

E_BULLETIN

Edition 1

July 2007

**UNINTENTIONAL (ACCIDENTAL)
HOSPITAL-TREATED INJURY
VICTORIA**

2005

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Unintentional (accidental) hospital-treated injury in Victoria 2005

Summary results

This is the first of a series of regular E-bulletins that will provide an overview of the injury profile for Victoria utilising injury surveillance datasets. This edition provides an overview of unintentional ('accidental') hospital-treated injury in 2005.

All ages

- Nearly 300,000 Victorians (6 in every 100) were treated in hospital for unintentional injury during 2005 (84,654 admissions and 212,835 ED presentations).
- Hospital admissions (frequency and rate) and ED presentations (frequency) have increased significantly over the decade 1996 to 2005. The frequency of admissions increased by 44% and the admission rate by 29% if same day admissions are included in the analysis, reducing to 19% and 7% if same day admissions are excluded (the latter method produces a more stable indicator of trend). The frequency of ED presentations increased by 66%.
- Males were overrepresented accounting for 60% of all hospital-treated injuries.
- Falls were the leading cause of injury admissions and ED presentations accounting for more than one-third of all hospital-treated injuries (36%), followed by hit/struck/crush (18%), cutting and piercing (10%) and transport (10%).
- At least 22% of cases requiring hospital admission and 38% of cases resulting in ED presentation occurred in the home. Persons were also commonly injured on roads, streets and highways (12% of admissions and 9% of ED presentations), sports and athletics areas (6% of admissions and 8% of ED presentations) and schools and public buildings (6% of admissions and 6% of ED presentations).
- Hospital admissions are mostly coded to unspecified activity (57%). Sport is recorded as the activity in more than 11% of cases that are admitted to hospital. Leisure is the most common activity recorded for ED presentations (41%) and sports and working for income each account for a further 10% of injury cases.

Children (0-14 years)

- Nearly 75,000 Victorian children (8 in every 100) were treated in hospital for unintentional injury during 2005 (13,169 admissions and 61,793 ED presentations).
- The frequency of child ED presentations increased by 74% over the decade 1996 to 2005. The frequency of admissions increased by 14% and the admission rate by 12% if same day admissions are included in the analysis. However if same-day admissions are excluded the frequency of admissions decreased by 17% and the admission rate by 19%.
- Males were overrepresented accounting for 62% of all hospital admissions and 59% of ED presentations.
- Falls were the leading cause of hospital-treated injury (43%) followed by hit/struck/crush (21%).
- At least 20% of hospital admissions and almost half of ED presentations (48%) occurred in the home. Children were also commonly injured in schools and other public buildings (13% of admissions and 15% of ED presentations) and sports and athletics areas (7% of admissions and 7% of ED presentations).
- The activity engaged in at the time of injury was unspecified for more than half of all child injury admissions (55%) and recorded as 'other specified' for a further 17% of admission. Sport was the most common specified activity for hospital admissions (19%). Leisure was recorded as the activity engaged in at the time of injury for 55% of child ED presentations, followed by sports (10%) and education (4%).

Adolescents and young adults (15-24 years)

- More than 56,000 Victorian adolescents and young adults (8 in every 100) were treated in hospital for unintentional injury during 2005 (12,075 admissions and 43,945 ED presentations).
- The frequency of adolescent and young adult ED presentations increased by 37% over the decade 1996 to 2005. The frequency of admissions increased by 24% and the admission rate by 16% if same day admissions are included in the analysis. However if same-day admissions are excluded the frequency of admissions decreased by 2% and the admission rate by 8%.
- Males accounted for 73% of hospital admissions and 69% of ED presentations.
- Transport is the leading cause of admissions (28%), yet accounts for only 11% of ED presentations. Falls is the second most common cause of both hospital admissions and ED presentations accounting for approximately one-quarter of both admissions and ED presentations. Hit/struck/crush injuries are the leading cause of ED presentations (26%) and account for 15% of hospital admissions.
- The road, street and highway is the most common place of occurrence of adolescent and young adult injuries resulting in hospital admission (19%) whereas the home is the leading place of occurrence for injuries resulting in ED presentation (24%).
- The activity engaged in at the time of injury was unspecified for almost half of adolescent and young adult injury admissions (47%) and recorded as 'other specified' for a further 15% of injuries. Sports (25%) and working for income (7%) were the activities recorded for a substantial proportion of admissions. Leisure was recorded as the activity engaged in at the time of injury for 37% of ED presentations, followed by sports (19%) and working for income (12%).

