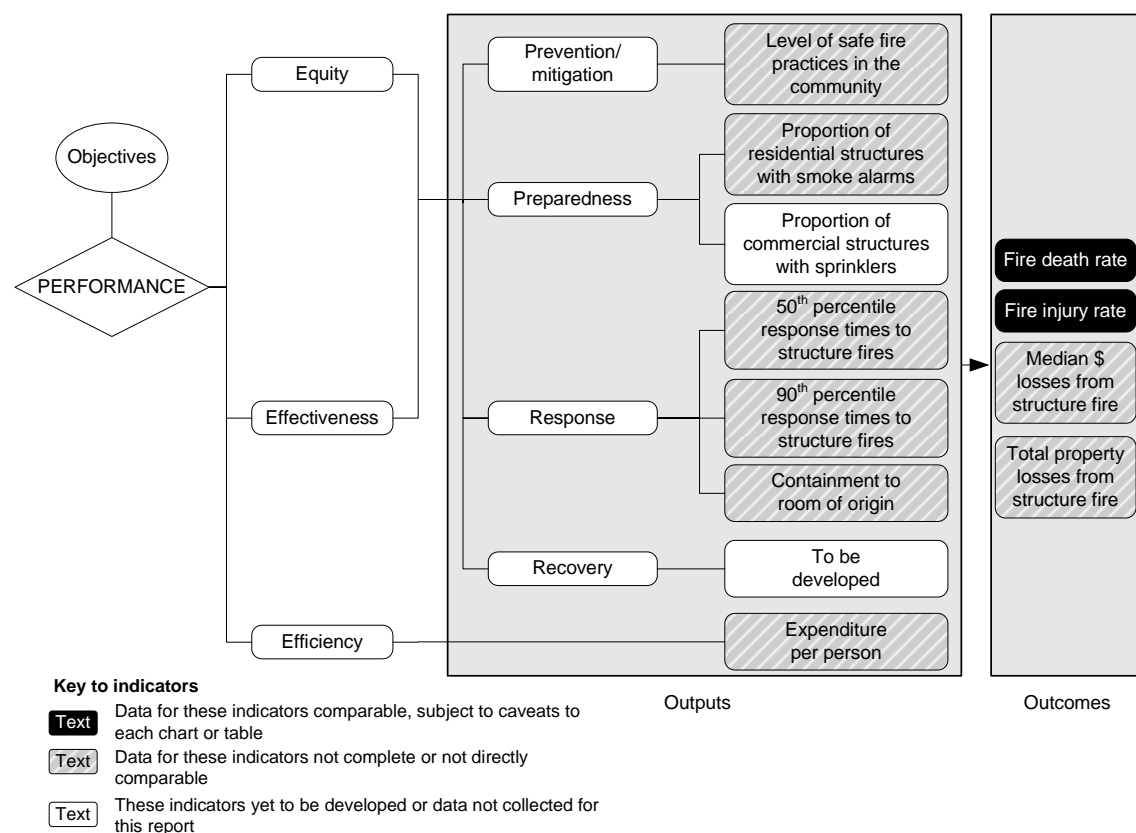
Results need to be interpreted with care because data might have been derived from small samples (for example, jurisdictions' fire safety measures surveys) or may be

highly variable as a result of 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 service organisation expenditure per 1000 people). Volunteer personnel provide a substantial proportion of fire services (and emergency services more generally) (table 9.1). 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).

Information has not been reported for all fire events in each jurisdiction consistently over time. Reported results sometimes exclude rural fire events, so performance data are not always directly comparable across jurisdictions. Fire service organisations are cooperating to improve and enhance the standards for the collection of fire events data, which is evident by the inclusion of rural fire service organisations data for more jurisdictions in more current years. Differences in counting rules are expected to be minimised in future reports.

Key performance indicator results

Outputs — equity, effectiveness and efficiency

Outputs are the actual services delivered (while outcomes are the impact of these services on the status of an individual or group) (see chapter 1, section 1.5). Outputs are measured by the 'level of safe fire practices in the community'; 'the proportion of residential structures with smoke alarms'; 'the proportion of commercial structures with sprinklers'; 'the 50th and 90th percentile response times to structure fires'; 'containment to the room of origin'; and 'expenditure per person'.

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

One measure of the extent of prevention/mitigation in the community is 'the level of safe fire practices in the community' (box 9.4). Selected fire risk management/mitigation strategies across jurisdictions are identified in table 9A.32. Nationally consistent data on household fire safety measures installed or prevention procedures followed were previously available from the Australian Bureau of Statistics (ABS) Population Survey Monitor (PSM), which has been discontinued. Since the PSM was discontinued, jurisdictions have conducted their own surveys of household fire safety measures installed or prevention procedures followed. These surveys have focused on local priorities, for example those with an already high

level of reported smoke alarms in home may target and survey other fire safety practices or measures. Different jurisdictions have also used different survey methodologies. Such methodological differences between the surveys undertaken by the jurisdictions mean that nationally consistent data are not currently available.

Box 9.4   **Level of safe fire practices in the community**

'The level of safe fire practices in the community' is an indicator of governments' objective to reduce the adverse effects of fires on the Australian community and manage the risk of fires.

Holding other factors constant, the higher the proportion of households with a fire safety measure installed or prevention measure followed, the less likely are fires to occur or cause excessive damage. This indicator does not provide information on the degree to which practices under consideration contribute to fire prevention and mitigation.

Previously reported data are no longer collected by the ABS. The Steering Committee has identified this indicator for development and reporting in future.

Preparedness — proportion of residential structures with smoke alarms

The proportion of residential structures with smoke alarms' is an indicator of governments' objective to reduce the adverse effects of fire on the Australian community through preparedness measures (box 9.5).


Box 9.5   **Proportion of residential structures with smoke alarms**

The indicator is defined as the number of households with an operational smoke alarm installed, divided by the total number of households.

The higher the proportion of households with an operational smoke alarm installed, the greater is the likelihood that the adverse effects of fire will be avoided or reduced.

Nationally consistent and complete data are not available on 'the proportion of residential structures with smoke alarms'. Nationally consistent data were last available in 2000, from the discontinued ABS Population Survey Monitor (PSM). Subsequent data are sourced from jurisdictional collections and are not strictly comparable. Four jurisdictions (NSW, Queensland, WA and the NT) conducted surveys in 2005-06, collecting data on total households that had an operational smoke alarm or smoke detector installed (figure 9.7).

Figure 9.7   **Households with an operational smoke alarm installed**[a, b, c, d, e, f]

☒ Feb. 2000 to Nov. 2000   ⊡ 2003-04   ▨ 2004-05   ⊡ 2005-06   ⊠ 2006-07
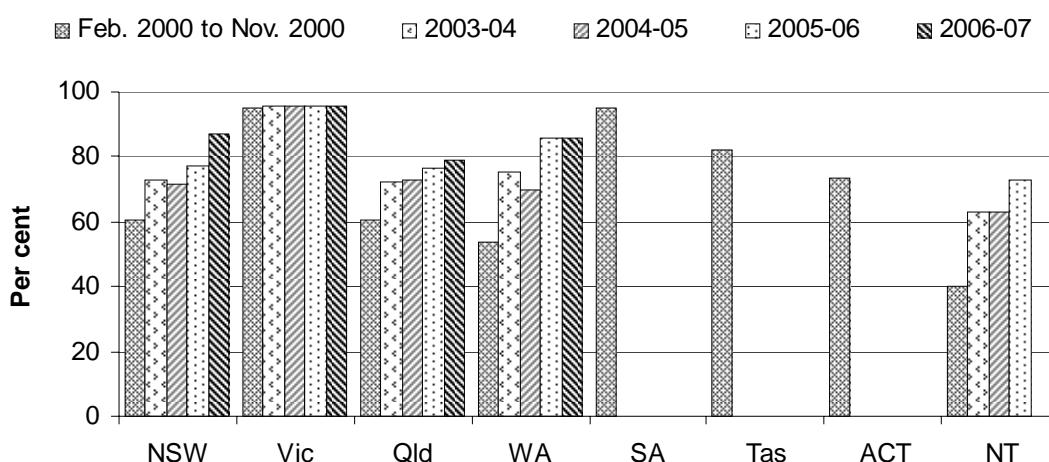
a The February 2000 to November 2000 data are from the Population Survey Monitor (PSM) and represent the last occasion on which nationally consistent data were available. Subsequent data were sourced from jurisdictional collections that are not strictly comparable because of methodological differences. **b** NSW: The Building Legislation Amendment (Smoke Alarms) Act 2005 and the Environmental Planning and assessment Amendment (Smoke Alarms) regulation 2006 commenced on 1 May 2006 and requires: the installation of one or more smoke alarms in buildings in which persons sleep; smoke alarms in such buildings must be operational; and persons do not remove or interfere with the operation of smoke alarms installed in such buildings. The data for 2006-07 are sourced from the NSW Population Health Survey (HOIST), Centre for Epidemiology and Research, NSW Department of Health and represents the full 12 month period of 2006. Estimates are based on 7795 respondents in NSW. For this indicator 164 (2.06 per cent) were 'not stated' (Don't know or Refused) in NSW. The indicator includes those who have a smoke alarm or detector in their home. The question used to define the indicator was: Do you have smoke alarms installed in your home? The 95 per cent confidence interval for 2006 is (85.8 - 87.9). In general, a wider confidence interval reflects less certainty in the indicator estimate.**c** Vic: Data are sourced from a random telephone survey of 2304 respondents residing within the 23 local government areas significant to the metropolitan fire district. MFESB Commissioned Crime Prevention Victoria to develop a survey around fire safety issues through their Local Safety Survey. 2004-05 data are based on the results of the most recent survey conducted in April 2004. **d** Qld: Data collected by the Office of Economic and Statistical Research as part of the November 2005 Queensland Household Survey. The figure is an estimate for the whole population of Queensland. **e** WA: Data for 2002-03 were collected by a market research organisation (random telephone survey with residents of Perth households). 2003-04 market research also done by telephone survey. The apparent fall in the percentage for 2004-05 data reflects more stringent survey design and collection by the Australian Bureau of Statistics: ABS Home Safety and Security, Western Australia, 4526.5.55.001, April 2005. Data last collected in 2005-06. The next survey is to be conducted in 2007-08. **f** No recent data available for SA, Tas, ACT and NT.

Source: ABS (2001b); State and Territory governments (unpublished); table 9A.11.

Preparedness — proportion of commercial structures with sprinklers

The Steering Committee has identified 'the proportion of commercial structures with sprinklers' as an indicator of preparedness for fire events (box 9.6). Data for this indicator were not available for this Report.

Response

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

Response — 50th and 90th percentile response times to structure fires

The 50th and 90th percentile response times to structure fires provide a measure of response activities (box 9.7). The data relate to the performance of the reporting agency (or agencies) only, not necessarily to the performance of all fire service organisations within each jurisdiction. Response time data need to be interpreted with care because performance is not strictly comparable across jurisdictions, given the following:

- Response times can be affected by land area, size and dispersion of the population (particularly rural/urban proportions), topography, road/transport infrastructure and traffic densities. The proportion of the population living in small rural centres in particular is a key factor, because response times in those areas are generally longer because volunteers are on call rather than on duty.

- 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. Some agencies use a manual system to calculate response time figures, while other services retrieve the data from computer aided dispatch (CAD) systems.
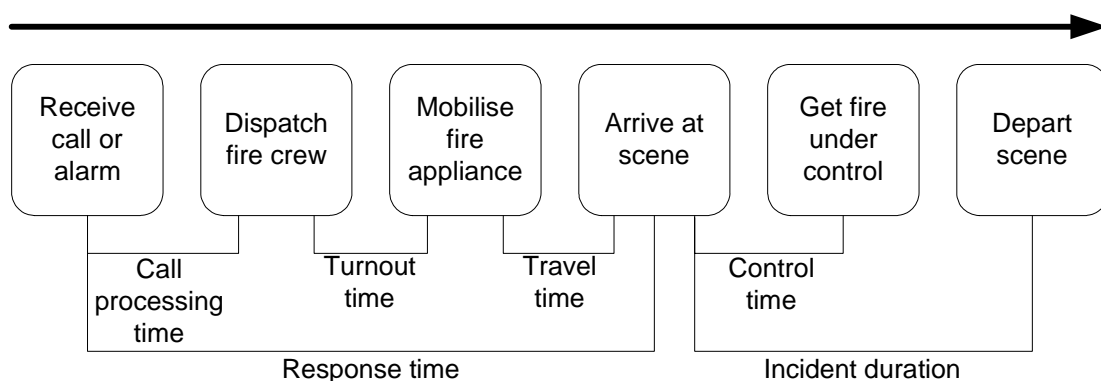
Figure 9.8   **Response time points and indicators for fire events**

