

9 External causes for admitted patients

Introduction

An external cause is defined in the *National Health Data Dictionary* (NHDC 1996) as the event, circumstance or condition associated with the occurrence of an injury, poisoning or violence. Whenever a patient has a principal or additional diagnosis of an injury or poisoning, an external cause should be recorded and, with it, a place of occurrence code.

External causes are classified, coded and reported to the National Hospital Morbidity Database using the *Australian Version of the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (National Coding Centre 1996). The external cause classification is hierarchical, consisting of 192 3-digit categories, mostly divided into a larger number of very specific categories represented by 4-digit codes. The tables and figures in this chapter use the codes and abbreviated descriptions of the ICD-9-CM external cause classification. Full descriptions of the categories are available in the ICD-9-CM publication.

The information in this chapter is presented by grouping records into 10 groups based on the ICD-9-CM external cause classification to provide an overview of the reported external causes. The information in Table 9.6 is also presented according to the place of occurrence classification, common to the *National Health Data Dictionary* and the ICD-9-CM publication.

Included in the tables in this chapter are separations for which an external cause was reported and for which the principal diagnosis was an injury or poisoning for which an external cause must be reported, according to the Australian Coding Standards (diagnosis codes 800–999, V71.3–V71.6). External causes were also reported for other separations and are likely to have related to other principal diagnoses or to additional diagnoses of injury or poisoning.

Excluded from the tables were separations for which only supplementary codes were reported rather than codes for external causes. These included separations for which a type of sporting injury (E889, for example, hockey) was reported as the external cause but the nature of the external cause (a fall or being struck, for example) was not reported. The E889 code was introduced only on 1 July 1996 and it may not have been implemented in a uniform manner. In contrast with Tables 7.1 and 7.2, also excluded are separations for which an injury or poisoning diagnosis was reported, but an external cause was not.

Tables are presented with summary national separation, patient day and length of stay statistics for public and private hospitals. Also provided are summary separation and patient days data by State and Territory, national information on age group and sex distributions and summary information on reported places of occurrence. The data on relative rankings of the various external cause groups (by numbers of separations or patient days) depend to some extent on the chosen groups of external cause codes.

Highlights

Sector

There were 382,445 separations in 1996–97 with an external cause and an injury or poisoning principal diagnosis and these separations accounted for 1,753,828 patient days (Table 9.1). This represented 7% of all separations (21 separations per 1,000 population) and 8% of all patient days. The majority of separations (312,798, 82%) and patient days (1,371,173, 78%) were reported for the public sector. Overall, the average length of stay was longer in the private sector (5.5 days) than the public sector (4.4 days).

The most frequently reported external cause group in both the public and private sectors was *Accidental falls* (E880–E888). Second most frequently reported in both sectors was *Other accidents, late effects of accidental injury* (E900–E929), mainly accidents caused by cutting or piercing instruments or objects, striking against or struck accidentally by objects or persons and other and unspecified environmental and accidental causes. Together, these groups accounted for 54% of separations (208,139) and 52% of patient days (904,504) for which an external cause and an injury and poisoning diagnosis was reported.

Transport accidents (E800–E848) accounted for a further 14% of external cause separations from public hospitals (45,294), but only 7% from private hospitals (4,611). *Suicide and self-inflicted injury* (E950–E959) and *Homicide, injury purposely inflicted by others* (E960–E969) each accounted for 6% of external cause separations from public hospitals (18,875 and 18,263, respectively) but less than 1% each of external cause separations from private hospitals (624 and 497, respectively).

Average length of stay was highest for *Accidents caused by fire or flames* (E890–E899) in the public sector (7.8 days) and for *Accidental falls* in the private sector (7.4 days).

States and Territories

External causes were recorded for between 6 and 9% of separations for all States and Territories, with proportions above the average reported for those which reported high proportions of injury and poisoning principal diagnoses (see Table 7.2)— Queensland (85,117, 8.4%), Western Australia (38,972, 8.2%) and the Northern Territory (4,192, 8.7%).

The distributions of separations amongst the external cause groups were similar amongst the States and Territories (Table 9.2). Notable exceptions were the high proportions of separations for *Transport accidents* (E800–E848) and *Homicide, injury purposely inflicted by others* (E960–E969) in the Northern Territory (16%, 670, and 21%, 869, compared with the national averages of 13% and 5%). For *Misadventure during or due to medical care* (E870–E879), the Northern Territory reported a much lower proportion (9%, 389) than the national average (17%).