Adults (25-64 years)

- Almost 125,000 Victorian adults (5 in every 100) were treated in hospital for unintentional injury during 2005 (33,057 admissions and 90,435 ED presentations).
- Adult hospital admissions (frequency and rate) and ED presentations (frequency) have increased significantly over the decade 1996 to 2005. The frequency of admissions increased by 50% and the admission rate by 31% if same day admissions are included in the analysis, reducing to 22% and 7% if same day admissions are excluded. The frequency of ED presentations increased by 71%.
- Males are overrepresented accounting for 64% of hospital admission and ED presentation injury cases.
- The leading cause of adult hospital injury admissions and ED presentations is falls - 32% of hospital admissions and 24% of ED presentations.
- 16% of cases requiring hospital admission and 38% of injuries resulting in ED presentation occurred in the home. Other major locations for injury were: roads, streets and highways (16% of admissions and 10% of ED presentations); trade and service areas (3% of admissions and 10% of ED presentations) and sports and athletics areas (6% of admissions and 6% of ED presentations).
- The activity engaged in at the time of injury was unspecified for more than half of adult injury admissions (53%) and recorded as 'other specified' for a further 15% of injuries. Working for income (11%) and sports (11%) were the activities recorded for a substantial number of older adult admissions. Leisure was recorded as the activity engaged in at the time of injury for 36% of adult ED presentations, followed by working for income (17%) and sports (7%).

Older adults (65+ years)

- More than 43,000 Victorian older adults (6 in every 100) were treated in hospital for unintentional injury during 2005 (26,353 admissions and 16,662 ED presentations).
- Older adult hospital admissions (frequency and rate) and ED presentations (frequency) have increased significantly over the decade 1996 to 2005. The frequency of admissions increased by 68% and the admission rate by 38% if same day admissions are included in the analysis, reducing to 47% and 21% if same day admissions are excluded. The frequency of ED presentations increased by 100%.
- Females are overrepresented accounting for two-thirds of hospital admissions and 57% of ED presentations.
- Falls account for three-quarters of hospital admissions and more than half of ED presentations (54%) in this age group.
- Almost 40% of cases requiring hospital admission and more than half of cases resulting in ED presentation occurred in the home (54%).
- The activity engaged in at the time of injury was unspecified for 65% of older adult injury admissions and recorded as 'other specified' for a further 15% of injuries. Vital activities such as resting, eating and sleeping were the activities recorded for a substantial number of older adult admissions (12%). Leisure was recorded as the activity engaged in at the time of injury for 44% of older adult ED presentations, followed by vital activities such as resting, eating and sleeping (9%).

Introduction

This is the first of regular E-bulletins that will provide an overview of injury in Victoria. This edition provides information on unintentional hospital-treated injury in 2005.

Method

Data were extracted from the Victorian Admitted Episodes Dataset (VAED) and the Victorian Emergency Minimum Dataset (VEMD). The VAED records all hospital admissions in public and private hospitals in the state of Victoria and the VEMD records all presentations to Victorian hospitals with 24-hour emergency departments (28 hospitals). Deaths were excluded from the hospital admissions dataset as injury deaths will be covered in a subsequent E-Bulletin. ED presentations that resulted in death or admission have been excluded from the ED presentations dataset to avoid double counting with the hospital admissions data provided in this edition. Injuries that occur in the context of medical and surgical care (often referred to as complications) were excluded from the datasets.

The age groups (0-14, 15-24, 25-64, 65+) have been selected to match those in the *National Injury Prevention and Safety Promotion Plan: 2004 - 2014* (NIPSPP Plan).