Response times vary between jurisdictions (figure 9.9). Response times also vary within jurisdictions depending on the remoteness of the area in which the responses occur (among other factors). Response times can be segmented into remoteness areas based on the ABS Australian Standard Geographical Classification (figure 9.10). Response times can be affected in regional and remote areas, where response is generally from home to station and then to the incident. Urban response performance is affected by a range of factors including the density and dispersion of population in cities, road systems and traffic densities and significant city layout features (such as large rivers and waterways dividing cities, extensive green belts between suburbs etc).
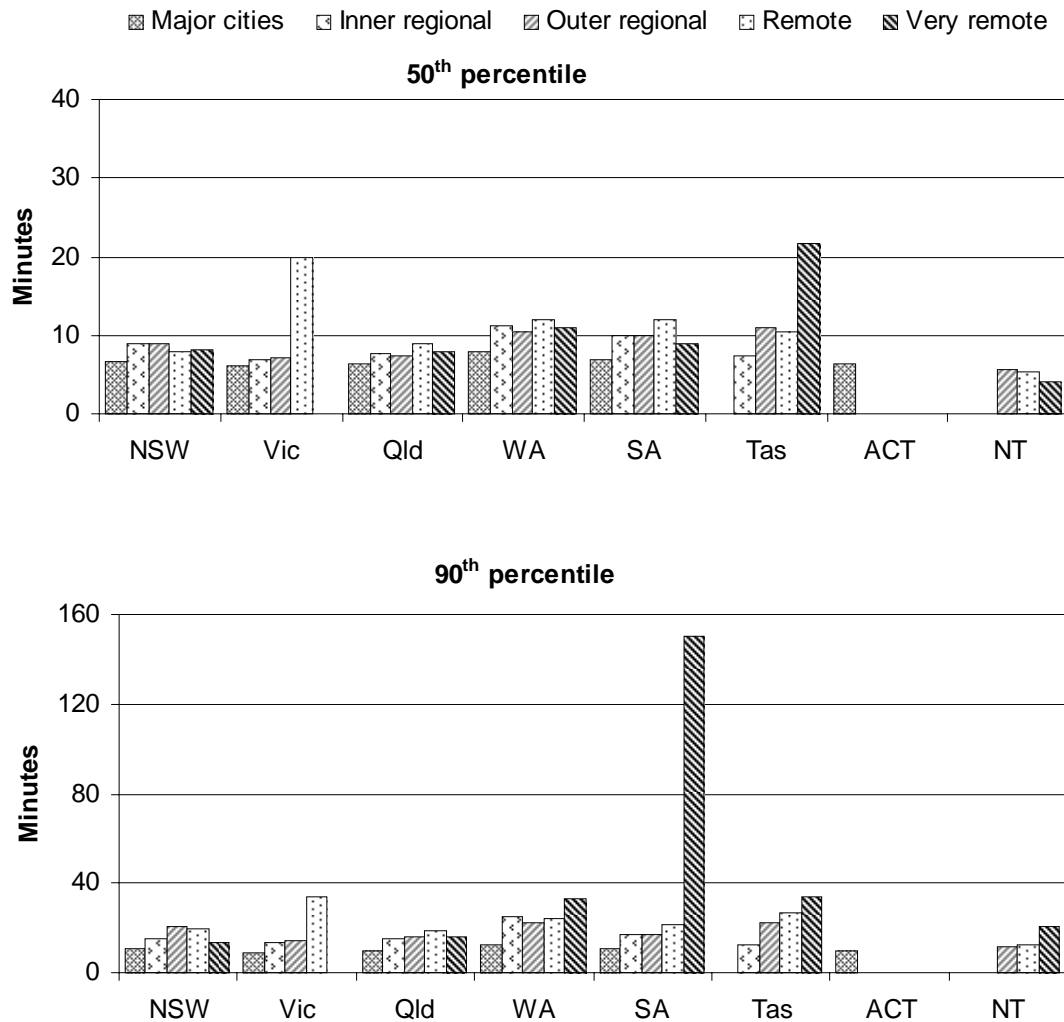
Figure 9.9   **Response times to structure fires[a, b, c, d]**
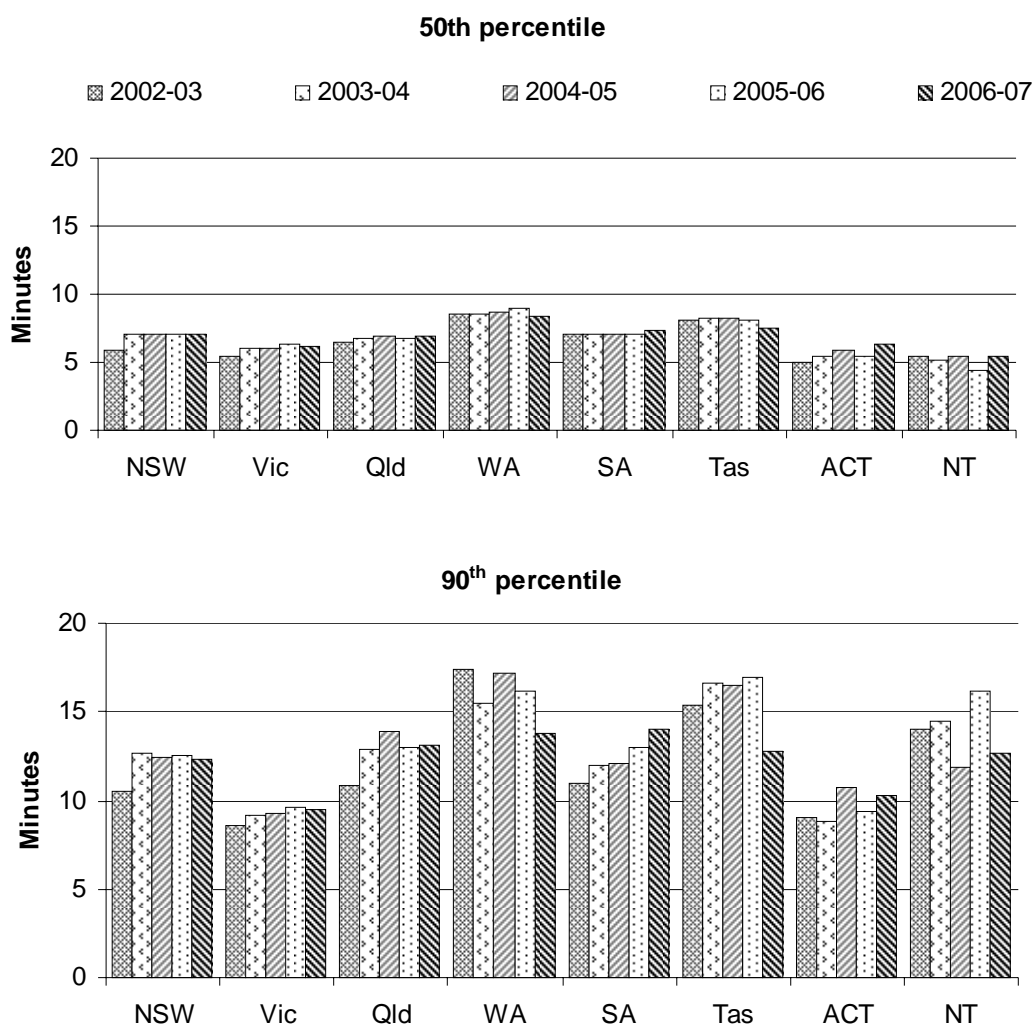
50th percentile

⊠ 2002-03   ▫ 2003-04   ▨ 2004-05   ⊡ 2005-06   ◩ 2006-07

90th percentile

a Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type (manual or CAD), affect the comparability of response times data. **b** Qld: Code 30 Incidents have been excluded from all response time calculations. Two incidents were unable to be classified by remoteness and have been removed from calculation. Response times for QFRS Rural brigade crews are not included as response times are not accurately recorded. Only primary exposure incidents are included. **c** WA: Response times in major cities, regional and remote areas are influenced by volunteer data that, particularly in remote areas of the State, are influenced by significant travel time to incidents. The number of structure fires reported is less than in table 9A.2 because response times are calculated only for reports where attendance times have been noted. **d** Tas: Includes data provided by *all* fire brigades, both full-time and volunteer.

Source: State and Territory governments (unpublished); table 9A.12.

Figure 9.10 **Response times to structure fires, by remoteness area, 2006-07[a, b, c, d, e, f, g, h]**

⊠ Major cities   ⊡ Inner regional   ▨ Outer regional   ⊡ Remote   ◪ Very remote

50th percentile

90th percentile

a Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type (manual or CAD), affect the comparability of response times data. **b** Data may differ from that in Table 8A.2 because some jurisdictions have excluded reports with incomplete time details. **c** Vic: Due to the small number of remote structure fires, observed response time data may vary widely from year to year. **d** Qld: Code 30 Incidents have been excluded from all response time calculations. Two incidents were unable to be classified by remoteness and have been removed from calculation. Response times for QFRS Rural brigade crews are not included as response times are not accurately recorded. Only primary exposure incidents are included. **e** WA: Response times in major cities, regional and remote areas are influenced by volunteer data, which, particularly in remote areas of the State, are impacted by significant travel time to incidents. **f** SA: The high 90th percentile figure for the 'Very remote' category is due to a small number of reported incidents (12), with one incident reporting a response time of approximately 3 hours. **g** Tas: Includes data provided by all fire brigades, both full-time and volunteer. **h** NT: All reported fires were within NTFRS emergency response areas which include all NT city and major centres.

Source: State and Territory governments (unpublished); table 9A.13.

Response — containment to room of origin

Another indicator of response effectiveness for structure fires is 'containment to the room of origin' (box 9.8).


Box 9.8   **Containment to the room of origin**

'Containment to the room of origin' is an indicator of governments' objective to reduce the adverse effects of fire emergency events on the Australian community by response and mitigation strategies.

The indicator is defined as the number of structure fires contained to the object or room of origin divided by the total number of structure fires. Structure fires are those fires in housing and other buildings.

A higher proportion of structure fires contained to the object or room of origin is more desirable.

The proportion of fires contained to the object or room of origin has varied between and within jurisdictions over time (figure 9.11).

Figure 9.11   **Structure fires (all ignition types) contained to the object/room of origin[a, b, c, d, e, f, g]**
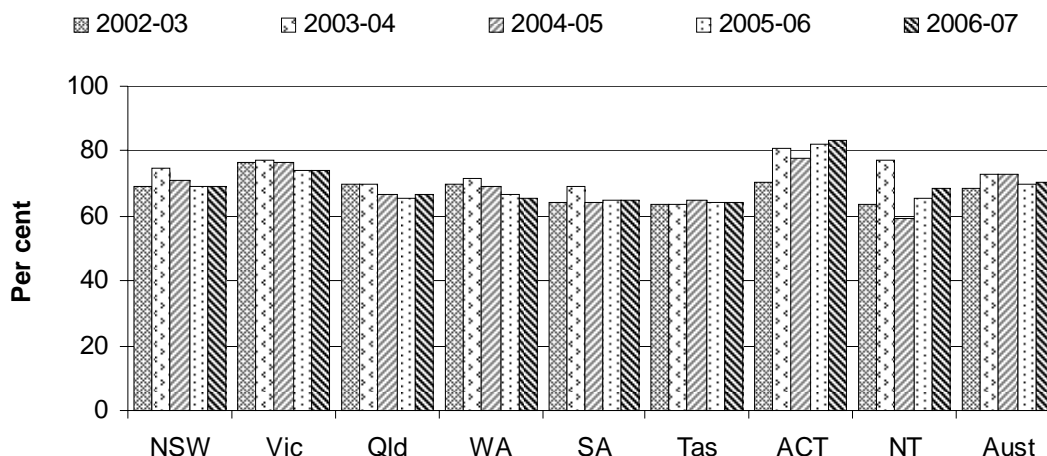
a NSW: Data are for the NSW Fire Brigades only, but include responses to fires outside NSW Fire Brigades designated fire districts. **b** Vic: Data is incomplete for 2005-06 due to data collection issues. **c** Qld: QFRS Rural Incident Database does not currently record the necessary information to calculate this measure. **d** WA: From a total of 1452 fires, 507 did not have the containment code completed. **e** SA: Data exclude the Country Fire Service. **f** Tas: Figures include data provided by all fire brigades, both full-time and volunteer. **g** Aust: Average excludes rural fire service data for some years as per the jurisdictions' caveats.

Source: State and Territory governments (unpublished); table 9A.14.

Recovery

The Steering Committee has identified recovery as a key area for development in future reports (box 9.9).

+---+
| Box 9.9   **Performance indicator — recovery** |
| |
| An indicator of governments' objective to reduce the adverse effects of fires on the |
| Australian community through recovery has yet to be developed. |
+---+

Expenditure per person

'Expenditure per person' is a proxy indicator of the efficiency of governments in delivering emergency management services (box 9.10). Both total cost of fire service organisations and the cost to government of funding fire service organisations are reported. Both are reported, because revenue from other sources is significant for a number of jurisdictions.

+---+
| Box 9.10   **Expenditure per 1000 persons** |
| |
| The indicator is defined as fire service organisation expenditure per 1000 persons. |
| |
| Expenditure per 1000 persons is employed as a proxy for efficiency. Expenditure per |
| fire is not used as a proxy for fire service organisation efficiency because an |
| organisation that devotes more resources to the prevention and preparedness |
| components to reduce the number of fire incidents could erroneously appear to be less |
| efficient. |
| |
| Holding other factors constant, lower expenditure per person represents greater |
| efficiency. Efficiency data are difficult to interpret. While high or increasing expenditure |
| per person may reflect deteriorating efficiency, it may also reflect changes in aspects of |
| the service (such as improved response) or the characteristics of fire events (such as |
| more challenging fires). Similarly, low or declining expenditure per person may reflect |
| improving efficiency or lower quality (response times) or less challenging fires. |
+---+

Nationally, the total expenditure on fire service organisations per 1000 people in 2006-07 was $120 228 (figure 9.12).

Figure 9.12 **Fire service organisations expenditure per 1000 people (2006-07 dollars)[a, b, c, d, e]**

Legend: ▨ 2002-03   ▫ 2003-04   ▨ 2004-05   ▫ 2005-06   ▧ 2006-07
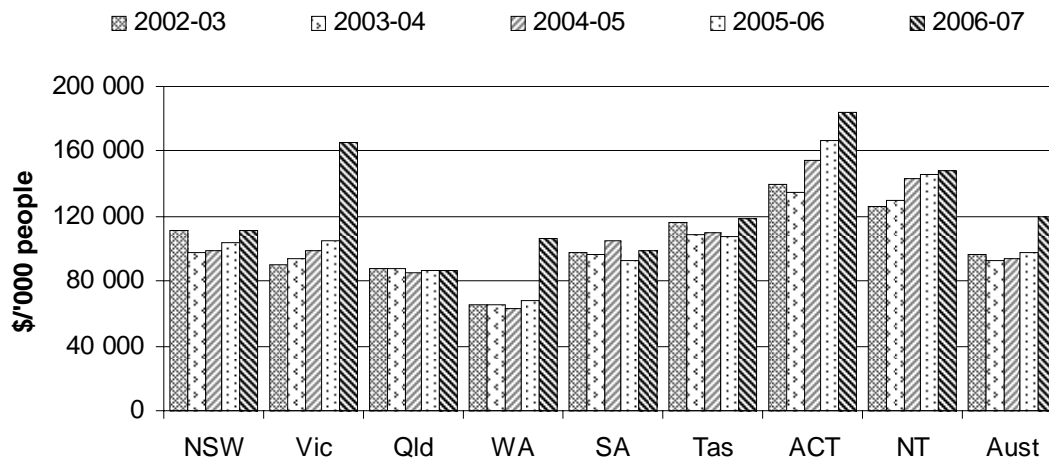
a Expenditure levels are adjusted using the Australian Bureau of Statistics (ABS) GDP price deflator 2006-07 = 100 (table AA.26) to arrive at a constant price measure. Due to differences in definitions and counting rules, data reported may differ from those in agency annual reports and other sources. **b** Totals may not sum as a result of rounding. Total fire expenditure includes levies on insurance companies and property owners, user charges, fundraising and donations and indirect revenue. **c** Vic: The 2006-07 year is the first in which the Victorian data includes expenditure for the Department of Sustainability and Environment (DSE) and explains the marked increase for that year. **d** WA: FESA provides a wide range of emergency services under an integrated management structure. Data for 2006-07 cannot be segregated by service and includes SES and volunteer marine services as well as fire. **e** ACT: The increase in 2005-06 is due to a significant upgrade of Emergency Services Communications systems and inclusion of Joint Emergency Services Training Costs. In 2006-07 funding is included under 'miscellaneous revenue' for the placement of an Ericson sky crane in the ACT as part of the National Aerial Firefighting Strategy.