The distributions of patient days amongst the external cause groups were similar amongst the States and Territories (Table 9.3). However, as for separations, the Northern Territory reported higher than average proportions for *Transport accidents* (25%, 5,552) and *Homicide, injury purposely inflicted by others* (16%, 3,454) than the national averages (14% and 3%, respectively). The Australian Capital Territory reported a greater proportion of patient days for *Suicide and self-inflicted injury* (E950–E959) (7%, 1,823) than the national average (3%).

Age group and sex

For females, 6% of separations overall were reported with external causes (162,033) whereas 9% of separations for males had external causes recorded (220,404).

The numbers of separations with an external cause varied by age group and sex (Tables 9.4 and 9.5). The most common external cause group for females was *Accidental falls* (37% of the total for females, 60,195), followed by *Other accidents, late effects of accidental injury* (17%, 27,508). For males, *Other accidents, late effects of accidental injury* was the most commonly reported group (31% of the total for males, 68,995), followed by *Accidental falls* (23%, 51,437). *Misadventure during or due to medical care* (E870–E879) accounted for 16% of male external cause separations (34,334) and 19% of female separations (31,329).

Overall, the highest number of separations for external causes were for the 75 years and over age group for females, whereas for males highest numbers were reported for the 15 to 24 and 25 to 34 years age groups.

In the under 14 years age groups, *Accidental falls* and *Other accidents, late effects of accidental injury* were the most commonly reported external causes. The *Other accidents* group also dominated in most adult age groups. However, in the 15 to 24 years age group, *Transport accidents* were also a common external cause for both sexes; in the 35 to 64 years age groups, *Misadventure during or due to medical care* was common; and in the over 65 years age groups, *Accidental falls* were reported for large proportions of external cause separations, especially for females.

Place of occurrence

A place of occurrence (other than *Unspecified place*) was reported for 56% of separations with an external cause (216,022, Table 9.6), *Home* and *Street and highway* accounting for the majority. *Home* was the most commonly reported place of occurrence for all but two of the external cause groups. The exceptions were *Transport accidents*, for which *Street and highway* was most frequently reported, and *Misadventure during or due to medical care* for which *Residential institute* (which includes hospitals) was the most common place of occurrence. *Home* was the most frequently reported place of occurrence for *Accidental poisoning* (84% of those for which a place of occurrence was reported, 7,834) and for *Suicide and self-inflicted injury* (86%, 10,601).

Accidental falls was the most common external cause group in the *Home* category, accounting for 45% of these separations (39,336), while *Misadventure during or due to medical care* was reported for 56% of separations in the *Residential institute* category (14,297).

Table 9.1: Separation, same day separation, patient day and average length of stay statistics by external cause in ICD-9-CM groupings and hospital sector, Australia, 1996–97

External cause	Separations	Same day separations	Per cent same day separations	Public hospitals		Patient days per 1,000 population	ALOS (days)	ALOS (days) excluding same day
				Separations per 1,000 population	Patient days			
E800–E848 Transport accidents	45,294	10,693	23.6	2.5	221,765	12.0	4.9	6.1
E850–E869 Accidental poisoning	13,486	4,749	35.2	0.7	26,810	1.5	2.0	2.5
E870–E879 Misadventure during or due to medical care	46,725	8,259	17.7	2.5	308,097	16.7	6.6	7.8
E880–E888 Accidental falls	89,172	20,543	23.0	4.8	501,665	27.2	5.6	7.0
E890–E899 Accidents caused by fire or flames	2,020	439	21.7	0.1	15,669	0.9	7.8	9.6
E900–E929 Other accidents, late effects of accidental injury	75,456	26,342	34.9	4.1	183,445	10.0	2.4	3.2
E930–E949 Adverse effects of therapeutic drugs, biologicals	2,813	556	19.8	0.2	11,907	0.6	4.2	5.0
E950–E959 Suicide & self-inflicted injury	18,875	5,147	27.3	1.0	53,710	2.9	2.8	3.5
E960–E969 Homicide, injury purposely inflicted by others	18,263	6,735	36.9	1.0	45,609	2.5	2.5	3.4
E970–E999 Other injuries	694	199	28.7	<0.1	2,496	0.1	3.6	4.6
Total	312,798	83,662	26.7	17.0	1,371,173	74.4	4.4	5.6
Private hospitals								
E800–E848 Transport accidents	4,611	698	15.1	0.3	25,645	1.4	5.6	6.4
E850–E869 Accidental poisoning	648	97	15.0	<0.1	2,077	0.1	3.2	3.6
E870–E879 Misadventure during or due to medical care	18,942	2,804	14.8	1.0	127,487	7.0	6.7	7.7
E880–E888 Accidental falls	22,461	3,798	16.9	1.2	166,502	9.1	7.4	8.7
E890–E899 Accidents caused by fire or flames	129	42	32.6	<0.1	547	<0.1	4.2	5.8
E900–E929 Other accidents, late effects of accidental injury	21,050	7,652	36.4	1.2	52,892	2.9	2.5	3.4
E930–E949 Adverse effects of therapeutic drugs, biologicals	604	44	7.3	<0.1	3,746	0.2	6.2	6.6
E950–E959 Suicide & self-inflicted injury	624	76	12.2	<0.1	2,234	0.1	3.6	3.9
E960–E969 Homicide, injury purposely inflicted by others	497	154	31.0	<0.1	1,205	0.1	2.4	3.1
E970–E999 Other injuries	81	22	27.2	<0.1	320	<0.1	4.0	5.1
Total	69,647	15,387	22.1	3.8	382,655	21.0	5.5	6.8