Data issues

Hospital admissions activity and place of occurrence information should be interpreted with caution due to the high proportion of unspecified data.

Rates per 100,000 population have been calculated for all years for hospital admissions data (VAED) and for 2005 for ED presentations data (VEMD). ED presentation rates were not calculated for other years covered in the trend analysis as all hospitals with 24-hour emergency departments have not contributed to the data collection over that time.

Trend data are reported for all admissions (including same-day admissions) and for admissions excluding same-day admissions. The exclusion of same-day admissions minimises the influence of admission policy changes across time and between hospitals. Frequencies and rates for 2005 hospital admissions reported in the trend sections differ slightly from those reported elsewhere in the report because stricter inclusion criteria based on admission and transfer sources are used for the trend calculations. Only hospitals that contributed data to VEMD over the whole decade were included in the trend analysis of ED presentations frequency data (24 of the current 38 hospitals contributing to the surveillance system).

Trends were determined using a log-linear regression model of the rate data assuming a Poisson distribution of injuries. The statistics relating to the trend curves, slope and intercept, estimated annual percentage change, estimated overall change, 95% confidence intervals around these estimated changes and the p-value, were calculated using the regression model in SAS® 9.1.3. A trend was considered to be statistically significant if the p-value of the slope of the regression model was less than 0.05.

All ages

Table 1 provides an overview of hospital-treated injury in Victoria during 2005. Overall, there were approximately 300,000 hospital treated injuries recorded in this period (84,654 admissions and 212,834 ED presentations) giving a rate of 5,923 hospital-treated injuries per 100,000 Victorians.

- The hospital admission rate is highest in older adults (3,886 per 100,000 persons) and the ED presentation rate is highest in children (6,446/100,000).
- The hospital admission rate is lowest in adults (1,228 per 100,000 persons) and the ED presentation rate is lowest in older adults (2,457/100,000).
- Adolescents and young adults have the highest overall hospital-treated injury rate (admissions and presentations combined, 8,091/100,000), followed by children (7,820/100,000) and older adults (6342/100,000). Adults aged 25-64 years have the lowest hospital-treated injury rate (4,586/100,000).

Table 1 Hospital treated injury frequency and rates by broad age group, Victoria 2005.

	Children 0-14 years		Adolescents and young adults 15-24 yrs		Adults 25-64 yrs		Older adults 65+ yrs		ALL	
	Freq.	Rate/ 100,000	Freq.	Rate/ 100,000	Freq.	Rate/ 100,000	Freq.	Rate/ 100,000	Freq.	Rate/ 100,000
Admissions	13,169	1,373.8	12,075	1,744.0	33,057	1,227.5	26,353	3,885.6	84,654	1,685.5
ED presentations	61,793	6,446.2	43,945	6,346.9	90,435	3,358.0	16,662	2,456.7	212,835	4,237.8
Hospital-treated	74,962	7,820.0	56,020	8,090.9	123,492	4,585.5	43,015	6,342.3	297,489	5,923.3

Figure 1 shows hospital admission injury rates by age and gender for Victoria in 2005.

In 2005, age-specific injury hospital admission rates rose after childhood, were higher in adolescents and young adults than in adults and reached their peak in older adults. The overall male age-specific injury hospital admission rate was higher than the female rate in all 5-year age groups to age 65 years.

Figure 2 shows ED presentation rates by age and gender for Victoria in 2005.

In 2005, age-specific injury ED presentation rates were high in children, highest in adolescents and young adults, and then decreased throughout the adult age groups until age 75 when rates showed a slight increase. The overall male age-specific injury hospital admissions rate was higher than the female rate in all 5-year age groups to age 75 years.

Figure 1 Hospital admissions injury rates by age group and gender, Victoria 2005.