Source: State and Territory governments (unpublished); tables 9A.16.

Nationally, total government grants and indirect government funding of fire service organisations per 1000 people in 2006–07 was $40 718. Levies per 1000 people in 2006-07 averaged $70 186 nationally, with relatively minor contributions from user charges and miscellaneous revenue (figure 9.13).

Figure 9.13 **Fire service organisation funding per 1000 people, 2006-07**
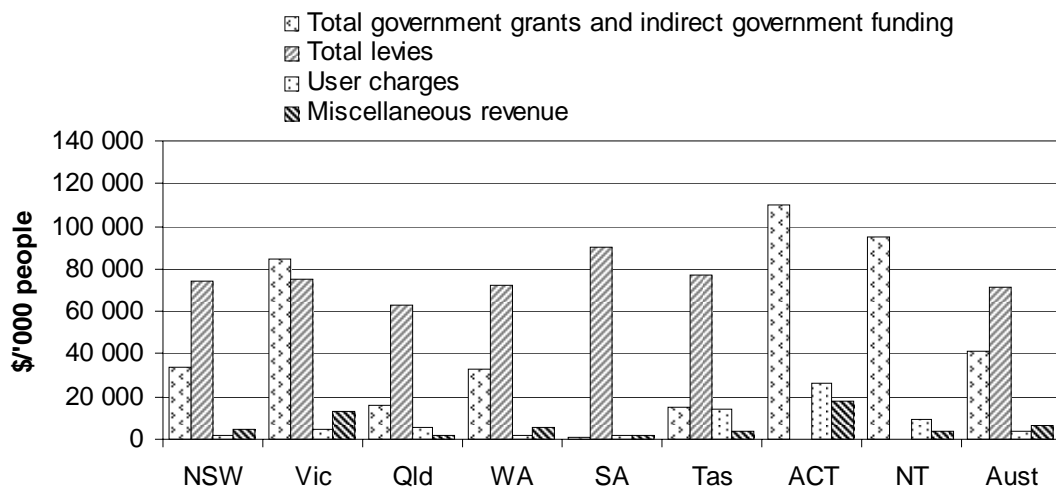
Source: State and Territory governments (unpublished); table 9A.17.

Outcomes

Outcomes are the impact of services on the status of an individual or group (while outputs are the actual services delivered) (see chapter 1, section 1.5). The outcome indicators reported here, 'fire death rate', 'fire injury rate', 'median dollar losses from structure fire' and 'property losses from structure fire per person', relate to the objective of ESOs to minimise the effect of fire on life, property and the environment. Caution should be exercised in interpreting data for some indicators, given the significant fluctuations from year to year, particularly for jurisdictions with relatively small populations.

Fire death rate

The 'fire death rate' is an indicator of governments' objective to minimise the adverse effects of fire events on the Australian community (box 9.11).

Box 9.11   **Fire death rate**

The 'fire death rate' is an indicator of governments' objective to minimise the adverse effects of fires on the Australian community and enhance public safety.

The indicator is defined as the number of fire deaths per million people. A lower fire death rate represents a better outcome.

Fire deaths are identified from cause of death information supplied by the medical practitioner certifying the death or by a coroner. Fire deaths are reported by year of registration of death at state and territory Registrars of Births, Deaths and Marriages.

Nationally, there were 138 fire deaths in 2005. Exposure to smoke, fire and flames accounted for 109 deaths, 23 fire deaths occurred from intentional self-harm by smoke, fire and flames (table 9A.6). Nationally, the fire death rate was 6.8 deaths per million people in 2005.

Fire deaths data are volatile over time, given the small number of fire deaths. To overcome data volatility, a three year average fire death rate is reported (figure 9.14). Nationally, the three year average fire death rate was 6.5 per million people for 2003–2005.

Figure 9.14   **Annual fire death rate, three year rolling average[a, b, c, d, e]**
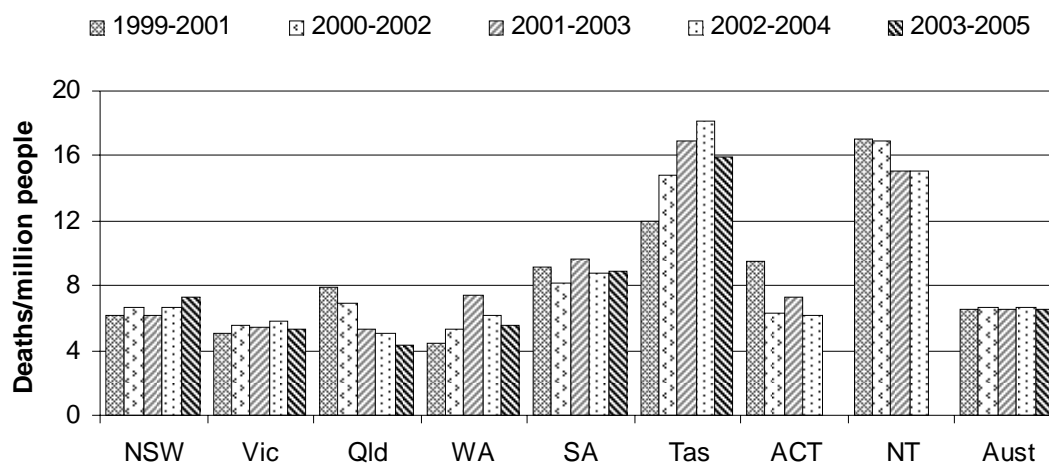
a Fire deaths published in the 2008 Report for the years 1999 to 2003 inclusive, differ slightly from those published in earlier reports because ABS revisions for those years have now been incorporated. Data have been randomly adjusted to avoid the release of confidential data. Cause of Death is coded according to the International Classification of Diseases and Related Health Problems Revision 10 (ICD-10). **b** Fire deaths data are reported by the State or Territory of the deceased's usual residence, and by the year the death was registered. **c** The small number of deaths means it is difficult to establish patterns and provide detailed analysis. Also, cells have been randomly adjusted to avoid the release of confidential data. **d** Aust. figures include Other Territories. **e** Rates calculated using the Estimated Resident Population at 30 June.

Source: ABS Cat. no. 3303.0 (unpublished); table 9A.6.

Fire injury rate

The 'fire injury rate' is an indicator of governments' objective to minimise the adverse effects of fire events on the Australian community (box 9.12). Fire injuries are represented by hospital admissions and are reported by the State or Territory where the admission occurs (a person injured by fire may be treated more than once, and in more than one State or Territory).

Fire injury rates are volatile from year to year, given the small number of fire injuries. Three year average fire injury rates are also reported in the data attachment for those periods and jurisdictions for which data are published (table 9A.7).

Box 9.12   **Fire injury rate**

The 'fire injury rate' is an outcome indicator of governments' objective to minimise the adverse effects of fires on the Australian community and enhance public safety.

The indicator is defined as the number of fire injuries per 100 000 people. A lower fire injury rate represents a better outcome.

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.

Figure 9.15   **Fire injury rate^{a, b}**
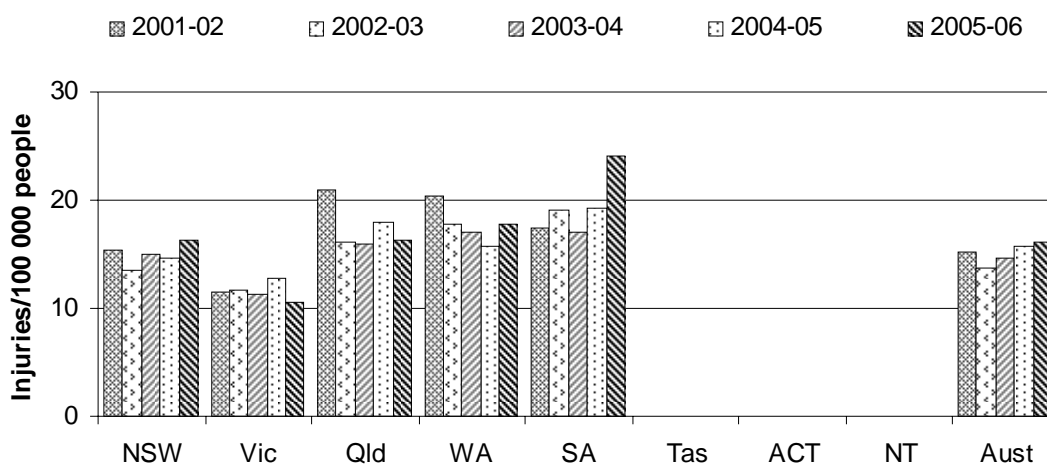
a Fire injuries published in the 2008 Report for the years 2001 to 2003 inclusive, differ slightly from those published in earlier reports because revisions for those years have now been incorporated. The data have been randomly adjusted to avoid the release of confidential data. Where necessary, totals have been adjusted separately to the component cells and revised totals are not necessarily the sum of the component cells. Cause of Injury is coded according to the International Classification of Diseases and Related Health Problems Revision 10 (ICD-10). **b** Rates calculated using the Estimated Resident Population at 30 June.

Source: ABS (unpublished); AIHW (unpublished); table 9A.7.

Losses from structure fire

The 'median dollar losses from structure fire' (box 9.13) and the 'total property loss from structure fire' (box 9.14) are indicators of the effect of fire on property. These data (expressed in real terms) have not been adjusted for jurisdictional differences in the costs and values of various types of building. Further, the method of valuing property loss from fire varies across jurisdictions.

┌───┐
│ Box 9.13   **Median dollar losses from structure fire**   │
│   │
│ This indicator is defined as the median dollar losses from structure fire │
│ (a fire in a house or other building), adjusted for inflation. The median │
│ is the middle number in a sequence and is regarded as a more appropriate │
│ measure of 'typical' losses than the average (or mean) loss. Lower median │
│ dollar losses represent a better outcome.   │
└───┘

The median dollar loss varies across jurisdictions and over time. No clear national trends are evident (figure 9.16).

Figure 9.16 **Median dollar loss per structure fire (2006-07 dollars)[a, b, c, d, e, f]**

| | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 |
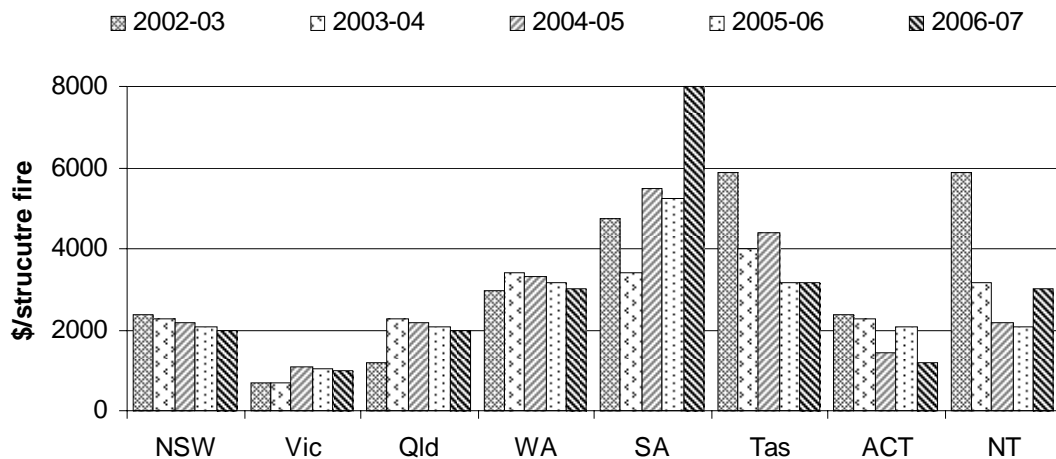
a Dollar loss values adjusted using the ABS GDP price deflator 2006-07 = 100 (table AA.26) to arrive at a constant price measure. Estimates have not been validated by the insurance industry, or adjusted for interstate valuation differences. **b** NSW: In 2004-05 there were 17 structure fires that resulted in direct dollar loss in excess of $1 million each. In 2005-06 there were 32 structure fires that resulted in direct dollar loss of $1 million each. Of these fires, five resulted in direct dollar loss in excess of $10 million each and one of $89 million. **c** Vic: Due to data collection issues, data is incomplete for 2005-06. **d** Qld: 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. **e** Tas: Figures supplied include data provided by all fire brigades, both full-time and volunteer. Property loss does not include losses as a result of vegetation fires. **f** ACT: Data for 2002-03 exclude the January 2003 wildfires, which destroyed over 500 houses and resulted in losses in excess of $200 million.

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

Box 9.14 **Property losses from structure fire per person**

This indicator is defined as the property loss from structure fire (a fire in housing or other building) per person adjusted for inflation. Lower total property losses from structure fire per person represent better outcomes.

The property loss per person (expressed in real terms) has fluctuated over time in all jurisdictions (figure 9.17). Data for the three year rolling average property loss per person are also available in the attachment tables (table 9A.9).

