

## 14. Fire and burns

This section describes injury hospitalisations due to fire and burns. WHO classifies the cause of fire/burns-related hospitalisations by the location or circumstance in which the fire/burn occurred (WHO, 1977; WHO, 1992). These locations and circumstances include *fires in buildings and other structures*, *fires not in buildings*, *ignition of flammable material*, *burns (contact with heat and hot substances, including scalds)*, and *ignition of clothing and nightwear*.

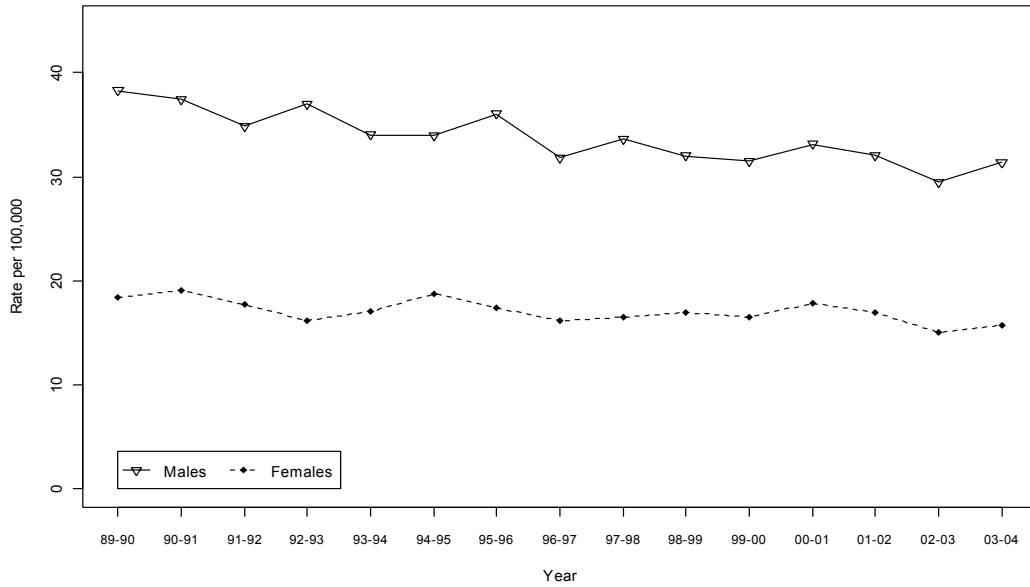
In NSW, fire/burns were the eighth leading cause of death in NSW during 1998–2002, with 180 deaths, giving a mortality rate of 0.6 per 100,000 population (Schmertmann et al, 2004). The lifetime cost of fatal and non-fatal fire/burns in NSW has been estimated at \$75.2 million—\$14.3 million in direct costs and \$60.9 million in mortality and morbidity costs (Potter-Forbes & Aisbett, 2003).

Fire/burns hospitalisation data were used to describe the profile of fire/burns hospitalisation involving NSW residents. Hospitalisation data from 1999–2000 to 2003–2004 were used for the majority of analyses, except for the trend analyses, which used data from 1989–1990 to 2003–2004.

Fire/burns were the eleventh leading cause of injury hospitalisation from 1999–2000 to 2003–2004, and accounted for approximately 1.6% of all injury-related hospitalisations. During this period, there were 7,892 hospitalisations due to fire/burns in NSW at a rate of 24.0 per 100,000 population (Table 3). The overall hospitalisation rate was about 92% higher for males than for females. There were approximately 1,578 hospitalisations per year due to fire/burns during 1999–2000 to 2003–2004.

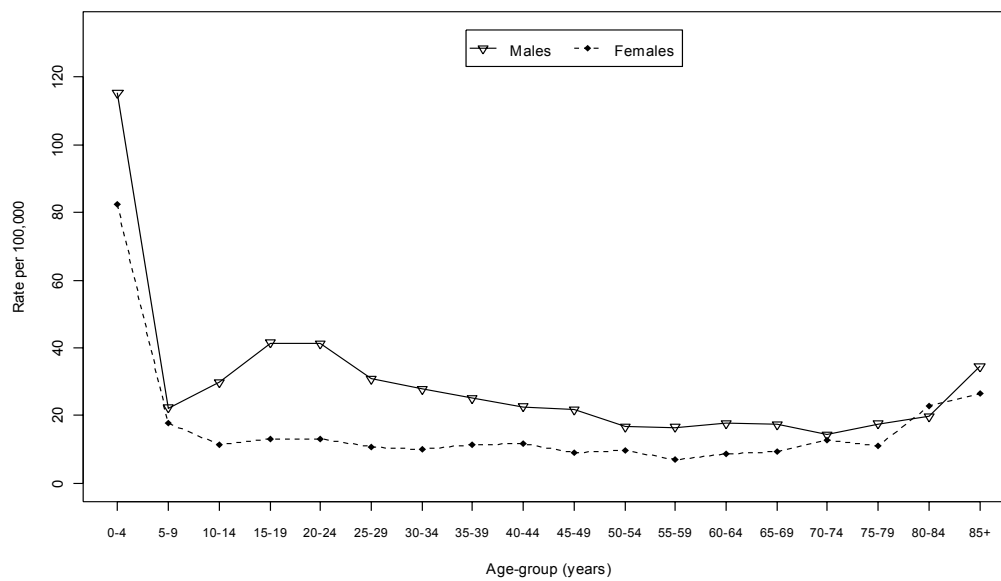
The age-adjusted hospitalisation rate for injury due to fire/burns has been gradually decreasing from 28.5 per 100,000 population in 1989–1990 to 23.6 per 100,000 population in 2003–2004 (Figure 23). The hospitalisation rate was estimated to have decreased significantly by 1.1% per year during 1989–1990 to 2003–2004 (95% confidence interval for the decrease: 0.6% to 1.6%).