Note: Abbreviation: ALOS—average length of stay.

Table 9.2: Separations by external cause in ICD-9-CM groupings, all hospitals, States and Territories, 1996-97

External cause	NSW	Vic	Qld	WA	SA	Tas	ACT	NT ^(a)	Total
E800-E848 Transport accidents	16,385	9,951	11,998	5,094	3,970	1,179	658	670	49,905
E850-E869 Accidental poisoning	4,400	2,625	3,947	1,159	1,449	355	88	111	14,134
E870-E879 Misadventure during or due to medical care	20,116	18,297	11,271	7,135	5,883	1,640	936	389	65,667
E880-E888 Accidental falls	37,987	25,962	23,285	9,849	9,763	2,650	1,311	826	111,633
E890-E899 Accidents caused by fire or flames	646	331	540	313	204	54	17	44	2,149
E900-E929 Other accidents, late effects of accidental injury	27,397	20,507	24,779	10,195	9,345	2,388	853	1,042	96,506
E930-E949 Adverse effects of therapeutic drugs, biologicals	1,042	823	725	354	312	74	63	24	3,417
E950-E959 Suicide & self-inflicted injury	6,209	5,248	3,507	2,182	1,454	370	330	199	19,499
E960-E969 Homicide, injury purposely inflicted by others	5,743	2,933	4,840	2,552	1,365	334	124	869	18,760
E970-E999 Other injuries	149	140	225	139	75	15	14	18	775
Total	120,074	86,817	85,117	38,972	33,820	9,059	4,394	4,192	382,445

(a) Public hospitals only.

Table 9.3: Patient days by external cause in ICD-9-CM groupings, all hospitals, States and Territories, 1996-97

External cause	NSW	Vic	Qld	WA	SA	Tas	ACT	NT ^(a)	Total
E800-E848 Transport accidents	79,066	49,311	59,248	23,245	19,051	6,887	5,050	5,552	247,410
E850-E869 Accidental poisoning	11,210	4,504	7,190	1,938	2,539	946	351	209	28,887
E870-E879 Misadventure during or due to medical care	136,400	117,319	76,080	47,003	36,827	11,974	7,040	2,941	435,584
E880-E888 Accidental falls	226,926	158,737	140,045	57,197	50,801	20,209	9,348	4,904	668,167
E890-E899 Accidents caused by fire or flames	4,843	3,111	3,542	2,337	1,241	573	106	463	16,216
E900-E929 Other accidents, late effects of accidental injury	71,488	50,726	53,475	25,743	21,764	7,016	2,315	3,810	236,337
E930-E949 Adverse effects of therapeutic drugs, biologicals	4,702	3,782	2,650	1,900	1,710	380	412	117	15,653
E950-E959 Suicide & self-inflicted injury	18,579	12,429	11,577	5,292	4,101	1,453	1,823	690	55,944
E960-E969 Homicide, injury purposely inflicted by others	14,991	6,722	10,654	6,237	3,506	804	446	3,454	46,814
E970-E999 Other injuries	836	397	762	377	255	36	35	118	2,816
Total	569,041	407,038	365,223	171,269	141,795	50,278	26,926	22,258	1,753,828

(a) Public hospitals only.