Figure 9.17 **Property loss from structure fire per person (2006-07 dollars)[a, b, c, d, e, f, g]**
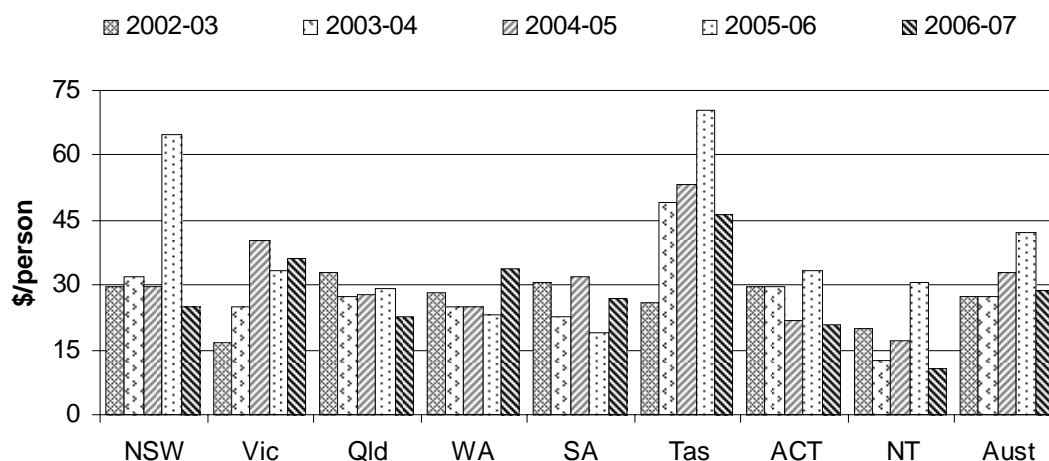
a Property loss values adjusted using ABS GDP price deflator 2006-07 = 100 (table AA.26) to arrive at a constant price measure. Estimates have not been validated by the insurance industry or adjusted for interstate valuation differences. **b** NSW: In 2004-05 there were 17 structure fires that resulted in direct dollar loss in excess of $1 million each. In 2005-06 there were 32 structure fires that resulted in excess of $1 million each. Of these fires, five resulted in direct dollar loss in excess of $10 million each and one of $89 million. **c** Vic: Due to data collection issues, data is incomplete for 2005-06. **d** Qld: 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. QFRS Urban stations (Agency 1) are estimated to serve 87.6 per cent of Queensland's population. **e** Tas: Figures supplied include data provided by all fire brigades, both full time and volunteer. Due to small population size, figures are affected by single large-loss events. Significant increases have also been experienced due to rapidly rising property prices. Property loss does not include losses as a result of vegetation fires. **f** ACT: Data for 2002-03 exclude the January 2003 wildfires, which destroyed over 500 houses and resulted in losses in excess of $200 million. **g** Average for Australia excludes rural fire service data for some years as per the jurisdictions' caveats.

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

9.4   Ambulance events

This section provides information on the performance of ESOs in providing emergency management services for ambulance events and in preparing the community to respond to emergencies. Ambulance events are incidents that result in demand for ambulance services to respond. They include: emergency and non-emergency pre-hospital patient care and transport; inter-hospital patient transport; specialised rescue services; ambulance services to multi-casualty events, and capacity building for emergencies.

Emergency management services for ambulance events

Ambulance service organisations are the primary agencies involved in providing emergency management services for ambulance events. In a limited number of cases, other organisations provide services such as medical transport for emergencies (table 9A.37). The descriptive information provided below on funding, incidents and human resources are for ambulance service organisations only. As discussed in section 9.1, these organisations are involved in other activities in addition to providing ambulance event services.

Revenue

Total revenue of ambulance service organisations covered in this Report was $1.56 billion in 2006-07. Nationally, revenue (expressed in real terms) increased each year from 2002-03 to 2006-07, with an average annual growth rate of 5.3 per cent (table 9.4).

Table 9.4   Revenue of ambulance service organisations (2006-07 dollars) ($ million) [a]

|	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust[b]
2002-03	373.7	358.0	316.9	82.1	95.2	21.7	25.0	12.9	1 272.4
2003-04	400.9	370.2	326.6	88.7	107.0	22.4	23.6	13.2	1 352.4
2004-05	414.3	410.7	328.0	101.8	116.9	26.1	17.6	16.5	1 431.9
2005-06	446.1	436.9	344.0	103.4	117.1	28.2	20.5	16.7	1 513.1
2006-07	466.0	427.6	369.5	107.3	119.8	30.2	18.9	17.7	1 556.7

[a] Funding levels are adjusted using the ABS GDP price deflator 2006-07 = 100 (table AA.26) to arrive at a constant price measure. Due to differences in definitions and counting rules, data reported may differ from data in agency annual reports and other sources. [b] Totals may not sum due to rounding.

Source: State and Territory governments (unpublished); table 9A.18.

Ambulance service organisations are funded by a variety of sources, with non-government sources making a significant contribution. The primary source of funding across all jurisdictions in 2006-07 were revenue from State and Territory governments, transport fees (from government hospitals, private citizens and insurance) and other revenue (subscriptions, donations and miscellaneous revenue) (figure 9.18).

Nationally, 65.2 per cent of funding for ambulance service organisations in 2006-07 was provided as direct government revenue and indirect government revenue, with the remainder sourced from transport fees and other revenue (figure 9.18).

Figure 9.18 **Major sources of ambulance service organisation revenue, 2006-07ᵃ**
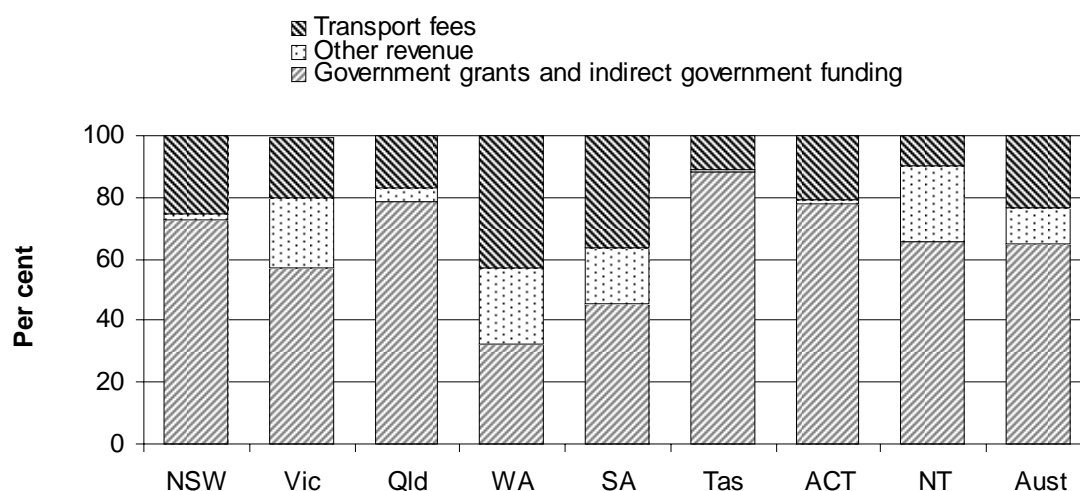
a Other revenue is equal to the sum of subscriptions, donations and miscellaneous revenue.

Source: State and Territory governments (unpublished); table 9A.18.
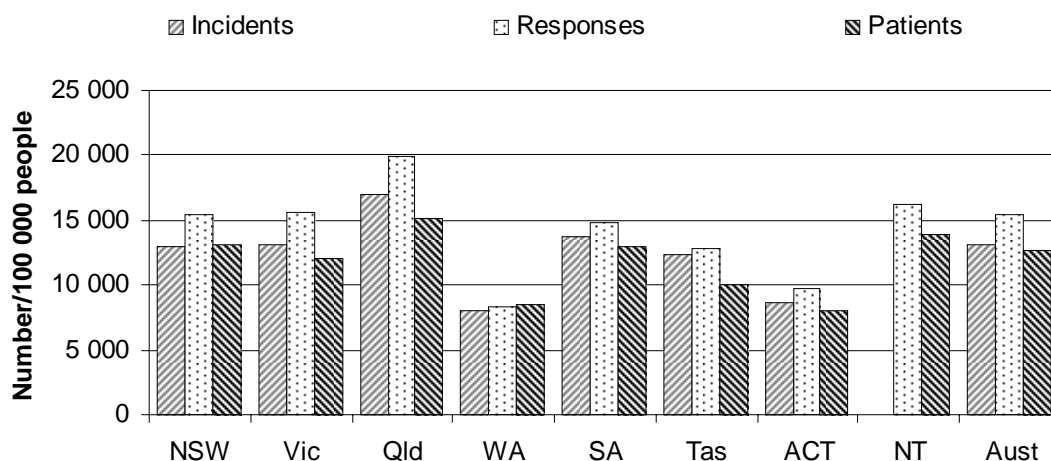
Incidents

Ambulance service organisations attended 2.72 million incidents nationally in 2006-07 (table 9A.19). Most of these were emergency incidents (38.9 per cent), followed by non-emergency incidents (32.9 per cent) and urgent incidents (27.9 per cent).

Ambulance incidents, responses and patients per 100 000 people

The numbers of incidents, responses and patients are interrelated. Multiple responses/vehicles may be 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 and/or transport.

Nationally, there were approximately 15 000 responses, and 13 000 patients per 100 000 people in 2006–07 (figure 9.19).

Figure 9.19 **Reported ambulance incidents, responses and patients, 2006-07[a, b, c, d, e]**

a 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. b In Victorian Metropolitan Ambulance Service (MAS), incidents, responses and patients include road incidents only. c 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. d For SA, prior to 2006-07 incidents, response and patient data was based on patient case cards. Incidents, response and patient data for 2006-07 is extracted from South Australian Ambulance Computer Aided Dispatch data and is more aligned to the definitions provided by the CAA. As a result in some areas the data is not directly comparable with prior years. e For the NT, a response is counted as an incident. Data for incidents per 100 000 people are not available for NT and are not included in the rate for Australia.

Source: ABS Cat. no. 3303.0 (unpublished), State and Territory governments (unpublished); table 9A.19.

Aero-medical arrangements in Australia

There is a variety of arrangements for air ambulance or aero-medical services throughout Australia. Some of these arrangements involve services provided entirely by State/Territory ambulance services or by sub-contractors to these services, while others are provided completely externally to the State ambulance services. Some arrangements involve a mix of the two, where external organisations provide aircraft and/or air crew while ambulance service organisations provide paramedics to staff the air ambulances. The result is that the revenue (funding) and expenditure for air ambulance services are included in ambulance reports from some jurisdictions while in other jurisdictions none of these costs are included.

The Australian Government also provides some capital and recurrent funding for aero-medical service provision through the Royal Flying Doctor Service, mainly for

primary health services to rural and remote communities. In some jurisdictions, these same aircraft are used to transfer patients requiring higher level care.

It is not possible for ambulance service organisations to provide full activity and financial data for air ambulance services in Australia. The Council of Ambulance Authorities (CAA) has tried to identify, as comprehensively as possible, air ambulance services provided by ambulance service organisations directly, or by other service providers such as the Royal Flying Doctor Service. In doing so, the CAA has counted the total number of aircraft available in each jurisdiction during 2006-07, and the component of expenditure that is funded through ambulance service expenditure (that is, the expenditure figures do not represent total expenditure, only that component funded through ambulance services) (table 9.5).

Table 9.5 **Aero medical resources and expenditure, 2006-07[a, b]**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Operated by State Ambulance Service									
Fixed wing	4	4	–	–	–	1	–	–	9
Helicopter	4	4	–	–	–	1	–	–	9
Operated by other service providers									
Fixed wing	1	–	9	11	4	–	–	6	31
Helicopter	5	2	13	1	3	1	1	–	26
Total aircraft	14	10	22	12	7	3	1	6	75
Expenditure ($'000)	42 479	28 000	1 857	439	na	3 690	545	na	na

a These figures do not represent the total air ambulance medical expenditure for the jurisdiction. They only represent that portion funded through ambulance services and reported as part of the total ambulance service expenditure for each jurisdiction. **b** Fixed wing services in WA, SA and NT are provided by the Royal Flying Doctor Service (RFDS). In addition, AMS, a NT Government operated aero-medical service, operates in the Top End. – Nil or rounded to zero. **na** not available.

Source: Council of Ambulance Authorities (CAA).

Human resources

Data on human resources are reported by operational status on a FTE basis. Human resources include any person involved in delivering and/or managing the delivery of this service, including:

- 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, non-operative communications and technical personnel)

- remunerated and non-remunerated volunteers.

Nationally, 11 733 FTE salaried personnel were involved in the delivery of ambulance services in 2006-07. The majority of salaried ambulance personnel in 2006-07 were ambulance operatives (80.9 per cent) (table 9A.20).

Nationally, 6409 volunteer personnel (comprising 5265 operatives and 1144 support personnel) participated in the delivery of ambulance services in 2006–07. The proportion of volunteer personnel and the nature of their role varied across jurisdictions. Given the decentralised structure of its ambulance service operations, WA has a particularly high number of volunteer operational and corporate support personnel (table 9A.20).

Framework of performance indicators

Figure 9.20 presents the performance indicator framework for ambulance events, based on the general framework for all ESOs (figure 9.1). Definitions of all indicators are provided in section 9.8.

The performance indicator framework for ambulance events shows which data are comparable in the 2008 Report. For data that are not considered directly comparable, the text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability from a Report wide perspective (see section 1.6).