**Figure 23. Hospitalisation rate for injury due to fire/burns by sex, NSW 1989–1990 to 2003–2004**



Children aged four years or less had the highest age-specific hospitalisation rate for fire/burns at 99.1 per 100,000 population during 1999–2000 to 2003–2004. Males aged 15-19 and 20–24 years (41.5 per 100,000 population and 41.4 per 100,000 population, respectively) and males aged 85 years or older (34.6 per 100,000 population) also had high hospitalisation rates for injuries resulting from fire/burns compared to all other age groups during this same period (Figure 24).

**Figure 24. Age-specific hospitalisation rate for injury due to fire/burns by sex, NSW, 1999–2000 to 2003–2004**



Approximately 60% of injury-related hospitalisations for fire/burns were due to *burns (contact with heat and hot substances)*, with hospitalisation rates for *burns (contact with heat and hot substances)*, being higher in males (16.8 per 100,000 population) than females (11.5 per 100,000 population) during 1999–2000 to 2003–2004 (Table 24).

**Table 24. Injury hospitalisations by fire/burns type, NSW, number, rate and CI, 1999–2000 to 2003–2004**

Fire/burns type	All Persons			Male			Female		
	N	Rate <sup>1</sup>	95%CI <sup>2</sup>	N	Rate <sup>1</sup>	95%CI <sup>2</sup>	N	Rate <sup>1</sup>	95%CI <sup>2</sup>
Burn - contact with heat and hot substances	4,663	14.2	(13.8,14.6)	2,777	16.8	(16.2,17.5)	1,886	11.5	(11.0,12.0)
Ignition of flammable material	997	3.1	(2.9,3.2)	886	5.4	(5.0,5.7)	111	0.7	(0.6,0.8)
Building fire	536	1.6	(1.5,1.8)	318	1.9	(1.7,2.2)	217	1.3	(1.1,1.5)
Fire not in building	390	1.2	(1.1,1.3)	310	1.9	(1.7,2.1)	80	0.5	(0.4,0.6)
Ignition of clothing and nightwear	158	0.5	(0.4,0.6)	108	0.7	(0.5,0.8)	50	0.3	(0.2,0.4)
Other and unspecified	1,306	4.0	(3.8,4.2)	893	5.5	(5.1,5.8)	413	2.4	(2.2,2.7)
All fire/burns <sup>3</sup>	7,892	24.0	(23.5,24.5)	5,184	31.5	(30.7,32.4)	2,708	16.4	(15.8,17.0)

<sup>1</sup> Age-adjusted rate per 100,000 population.

<sup>2</sup> 95% confidence interval.

<sup>3</sup> The number of NSW residents hospitalised interstate during 2003–2004 was imputed and as a result the sum of submechanisms may not equal the total.

Table 25 shows the number of hospitalisations by age group and cause for the period 1999–2000 to 2003–2004. In all age groups, *burns (contact with heat and hot substances)*, were the most common cause of fire/burns hospitalisation. There was a particularly high frequency of *burns (contact with heat and hot substances)*, for young children aged 0–4 years.

## SUMMARY

Injuries resulting from fire/burns were the eleventh leading cause of hospitalisation due to injury involving NSW residents between 1999–2000 and 2003–2004, accounting for 1.6% of all injury-related hospitalisations. The yearly hospitalisation rate for fire/burns-related injuries was estimated to have decreased by 1.1% per year during 1989–1990 to 2003–2004.

In 2003–2004, there were 1,567 hospitalisations of NSW residents following a fire/burn-related injury, giving a hospitalisation rate of 23.6 per 100,000 population. Just over one-quarter (27.8%) of those hospitalised following a fire/burn-related injury were aged four years or less.

*Burns (contact with heat and hot substances)* accounted for around 60% of all fire/burn-related hospitalisations. The overall hospitalisation rate was about 92% higher for males than for females.

**Table 25. Number of hospitalisations for injury due to fire/burns<sup>1</sup> by age group and cause, NSW, 1999–2000 to 2003–2004**

Rank	Age group								Total	
	0-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64		65+
1	Burn 1,927	Burn 291	Burn 209	Burn 496	Burn 432	Burn 413	Burn 296	Burn 206	Burn 393	Burn 4,663
2	Building fire 56	Ignition of flammable material 41	Ignition of flammable material 150	Ignition of flammable material 308	Ignition of flammable material 168	Ignition of flammable material 118	Ignition of flammable material 98	Ignition of flammable material 52	Building fire 78	Ignition of flammable material 997
3	Not in building 27	Not in building 28	Not in building 20	Not in building 113	Building fire 96	Building fire 89	Building fire 64	Building fire 43	Ignition of flammable material 43	Building fire 536
4	Ignition of flammable material 18	Building fire 12	Building fire 16	Building fire 81	Not in building 81	Not in building 54	Not in building 36	Not in building 11	Clothing 23	Not in building 390
5	Clothing 18	Clothing 24	Clothing 11	Clothing 26	Clothing 15	Clothing 19	Clothing 15	Clothing 7	Not in building 19	Clothing 158
	Other 101	Other 80	Other 76	Other 223	Other 189	Other 215	Other 141	Other 89	Other 176	Other 1,306

<sup>1</sup> # Cell sizes represent fewer than five hospitalisations or data have been removed to prevent identification of cell sizes less than five.