Table 9.4: Separations for males by external cause in ICD-9-CM groupings and by age group, all hospitals, Australia, 1996-97

External cause	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	Total ^(a)
E800-E848 Transport accidents	53	840	5,781	10,024	6,415	4,029	2,484	1,538	1,093	1,007	33,266
E850-E869 Accidental poisoning	132	1,894	304	1,288	1,311	919	479	252	171	153	6,904
E870-E879 Misadventure during or due to medical care	311	823	1,367	2,340	2,967	3,193	4,043	5,598	7,600	6,092	34,334
E880-E888 Accidental falls	429	3,838	11,110	7,056	5,327	4,311	3,810	3,386	4,181	7,989	51,437
E890-E899 Accidents caused by fire or flames	9	100	266	389	366	218	127	71	62	44	1,653
E900-E929 Other accidents, late effects of accidental injury	578	4,720	7,899	15,454	14,294	10,032	7,241	4,449	2,692	1,635	68,995
E930-E949 Adverse effects of therapeutic drugs, biologicals	65	86	55	118	131	135	159	158	240	220	1,367
E950-E959 Suicide and self-inflicted injury	0	2	81	1,973	2,517	1,784	919	335	182	139	7,934
E960-E969 Homicide, injury purposely inflicted by others	76	110	391	5,079	4,382	2,426	1,037	361	137	68	14,067
E970-E999 Other injuries	5	10	26	135	114	80	40	17	13	7	447
Total	1,658	12,423	27,280	43,856	37,824	27,127	20,339	16,165	16,371	17,354	220,404

(a) Includes separations for which age was not reported.

Table 9.5: Separations for females by external cause in ICD-9-CM groupings and by age group, all hospitals, Australia, 1996-97

External cause	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	Total ^(a)
E800-E848 Transport accidents	38	484	2,906	3,878	2,541	1,963	1,445	1,056	1,127	1,201	16,639
E850-E869 Accidental poisoning	144	1,521	339	1,565	1,249	1,011	612	245	238	305	7,230
E870-E879 Misadventure during or due to medical care	174	423	1,029	1,923	3,290	4,240	4,562	4,127	5,719	5,842	31,329
E880-E888 Accidental falls	345	2,884	6,728	1,979	2,033	2,539	3,296	4,351	8,516	27,522	60,195
E890-E899 Accidents caused by fire or flames	21	57	47	84	81	54	37	34	21	60	496
E900-E929 Other accidents, late effects of accidental injury	382	3,273	3,833	3,892	3,736	3,365	2,753	1,867	1,776	2,631	27,508
E930-E949 Adverse effects of therapeutic drugs, biologicals	48	50	43	128	207	231	254	264	305	520	2,050
E950-E959 Suicide & self-inflicted injury	0	3	327	3,362	3,169	2,606	1,318	418	183	179	11,565
E960-E969 Homicide, injury purposely inflicted by others	77	75	125	1,311	1,579	921	349	127	60	69	4,693
E970-E999 Other injuries	5	9	24	75	94	63	30	10	9	9	328
Total	1,234	8,779	15,401	18,197	17,979	16,993	14,656	12,499	17,954	38,338	162,033

(a) Includes separations for which age was not reported.

Table 9.6: Separations by external cause in ICD-9-CM groupings and by place of occurrence, all hospitals, Australia, 1996-97

External cause	Home	Farm	Mine & quarry	Industrial place & premises	Place of recreation and sport	Street and highway	Public building	Residential institute	Other specified places	Unspecified place	Total ^(a)	Not stated
E800-E848 Transport accidents	1,634	1,680	164	372	2,226	29,781	275	154	2,615	10,904	49,905	100
E850-E869 Accidental poisoning	7,834	263	53	198	81	92	304	246	232	4,784	14,134	47
E870-E879 Misadventure during or due to medical care	1,897	351	54	30	49	35	214	14,297	891	46,988	65,667	861
E880-E888 Accidental falls	39,336	970	129	2,378	8,643	3,299	6,578	8,479	3,866	37,511	111,633	444
E890-E899 Accidents caused by fire or flames	862	66	11	159	32	16	33	44	122	789	2,149	15
E900-E929 Other accidents, late effects of accidental injury	20,651	2,368	460	11,112	9,247	820	2,261	995	4,882	43,264	96,506	446
E930-E949 Adverse effects of therapeutic drugs, biologicals	775	20	2	8	6	3	32	288	40	2,214	3,417	29
E950-E959 Suicide & self-inflicted injury	10,601	221	3	134	83	152	273	490	395	7,086	19,499	61
E960-E969 Homicide, injury purposely inflicted by others	3,056	113	3	143	307	1,219	2,188	301	940	10,390	18,760	100
E970-E999 Other injuries	274	6	1	5	9	16	17	24	33	382	775	8
Total	86,920	6,058	880	14,539	20,683	35,433	12,175	25,318	14,016	164,312	382,445	2,111

(a) Includes separations for which place of occurrence was not reported.