Figure 9.20 **Performance indicators for ambulance events**
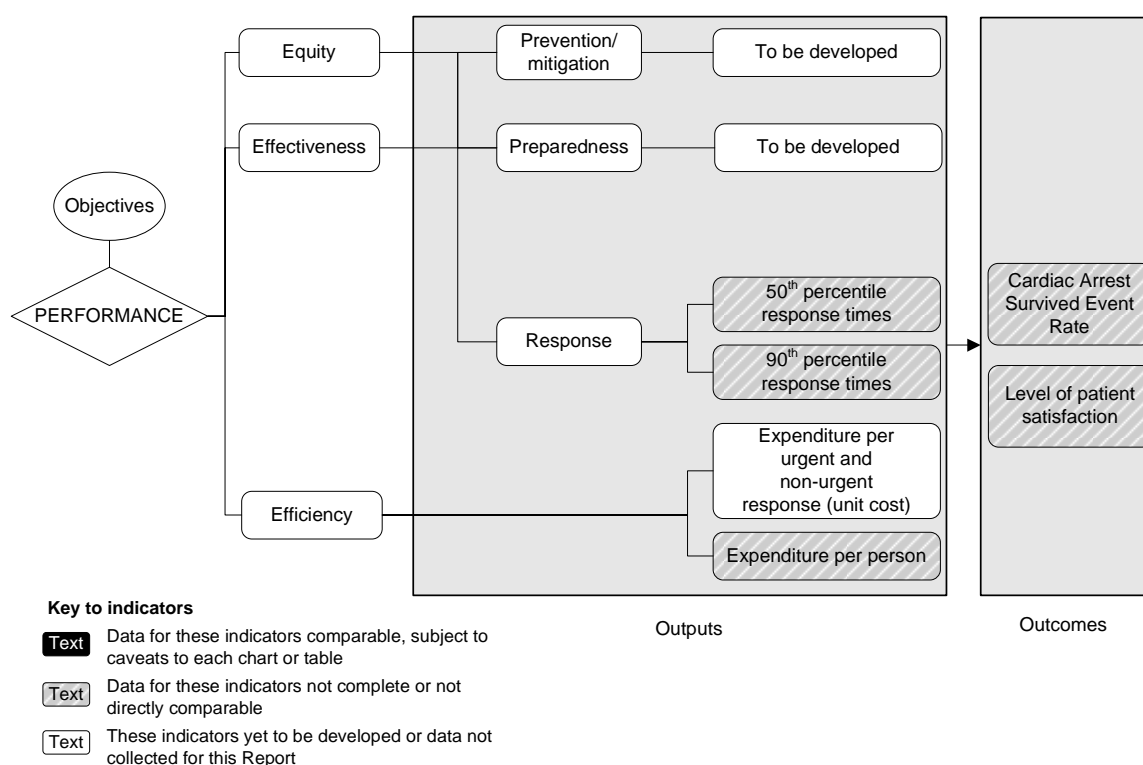
Performance indicators for ambulance events have been provided at the State and Territory government level in the Report since 1998. Caution should be exercised in making comparisons between the ambulance service organisations because of differences in geography, population dispersal and service delivery models. Appendix A contains demographic and socioeconomic data that may assist in interpreting the performance indicators presented in this section.

Key performance indicator results

Outputs — equity and effectiveness

Outputs are the actual services delivered (while outcomes are the impact of these services on the status of an individual or group) (see chapter 1, section 1.5).

Prevention/mitigation

The Steering Committee has identified prevention/mitigation as a key area for development in future reports (box 9.15). There are difficulties in identifying useful

and reliable indicators of prevention/mitigation for ambulance events in isolation because elements of the health, police and road safety systems are also involved.

Box 9.15   **Prevention/ mitigation**

An indicator of governments' objective to reduce, through prevention and mitigation strategies, the adverse effects on the Australian community of emergencies requiring ambulance services has yet to be developed.

Preparedness

The Steering Committee has identified preparedness as a key area for development in future reports (box 9.16).

Box 9.16   **Preparedness**

An output indicator of governments' objective to reduce, through preparedness strategies, the effects on the Australian community of emergencies requiring ambulance services has yet to be developed.

Response

Indicators of response include the times during which 50 per cent and 90 per cent of first responding ambulance resources respond in code 1 situations.

Response — 50th and 90th percentile response times

The 50th and 90th percentile response times for ambulance service organisations provide a measure of response activities (box 9.17). Response time data (figures 9.22, 9.23) need to be interpreted with care, because performance is not strictly comparable across jurisdictions:

- Response time data for some jurisdictions (when calculated on a State-wide basis) represent responses to urban, rural and remote areas, while others include urban areas only.

- Response time data 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.

- Although 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 (figure 9.21).

Box 9.17   **50th and 90th percentile response times**

The 50th and 90th percentile response times are included as output indicators of governments' objective to reduce, through timely response, the adverse effects on the Australian community of emergencies requiring ambulance services.

The indicator '50th percentile response time' is defined as the time within which 50 per cent of the first responding ambulance resources arrive at the scene of an emergency in code 1 situations. Similarly, '90th percentile response time' is the time within which 90 per cent of the first responding ambulance resources arrive at the scene of an emergency in code 1 situations. Shorter response times are more desirable.

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 9.21). Emergency responses are categorised by an assessment of the severity of the medical problem:

- 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.

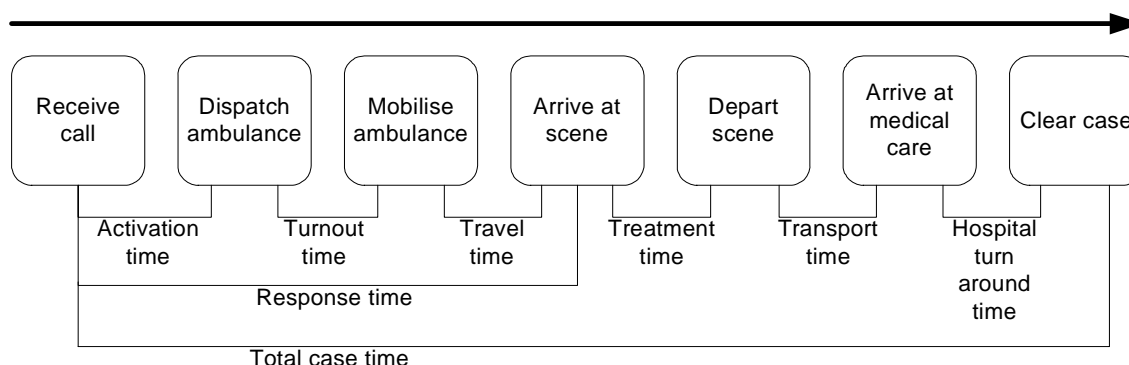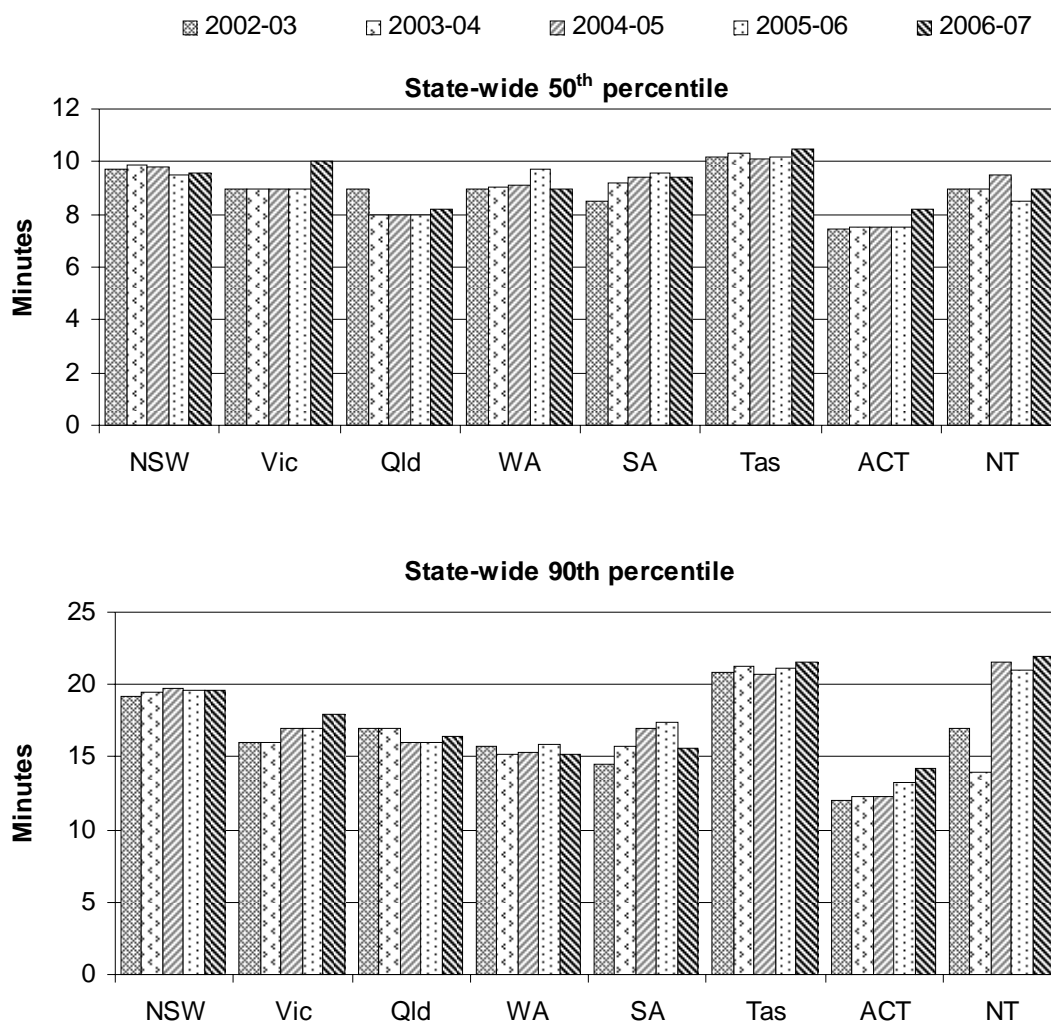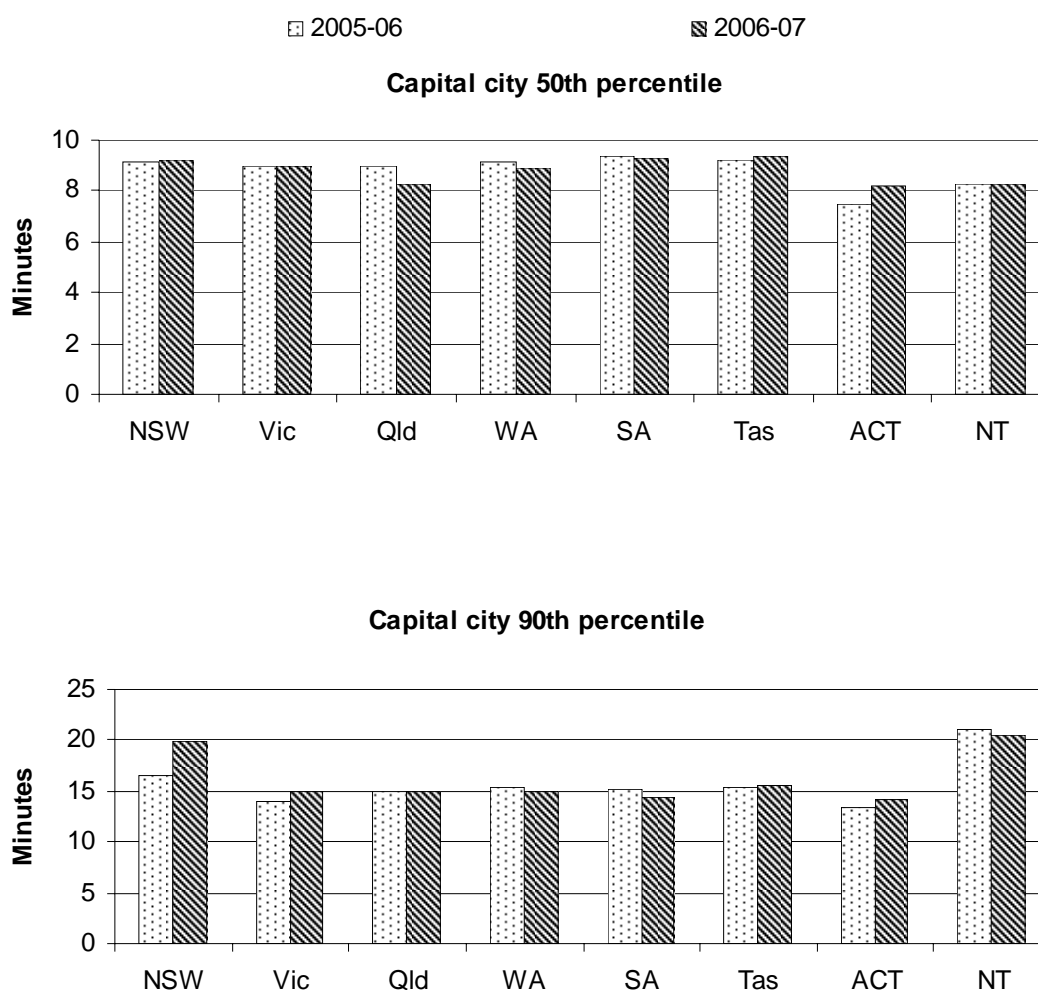Figure 9.21   **Response time points and indicators for ambulance events**

Figure 9.22 Ambulance response times (State-wide)[a, b, c, d, e, f]

Legend: ⊠ 2002-03 ⊡ 2003-04 ⊠ 2004-05 ⊡ 2005-06 ⊠ 2006-07

State-wide 50th percentile

State-wide 90th percentile

a Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type for capturing data, affect the comparability of response times data. Ambulance service response times are recorded commencing from varying time points. For 2006-07 response times commence from the following: RAV; receipt of call: SA, MAS, and Tas; first key stroke: ACT; incident creation: NSW, QAS and WA; transfer to dispatch: and NT; crew dispatched. **b** NSW: Prior to 2005-06, NSW did not triage emergency calls. Results for code 1 cases represent '000' and urgent medical incidents. In 2005-06 the introduction of medical prioritisation has allowed for separation of emergency and urgent activity. **c** Vic: Data is incomplete for both 2003-04 and 2004-05 due to industrial action in the months of June and July 2004. **d** Qld: 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. **e** SA: Prior to 2006-07 code 1 response times were calculated on all responses to category 1 and 2 cases and based on patient case cards. Code 1 response times for 2006-07 are now calculated from South Australian Ambulance Computer Aided Dispatch data and are more aligned to the definitions provided by the CAA. Code 1 response times for 2006-07 exclude second and subsequent vehicles arriving at an incident and exclude incidents where the category of dispatch was upgraded. As a result, the data are not directly comparable with prior years. **f** Tas: Has the highest proportion of population in small rural areas.

Source: State and Territory governments (unpublished); table 9A.23.

Figure 9.23   Ambulance response times (Capital city)[a, b, c, d, e]

☐ 2005-06   ▨ 2006-07

Capital city 50th percentile

Capital city 90th percentile

a Differences between jurisdictions in definitions of response times, geography, personnel mix, and system type for capturing data, affect the comparability of response times data. Ambulance service response times are recorded commencing from varying time points. For 2006-07 response times commence from the following: RAV; receipt of call: SA, MAS, and Tas; first key stroke: ACT; incident creation: NSW, QAS and WA; transfer to dispatch: and NT; crew dispatched. **b** NSW: Prior to 2005-06, NSW did not triage emergency calls. Results for code 1 cases represent '000' and urgent medical incidents. In 2005-06 the introduction of medical prioritisation has allowed for separation of emergency and urgent activity. **c** Qld: 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. **d** SA: Prior to 2006-07 code 1 response times were calculated on all responses to category 1 and 2 cases and based on patient case cards. Code 1 response times for 2006-07 are now calculated from South Australian Ambulance Computer Aided Dispatch data and are more aligned to the definitions provided by the CAA. Code 1 response times for 2006-07 exclude second and subsequent vehicles arriving at an incident and exclude incidents where the category of dispatch was upgraded. As a result, the data are not directly comparable with prior years. **e** Tas: Has the highest proportion of population in small rural areas.

Source: State and Territory governments (unpublished); table 9A.23.

Expenditure per urgent and non-urgent response

The Steering Committee has identified 'expenditure per urgent and non-urgent response' as an indicator of the efficiency with which governments deliver ambulance services. Data for this indicator were not available for the 2008 Report (box 9.18).

Box 9.18   **Expenditure per urgent and non-urgent response**

'Expenditure per urgent and non-urgent response' has been identified for development as an indicator of governments' objective to deliver efficient emergency management services.

Expenditure per person

'Expenditure per person' is an indicator of the efficiency of governments in delivering emergency management services (box 9.19). 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 funding relative to levies compared with other jurisdictions. Also, differences in geographic size, terrain, climate, and population dispersal may affect costs of emergency infrastructure and numbers of service delivery locations per capita.

Nationally, total expenditure on ambulance service organisations per 1000 people was $74 573 in 2006-07 (figure 9.24).

Box 9.19   **Expenditure per 1000 persons**

This indicator is defined as ambulance service organisation expenditure per 1000 persons.

Expenditure per 1000 persons is employed as a proxy for efficiency. It is reported as expenditure funded from government grants plus other revenue sources such as transport fees for example.

Holding other factors constant, a decrease in expenditure per 1000 persons represents an improvement in efficiency. Efficiency data are difficult to interpret. Although high or increasing expenditure per 1000 persons may reflect deteriorating efficiency, it may also reflect changes in aspects of the service (such as improved response) or changes in the characteristics of emergencies requiring ambulance services (such as more serious para-medical challenges). Similarly, low or declining expenditure per 1000 persons may reflect improving efficiency or lower quality (slower response times) or less severe cases.

Figure 9.24   **Ambulance service organisations expenditure per 1000 persons (2006-07 dollars)[a, b]**
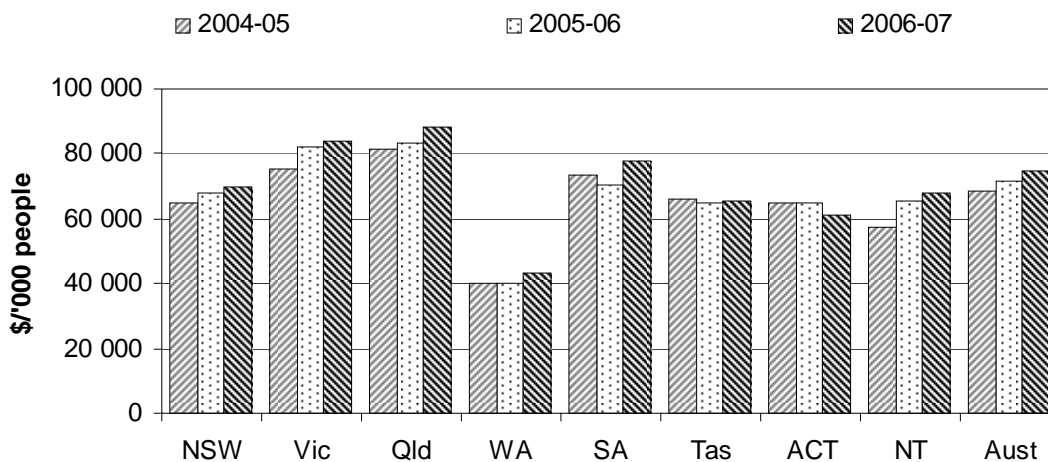
a Total government ambulance expenditure per person was reported in the 2004 Report for the first time, replacing total ambulance service organisation expenditure less indirect government and non-government revenue per person. Non-government revenue is now termed other revenue because some items in this category (for example, Veterans' Affairs) are not strictly non-government. Expenditure levels are adjusted using the Australian Bureau of Statistics (ABS) price deflator 2006-07 = 100 (table AA.26) to arrive at a constant price measure. **b** For 2005-06, the ACT Ambulance Service data has been collated using the new Emergency Services Agency Capability Model, which utilises a different cost attribution model for shared costs across the Emergency Services Agency. Therefore, the financial figures for 2005-06 cannot be directly compared with those of previous years.

Source: ABS Australian Demographic Statistics, Cat. no. 3101.0 (unpublished), State and Territory governments (unpublished); table 9A.26.

Nationally, total government grants and indirect government funding of ambulance service organisations per 1000 people was $49 136 in 2006–07 (figure 9.25).

Figure 9.25 **Sources of ambulance service organisations revenue per 1000 persons, 2006-07ᵃ**
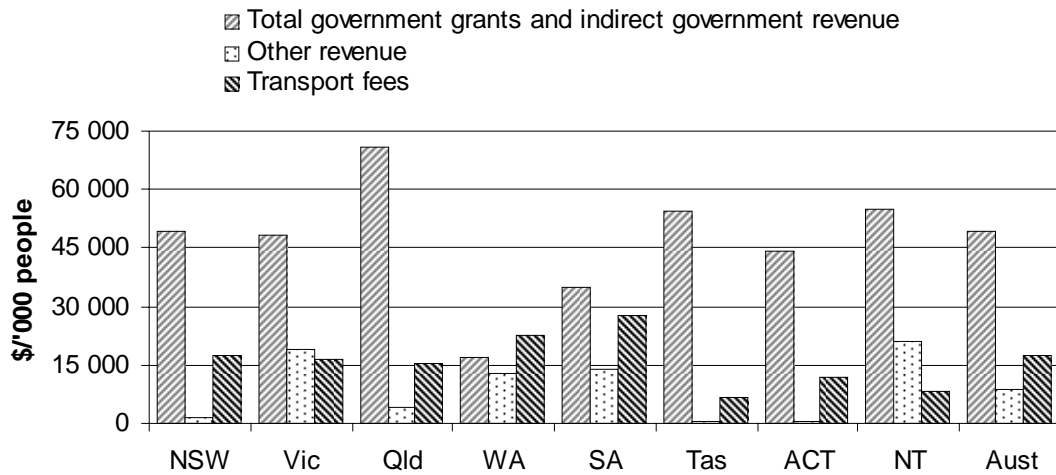
a Other revenue is equal to the sum of subscriptions, donations and miscellaneous revenue.

Source: State and Territory governments (unpublished); table 9A.27.

Outcomes

Outcomes are the impact of services on the status of an individual or group (while outputs are the actual services delivered) (see chapter 1, section 1.5).

Cardiac Arrest Survived Event Rate

An outcome measure for ambulance events is the Cardiac Arrest Survived Event Rate (box 9.20).
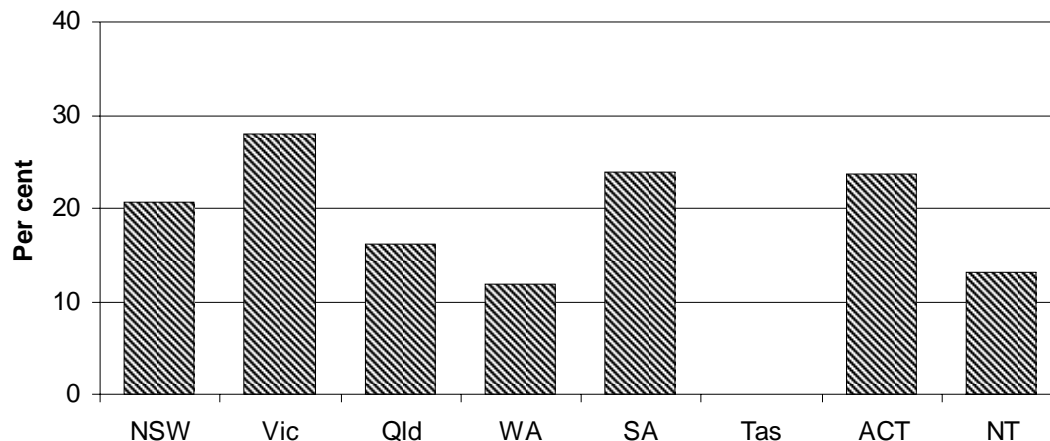
Box 9.20   **Cardiac Arrest Survived Event Rate**

The indicator is defined as the percentage of patients aged 16 years and over who: were in cardiac arrest (excluding paramedic witnessed); where any chest compressions and/or defibrillation was undertaken by ambulance/EMS personnel; and who have a return to spontaneous circulation (ROSC) on arrival at hospital.

A further breakdown of this indicator is defined as the percentage of patients aged 16 years and over who: were in out-of-hospital cardiac arrest (excluding paramedic witnessed); where the arrest rhythm on the first ECG assessment was either Ventricular Fibrillation or Ventricular Tachycardia; and who have a return of spontaneous circulation (ROSC) on arrival at hospital.

The survival rate from out-of-hospital witnessed cardiac arrests varied across jurisdictions where data were available in 2006-07 (figure 9.26). Tasmania did not report on this indicator. Available data on the further breakdown of this indicator (box 9.20) are reported in table 9A.22.

Figure 9.26   **Cardiac Arrest Survived Event Rate, 2006-07a**

a Relates to the percentage of patients aged 16 years and over who were in out-of-hospital cardiac arrest (excluding paramedic witnessed) where any chest compressions and/or defibrillation was undertaken by ambulance/EMS personnel who have a return of spontaneous circulation (ROSC) on arrival at hospital. For the out of hospital setting survived event means sustained ROSC with spontaneous circulation until administration and transfer of care to the medical staff at the receiving hospital (Jacobs, et al. 2004). Note that this does not reflect the proportion of patients who will survive to be discharged from hospital alive.

Source: State and Territory governments (unpublished); table 9A.22.

Level of patient satisfaction

Another outcome measure for ambulance events is the 'level of patient satisfaction' (box 9.21). The performance of ambulance service organisations can be measured in terms of the satisfaction of those people who directly used the service.

Data for 2003 to 2007 were collected by jurisdictions and collated by the CAA. The CAA survey obtained 4543 usable responses nationally from patients who used an ambulance service in 2007 (table 9A.24). The estimated satisfaction levels for ambulance patients were similar across all jurisdictions and all years (figure 9.27).


Box 9.21   **Level of patient satisfaction**

This indicator is defined as the total number of patients who were either 'satisfied' or 'very satisfied' with ambulance services they had received in the previous 12 months, divided by the total number of patients that responded to the Council of Ambulance Authorities National Patient Satisfaction Survey.

A higher level or increase in the proportion of patients who were either 'satisfied' or 'very satisfied' suggests greater success in meeting patient needs.

This indicator does not provide information on why some patients were not satisfied. It also does not provide information on the level of patient expectations.

Figure 9.27   **Proportion of ambulance users who were satisfied or very satisfied with the ambulance service[a]**
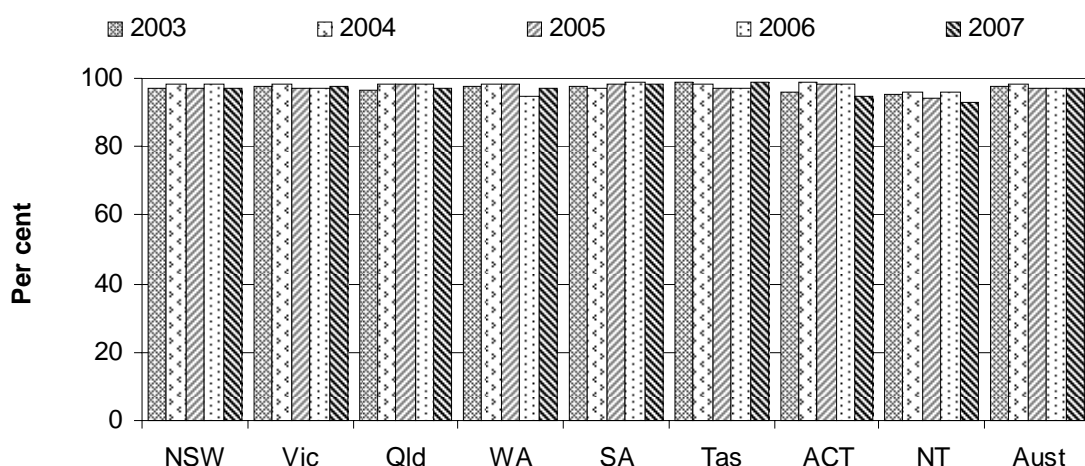
a Based on a survey of people who used an ambulance service in the previous 12 months. Jurisdictions conducted the surveys at various times during each year.

Source: Council of Ambulance Authorities National Patient Mailout Satisfaction Research 2003-2007; table 9A.24.

9.5 Road rescue events

A road rescue event is an accident or incident involving a motor vehicle and the presumption that there are injuries or that assistance is required from ESOs.

Emergency management services for road rescue events

In all jurisdictions, a diverse range of ESOs attend road rescue events. For example, in NSW road rescue services are provided by five organisations.

Number of reported road rescue incidents

Nationally, there were 21 515 road rescue incidents in 2006-07, or 103.9 incidents per 100 000 people (table 9A.28). The number of incidents per 100 000 people varied between jurisdictions. This may reflect different collection methods and therefore a lack of comparability between jurisdictions. Collection methods have improved, which is why only the two most recent years are presented in figure 9.28. Earlier years are nevertheless reported in attachment table 9A.28.

Figure 9.28 Reported road rescue incidents per 100 000 persons[a, b, c]
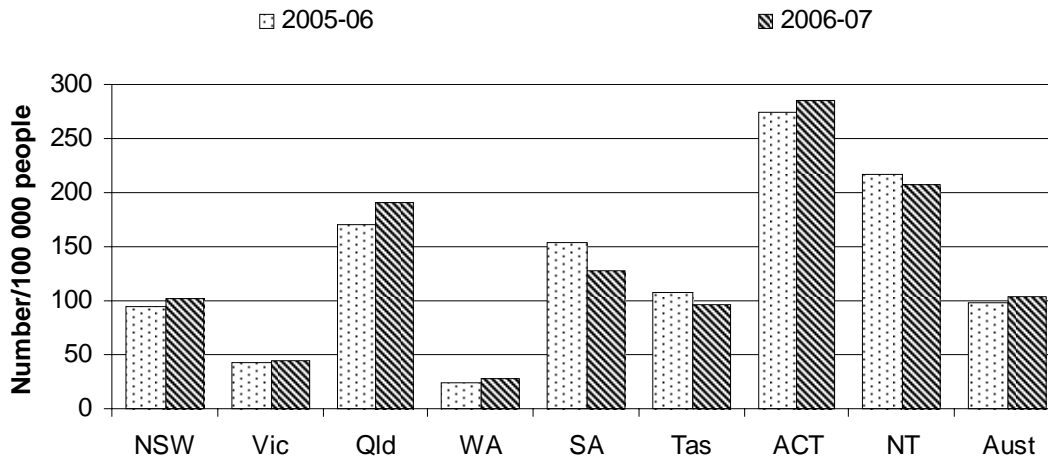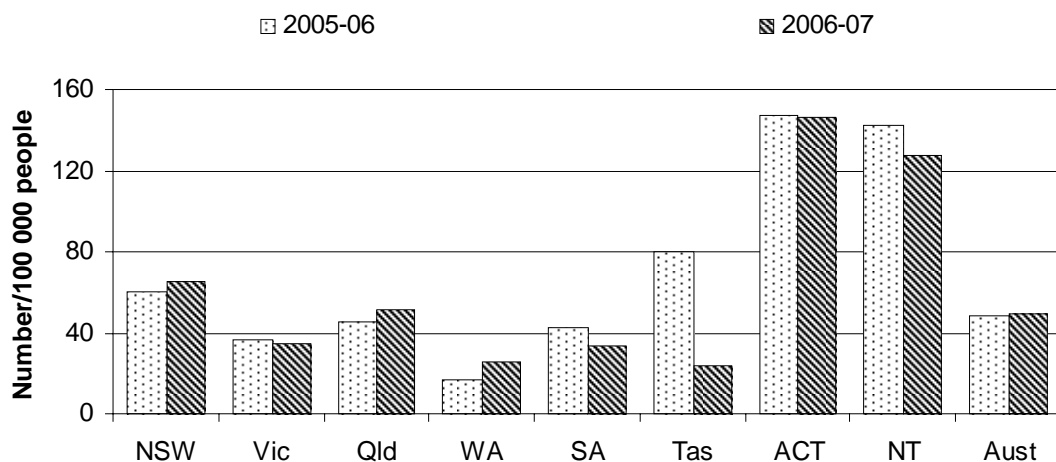

a Vic: Due to data collection issues, data is incomplete for 2005-06. **b** Qld: QFRS Rural Incident Database does not currently record the necessary information to calculate this measure. **c** SA: SASES reported taskings until 2005-06, not being able to distinguish incidents.

Source: State and Territory governments (unpublished); table 9A.28.

Number of reported road rescue extrications

The data for road rescue extrications per 100 000 people display some marked variations between jurisdictions (figure 9.29). These variations may reflect different collection methods and therefore lack of comparability between jurisdictions. Collection methods have improved, which is why only the two most recent years are presented in figure 9.29. Earlier years are nevertheless reported in attachment table 9A.29.

Figure 9.29   **Reported road rescue extrications[a, b, c, d]**



a Vic: Due to data collection issues, data is incomplete for 2005-06. b Qld: QFRS Rural Incident Database does not currently record the necessary information to calculate this measure. c WA: The apparent rise in the number of road rescue extrications in 2006-07 is due to improved data auditing. d Tas: Data includes responses by fire services, ambulance services and SES.

Source: State and Territory governments (unpublished); table 9A.29.

Framework of performance indicators

Although not fully developed, a performance indicator framework has been drafted as a preliminary framework for road rescue events and circulated for consultation (figure 9.30).

Figure 9.30 **Performance indicators for road rescue events**
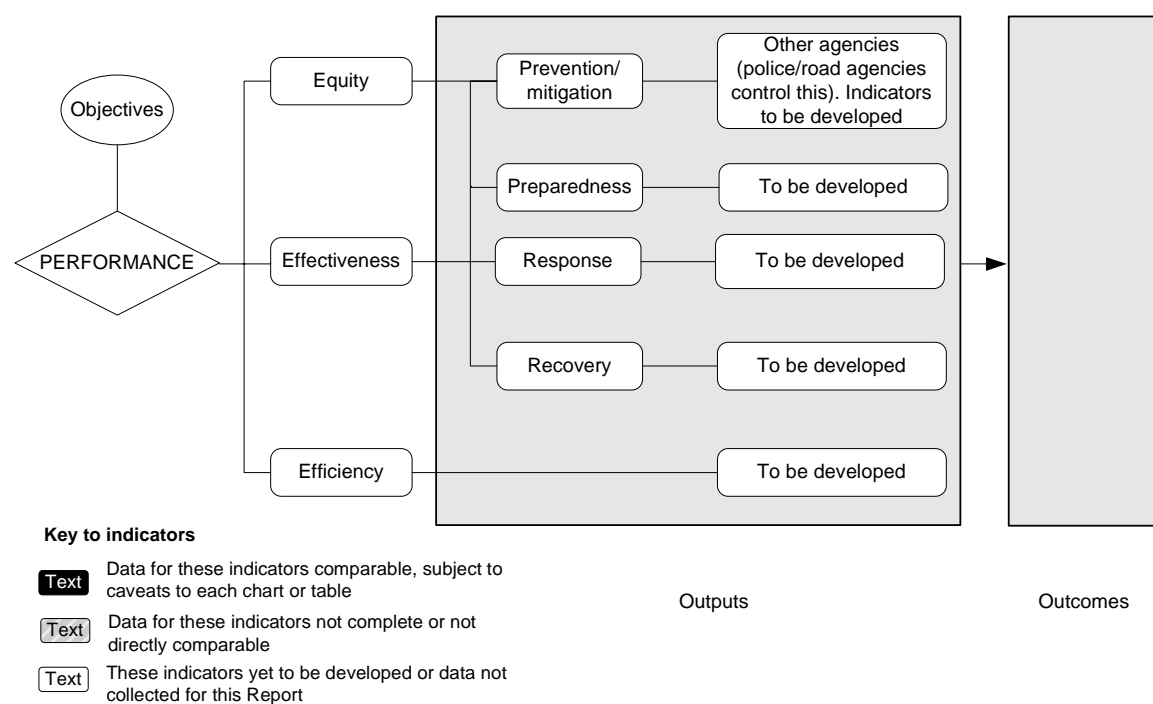
9.6   Future directions in performance reporting

A number of developments are underway to improve the comparability and accuracy of data, and to expand the scope of reporting on emergency services. Specifically, performance indicators for fire, ambulance and road rescue services are being improved with the assistance of the Australasian Fire Authorities Council, the Council of Ambulance Authorities and the Australian Council for State/Territory Emergency Services.

In 2005-06, land transport accidents accounted for 1646 deaths and 35 562 hospitalisations (tables 6A.41 and 6A.42 respectively).

A primary aim of governments is to reduce death and injury and the personal suffering and economic costs of road crashes. Emergency service organisations provide services that contribute to these objectives through the provision of effective and efficient trauma mitigation and medical and retrieval services.

Previous editions of this chapter have provided road rescue information on the number of road rescue incidents and the number of events in which extrications occurred. The next challenge for this chapter is to demonstrate the cost, benefits and value of the full range of emergency risk management services related to road transport accidents. This, combined with data in other chapters, will provide a more

comprehensive picture of the strategies and programs delivered by governments to reduce the impact of road transport accidents.

Using the PPRR framework applied in emergency management, these services could include:

- prevention of road crashes through community safety campaigns, regulation and law enforcement

- preparedness through safety engineering, vehicle technology and occupant protection (to reduce the severity of incidents)

- response, including emergency management services

- recovery, including work to reopen roadways, repair vehicles and rehabilitate patients.

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.

9.7   Jurisdictions' comments

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

New South Wales Government comments

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The NSW Government continues its commitment to ensuring safer communities and providing excellence in emergency risk management.

In 2006-07 NSW continued to make significant investments in mitigation projects across the spectrum of natural hazards that will reduce casualties, increase community resilience and reduce damage to essential infrastructure. A total of 53 new projects, ranging from significant flood related capital works projects, through to natural hazard risk studies, were progressed.

During 2006-07, the Ambulance Service of NSW (ASNSW) responded to more than 1 052 000 calls for assistance. The ASNSW added emergency medical missions to its services in Sydney, Wollongong and Orange with the delivery of four helicopters for Air Ambulance in May 2007. The training and upgrading of clinical skills for qualified ambulance officers continued in the areas of acute clinical interventions and mental health emergencies. A rural plan is also being developed to recruit and retain ambulance officers and enhance services to regional communities.

The NSW Rural Fire Service (NSWRFS) continued to reduce community vulnerability to bushfires through Bush Fire Risk Management Plans, a major hazard reduction strategy as part of the Urban Interface Bush Fire Mitigation Plan 2006–2010, and the contribution to building standards for new construction and renovations in bushfire prone areas. The NSWRFS also commenced an asset inventory of brigade stations, the construction of new stations based on approved standard design, and continued the analysis of vehicle resourcing requirements. During 2006-07 the NSW Fire Brigades (NSWFB) operational capabilities were enhanced with the opening of three new fire stations, renovations to a further 11 fire stations, and $18 million allocated for 41 new vehicles. The Community Fire Unit program continued to expand with 19 new units and 500 additional volunteers. Firefighters conducted more than 10 000 visits to schools to deliver child fire safety education and to seniors' homes to install smoke alarms or check batteries.

The State Emergency Service (SES) coordinated the response to the storms in June 2007 which hit the Hunter and Central Coast region, resulting in almost 20 000 requests for assistance from the public in 18 days — the SES's second largest response. The multi-agency response involved the deployment of teams from all 17 NSW SES regions and assistance from SES contingents from interstate, and tested the new Operational Communications Centre. In September 2006, the SES had conducted a state-level, multi-agency flood scenario exercise to test the revised 2005 Hawkesbury-Nepean Flood Emergency Sub-Plan and the upgraded Sydney Western Region Headquarters.

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Victorian government comments

" Bushfire continues to pose an extreme threat to public safety in Victoria. Extensive fires occurred throughout the Great Dividing Range in the eastern part of the state from early December 2006 until February 2007. Approximately 1.2 million hectares was burnt during these fires, slightly more than the area burnt in the 2002-03 fires. Some of the areas burnt this year were also burnt during the 2002-03 fires, creating the potential for long-term impacts on biodiversity.

In late June 2007, up to 300 mm of rain fell over parts of Gippsland, resulting in significant flooding to most catchments. Parts of the same catchments had also been burnt during the 2006-07 fires. The Government allocated in excess of $60 million to assist the region to recover from the affects of the flooding. The Emergency Services Commissioner is conducting a review of the management of this event. The review will examine preparedness including warning systems, response, and transition to recovery.

It is now widely accepted that climate change is a contributing factor to natural disasters in Australia. Over the next 20 years, Victoria can anticipate significantly more droughts, more days of extreme fire danger and increasing inundation due to rising sea levels, storms and severe weather events. This represents a significant challenge for industry, communities and the emergency services that protect them, including the many volunteers.

The technical upgrade of Victoria's ambulance services continued in 2006-07 with both the Metropolitan Ambulance Service (MAS) and Rural Ambulance Victoria (RAV) commencing the transition to new radio networks. The Metropolitan Mobile Radio network now provides a common digital radio system that replaces the analogue networks of Victoria Police, the Metropolitan Fire Brigade and MAS, with RAV continuing the replacement of its radio communications network to provide an integrated and seamless voice and data system for communication during all emergency and non emergency situations.

During the year, preparation for the roll out of the Victorian Ambulance Clinical Information System (VACIS) within rural Victoria also commenced. As with MAS, VACIS will enable RAV to capture substantial amounts of clinical data, enabling the service to better train paramedics, review clinical standards, conduct pre-hospital research and design services for the future. RAV is also in the process of implementing a Computer Aided Dispatch system that will provide comprehensive, consistent, medically robust and structured triage processes. "

Queensland government comments

"Queensland continues to experience significant growth which has continued to place increased demands for service on our emergency services. In 2006-07 the Queensland Ambulance Service experienced a 12 per cent growth in responses on the previous year. Despite this growth, Queensland Ambulance Service continues to get to more Code 1 cases in less than 10 minutes than ever before.

A number of strategies are being explored to manage future demand growth including the announcement of the Government in the 2007-08 State Budget of an additional 250 ambulance officers and associated equipment and vehicles to respond to the growth in request for service, ongoing implementation of the rural and remote Isolated Practice Paramedic initiative to make effective use of any spare ambulance capacity in rural and remote areas, and an exploration of an expanded practice model for urban areas.

The Fire and Rescue Service Amendment Bill 2006 was developed and passed by parliament to address gaps in the existing legislative coverage—and save lives. A key element of the reforms includes making smoke alarms compulsory in all Queensland residences from 1 July 2007, and indications are that there appears to be a very good uptake in households, which had previously stated that no smoke alarm was installed.

The ongoing Bushfire Prepared Communities program, which features the new message of Prepare, Stay and Defend, or Go Early, continues to receive favourable community understanding and involvement.

Although challenged by growing demand, particularly in the area of Road Accident and Rescue, Queensland fire crews are on the scene at a structural fire in seven minutes and sixteen seconds, and 95.9 per cent of all structural incidents within urban levy boundaries are responded to within 14 minutes.

Cyclones are an inevitable part of life in Queensland and it is vital that people in cyclone prone areas take action to prepare their homes and their families so that damage can be minimized. The department has worked to capture the lessons learnt from Tropical Cyclones Larry and Monica. Workshops with key stakeholders were conducted to ensure local knowledge is incorporated into future policy and planning. In December 2006, a Cyclone Summit featuring national and international delegates was held to discuss current knowledge regarding preparations for cyclones. The outcomes have included an extensive education and awareness campaign on cyclone preparedness and safety procedures, specifically targeting new residents to coastal communities.

Queensland will continue to have an 'all hazards' focus on preparedness — to ensure we provide an effective and appropriate response under all circumstances, including natural disasters, terrorist incidents and pandemic influenza. The unexpected tsunami threat to Queensland in April 2007 highlights the importance of this approach, as well as the need for continued collaboration with our service delivery partners, and the importance of strategies that support community resilience and reduce vulnerability to a range of threats."

West Australian government comments

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Emergency events within Western Australia are becoming more significant and widespread. The increasing frequency and severity of natural emergencies, together with growth in population is placing pressure on emergency services.

During 2006-07, three tropical cyclones crossed the Western Australian coastline causing extensive flooding across the State. Tropical Cyclone George tragically resulted in three fatalities, numerous injuries and extensive infrastructure damage, property and environmental loss.

The Fire and Emergency Services Authority (FESA) concentrated on raising cyclone awareness amongst resource workers and visitors to the North West of the State. Also, the cooperative development of appropriate emergency management arrangements in 'hub' communities will improve the emergency management awareness and capacity of Indigenous communities.

Widespread flooding following cyclonic weather activity resulted in a natural disaster being declared for the Esperance area in January 2007. Major damage was sustained to the boat harbour, the Esperance townsite and rural properties.

The 2006-07 fire season was longer and more severe than in 2005-06. A bushfire emergency period was declared in February 2007 when significant resources were required to combat hundreds of bushfires across the State. This extraordinary power has only been exercised twice in the State's history and is reserved for those occasions when there is a very real threat of a bush fire catastrophe. Three fires in the Dwellingup area burnt through an estimated 14 000 hectares of bushland, resulting in the loss of 14 houses and extensive damage to a further four homes, stock, outbuildings and farm machinery.

Agencies are continuing to work with communities affected by flood and bushfires and relief funding is being provided to assist with recovery activities.

Technology for managing emergency events is becoming increasingly important. The Western Australian Shared Land Information Platform — Emergency Management (SLIP-EM) will provide emergency management agencies with the most current and authoritative spatial mapping information. In addition, improved warning systems for tsunami and floods support preparedness and prevention activities and should reduce the impact of these natural events.

Road ambulance services are delivered by non-government suppliers for most of the State with St John Ambulance Australia (SJA) continuing to be the principal provider. Ambulance services in rural communities in WA are largely dependent on SJA volunteers with more than 2800 volunteers participating. Although WA again reported relatively low rates of incidents and responses, 2006-07 saw an improvement in code 1 response times compared with the previous year. Essential air ambulance coverage is provided by the Royal Flying Doctor Service's 11 fixed wing aircraft and Rescue One, the FESA Emergency Response Rescue Helicopter Service.

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South Australian Government Comments

" To improve Public Safety the South Australian Government's vision is for emergency services:

- comprising dedicated, highly competent people

- using modern technology and equipment

- providing a community focus for positioning and aligning emergency services across Prevention, Preparedness, Response and Recovery

- efficiently working together and with the community

- efficiently managed and supported to meet modern challenges.

The SA Fire and Emergency Services Commission's Strategic Plan sets community safety goals, objectives and strategies to achieve them. In Health, SA Ambulance Service (SAAS) highlights for 2006-07 included:

- achieving a 98 per cent patient satisfaction rating and a 95 per cent customer service satisfaction rating

- developing a comprehensive recruitment and education project to attract additional staff and to create educational pathways for people in regional areas to enter a career with the service

- expanding the Emergency Operations Centre to accommodate additional call-takers and an increased mental health triage capacity

- achieving 9 out of 10 State Government safety performance targets for occupational health, safety and welfare, with 8 recording outstanding results

- introducing a major workforce strategy to meet existing and future demands.

Major emergency management initiatives for 2007-2008 include:

- reviewing the SA Fire and Emergency Services Act 2005

- implementing the recommendations of the COAG Reviews of Natural Disaster Management, Bushfires and Catastrophic Disasters

- enhancing relationships with local government to achieve improved emergency management outcomes for communities

- implementing new emergency management arrangements at regional level to encompass PPRR

- participating in the SA Computer Aided Dispatch (SACAD) project to provide new computer aided dispatch systems for Police, Ambulance, Metropolitan Fire Service, Country Fire Service and State Emergency Service)

- promoting long-term retention and recruitment of volunteers, including volunteer selection, induction, reward and recognition, flexible learning and conflict resolution

- working closely with the Council of Ambulance Authorities and the Australasian Fire Authorities Councils' initiatives for service excellence. "

Tasmanian government comments

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Tasmania has a number of unique characteristics which impact on the provision of emergency services throughout the state, including a small and dispersed population, lack of economies of scale, reliance on a network of dedicated volunteers in rural and remote areas (affecting turnout times) and the state's rugged topography which impacts on response times and infrastructure costs (for example, radio communications).Tasmania's two major urban centres also have low population density compared to the large urban centres in other states.

Unlike some other jurisdictions, Tasmania includes data for both urban and rural fire and ambulance service performance. As Tasmania has the highest percentage of all jurisdictions of its population in rural areas, reliable comparisons with other jurisdictions are difficult.

The Tasmania Fire Service (TFS) is comprised of four career brigades and 231 volunteer brigades that respond to fires in all metropolitan and rural areas. All incidents attended by these brigades are reported, and the TFS bears the full cost of funding both the operating and capital costs of its brigades.

The 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 that occur. Figures indicate that fire-prevention programs targeting at-risk households are particularly effective, with significant decreases in house fire rates experienced over the last ten years.

The Tasmanian Ambulance Service (TAS) provides emergency ambulance care, rescue and transport services and a non-emergency patient transport service. In addition, TAS provides fixed-wing and helicopter aero-medical services. Urban road crash rescue transferred from the ambulance service to the fire service from 1 December 2006. An additional 30 ambulance staff were recruited this year to increase crewing levels in Hobart and Launceston, and a major fleet replacement program is underway.

Tasmania is currently the only state that provides a free ambulance service to the general public and as a consequence, there is a far greater reliance on government funding for ambulance services than in all other jurisdictions. The state government has announced that it will introduce ambulance user charges from 1 July 2008.

Tasmania trains a far greater proportion of its salaried ambulance personnel to paramedic level than most other jurisdictions.

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Australian Capital Territory government comments

" ACT Emergency Services Agency (ESA) comprises the ACT Ambulance Service, the ACT Fire Brigade, the ACT Rural Fire Service and the ACT State Emergency Service and affiliated Snowy Hydro Southcare aeromedical services.

The ACT ESA provides services across a broad geographic base to encompass the Bush Capital Planning Model. This geographic spread increases costs substantially in comparison to higher urban density areas to meet benchmark response standards. The data is not fully comparable across jurisdictions and should be interpreted with caution.

Over the past twelve months the ESA has continued to foster the 'all hazards all agencies' approach to delivering emergency services and emergency management for the ACT and surrounding region. A number of incidents have 'tested' the processes that have been established to effectively provide for joint planning and operations. These include:

- severe 'microburst' thunderstorms in December '06 and January '07

- bushfires under severe drought conditions

- participation in the National Counter Terrorism Committee tactical response exercise involving a mass evacuation.

The Operational capability of the ESA was further improved or enhanced through the continued work of the following key projects:

- continuing commitment to the operation of Snowy Hydro Southcare aeromedical services with NSW.

- motor Fleet cyclical replacement program funded by the government.

- organisational structure review to integrate service delivery.

- significant training initiatives to further staff and volunteer capabilities.

- finalises the re-writing of the ACT Emergency Plan for the conduct of multi-agency emergency management.

The Media and Community Information unit provided the ACT community with emergency information and education on preparing for emergency situations. This was achieved by engaging with the media, Canberra Connect and community groups providing regular information updates on websites and attending community events. The Media and Community Information unit coordinated key community education campaigns including 'Clean Up Your Backyard' and 'Change Your Smoke Alarm Battery'.

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Northern Territory government comments

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The Northern Territory Government continued its commitment to enhance community safety and emergency management through the Police, Fire and Emergency Services Department.

Of particular note was the construction of a new fire station in Darwin's northern suburbs. The new facility will improve the standard of accommodation for fire fighters and fire fighter safety, but more importantly, it will improve fire service response times in the area.

New fire sheds were built for Fire and Rescue volunteer fire brigades at Howard Springs, Yirrkala and Alice Springs. Upgrades of facilities for the volunteer fire stations at Adelaide River and Pine Creek are well underway.

The Northern Territory Fire and Rescue Service (NTFRS) radio communications system was upgraded from analogue to digital during the reporting period. Its fire alarm monitoring system in Alice Springs was upgraded and enhanced.

The development of a compartment fire fighting training area has seen an improvement in fire fighter safety, and will assist the NTFRS to reduce the amount of water damage that occurs as a result of fire extinguishing training activities.

New strategic plans have been developed to assist with the management of volunteer fire fighters. The strategic plan was developed in conjunction with volunteers and is intended to assist in the recruitment, development and retention of volunteers. The NTFRS also developed a volunteer training package with funding obtained through Emergency Management Australia.

The Fire Service continues to provide fire safety information and education to community groups on smoke alarms, home evacuation, fire awareness and hazard abatement programs and it continues to develop education programs aimed at the disadvantaged, and developing school-based fire awareness programs for urban and remote community schools.

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9.8 Definitions of key terms and indicators

Ambulance service response times	The response time is defined as the time taken between the initial receipt of the call for an emergency ambulance and the ambulance's arrival at the scene of the emergency. Emergency responses are categorised by an assessment of the severity of the medical problem: • 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.
50th percentile ambulance service response times	The time within which 50 per cent of emergency (code 1) incidents are responded to.
50th percentile fire service response times	The time within which 50 per cent of first fire resources respond.
90th percentile ambulance service response times	The time within which 90 per cent of emergency (code 1) incidents are responded to.
90th percentile fire service response times	The time within which 90 per cent of first fire resources respond.
Alarm notification not involving fire	Fire alarm notification due to the accidental operation of an alarm, the failure to notify fire services of an incorrect test by service personnel or a storm induced voltage surge.
Ambulance expenditure	Includes salaries and payments in the nature of salaries to ambulance personnel, capital expenditure (such as depreciation and 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 one or more responses by an ambulance service.
Ambulance non-government revenue	Includes revenue from subscription fees, transport fees, donations and other non-government revenue. 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. 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	Provide emergency and non-emergency pre-hospital and out of hospital patient care and transport, inter-hospital patient transport, specialised rescue services, ambulance services to multi-casualty events, and community capacity building to respond to emergencies.

Cardiac arrest survived event rate	For the out of hospital setting, survived event rate means sustained return of spontaneous circulation (ROSC) with spontaneous circulation until administration and transfer of care to the medical staff at the receiving hospital (Jacobs, et al. 2004)
Emergency ambulance response	An emergency ambulance response (code 1) to a pre-hospital medical incident or accident (an incident that is potentially life threatening) that 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 occurs. 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 responds to and investigates a site, and may restore a detection system.
Fire death	A fatality where fire is 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 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 and injuries resulting in a fire death.
Fire injury rate	The number of fire injuries per 100 000 people in the total population.
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. Includes paid and volunteer firefighters and support personnel.
Fire safety measure	• Operational smoke alarm or detector • Fire sprinkler system • Safety switch or circuit breaker • Fire extinguisher • Fire blanket • Fire evacuation plan • External water supply • The removal of an external fuel source • External sprinkler • Other fire safety measure.
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) value of the structure loss (in $'000) per structure fire incident.
Non-emergency ambulance response	A non-urgent response (code 3 and code 4) by required ambulance or patient transport services that does not necessitate the use of ambulance warning devices (lights and sirens).
Non-structure fire	A fire outside a building or structure, including fires involving mobile properties (such as vehicles), a rubbish fire, a bushfire, grass fire or explosion.
Other incident	An incident (other than fire) reported to a fire service that requires a response. This may include:
	• overpressure ruptures (for example, steam or gas), explosions or excess heat (no combustion)
	• rescues (for example, industrial accidents or vehicle accidents)
	• hazardous conditions (for example, the escape of hazardous materials)
	• salvages
	• storms or extreme weather.
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 non-residential structures.
Urgent ambulance response	An urgent (code 2) undelayed response required (arrival desirable within 30 minutes) that does not necessitate the use of ambulance warning devices (lights and sirens).
User cost of capital	The opportunity cost of funds tied up in the capital used to deliver services. Calculated as 8 per cent of the current value of non current physical assets (including land, plant and equipment).

9.9 Attachment tables

Attachment tables are identified in references throughout this chapter by a '9A' suffix (for example, table 9A.3 is table 3 in the attachment). Attachment tables are provided on the CD-ROM enclosed with the Report and on the Review website (www.pc.gov.au). On the CD-ROM, the files containing the attachment tables are in Microsoft Excel format as \Publications\Reports\2008\Attach_Chapter 9.xls and in Adobe PDF format as \Publications\Reports\2008\Attach_Chapter 9.pdf. Users without access to the CD-ROM or the website can contact the Secretariat to obtain the attachment tables (see contact details on the inside front cover of the Report).

Fire events

Table 9A.1	Major sources of fire service organisations' funding (2006-07 dollars)
Table 9A.2	Reported fires and other primary incidents attended to by fire service organisations
Table 9A.3	Fire service organisations and land management agencies reported total landscape fires (bush and grass) incidents
Table 9A.4	Accidental residential structure fires reported to fire service organisations per 100 000 households
Table 9A.5	Fire service organisations' human resources
Table 9A.6	Fire deaths
Table 9A.7	Fire injuries
Table 9A.8	Median dollar loss from structure fire (2006-07 dollars)
Table 9A.9	Total property loss from structure fire (2006-07 dollars per person)
Table 9A.10	Total fire incidents attended by fire service organisations per 100 000 persons
Table 9A.11	Households with an operational smoke alarm or smoke detector installed
Table 9A.12	Response times to structure fires (minutes)
Table 9A.13	Structure fires and response times to structure fires across geographic areas
Table 9A.14	Structure fires contained to the object or room of origin (per cent)
Table 9A.15	Fire service organisations' costs ($'000) (2006-07 dollars),
Table 9A.16	Fire service organisations' expenditure per 1000 people (2006-07 dollars)
Table 9A.17	Fire service organisations' funding per 1000 people (2006-07 dollars)

Ambulance Services

Table 9A.18	Major sources of ambulance service organisations revenue (2006-07 dollars)
Table 9A.19	Reported ambulance incidents, responses, patients and transport
Table 9A.20	Ambulance service organisations' human resources
Table 9A.21	Ambulance assets (number)
Table 9A.22	Cardiac arrest survived event rate
Table 9A.23	Ambulance code 1 response times (minutes)

9.10 References

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