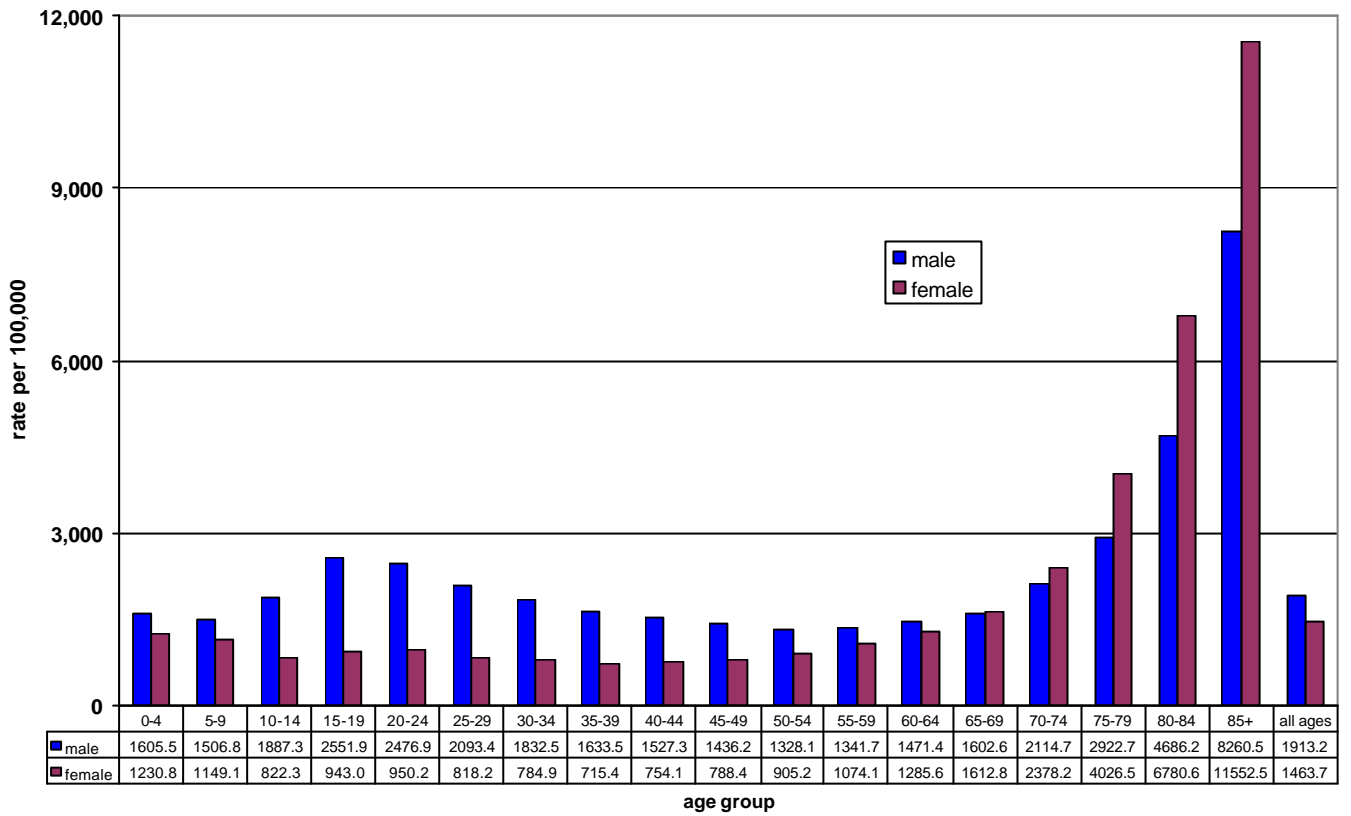
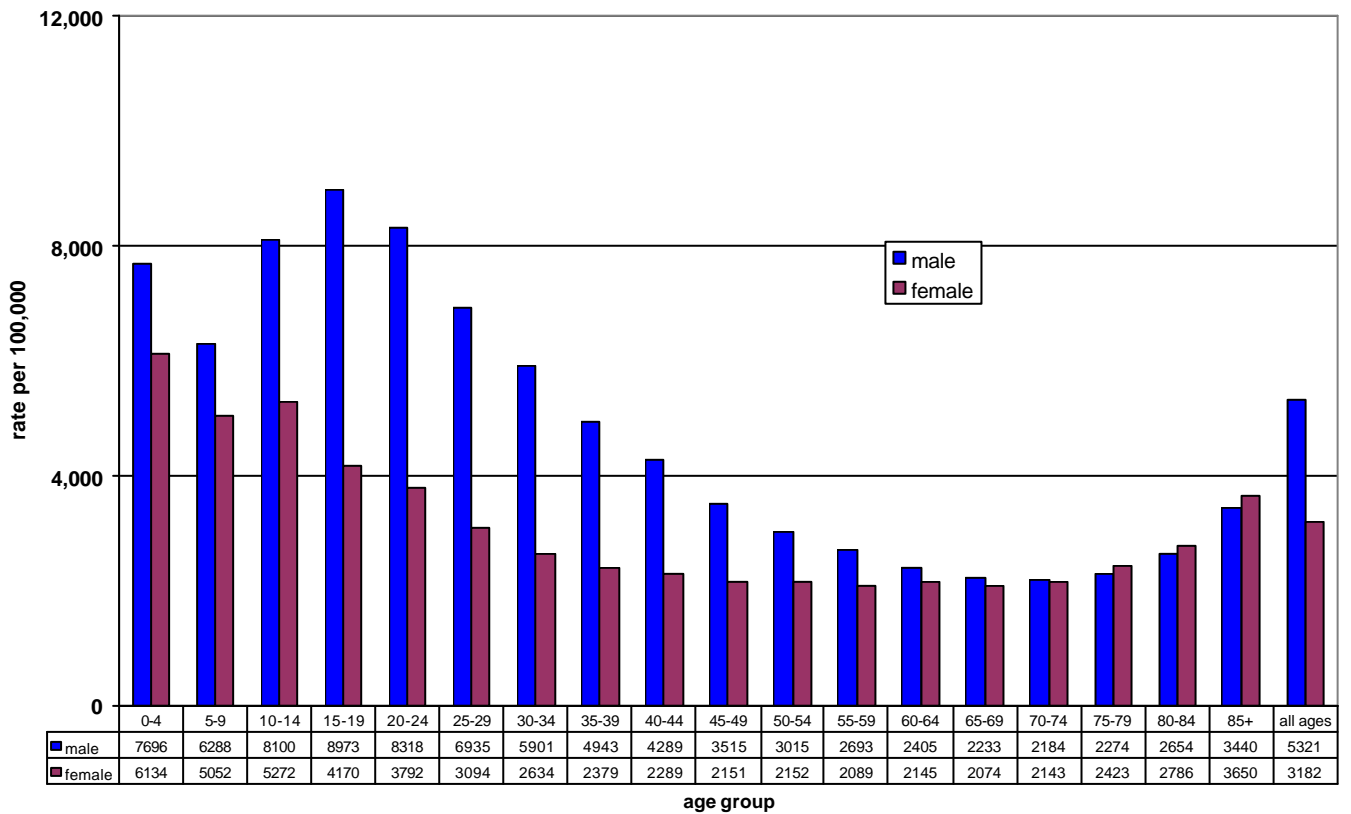


Figure 2 ED presentation injury rates by age group and gender, Victoria 2005.



Trend

FREQUENCY

Frequencies and rates for 2005 reported here differ slightly from those reported elsewhere in this report because stricter inclusion criteria based on admission and transfer sources (for admissions) and hospital site (for ED presentations) are used for the trend calculations.

- The frequency of ALL AGES unintentional injury and poisoning admissions (INCLUDING same-day admissions) increased significantly over the decade from 58,625 in 1996 to 81,020 in 2005, representing an estimated annual change of 3.7% (95% confidence interval 2.9% to 4.3%) and an overall increase of 44% (34% to 52%) based on the trend line.
- The frequency of ALL AGES unintentional injury and poisoning admissions (EXCLUDING same-day admissions) increased significantly over the decade from 41,872 in 1996 to 49,909 in 2005, representing an estimated annual change of 1.8% (1.3% to 2.2%) and an overall increase of 19% (14% to 24%) based on the trend line.
- The frequency of ALL AGES unintentional injury and poisoning ED presentations increased significantly over the decade from 97,468 in 1996 to 152,239 in 2005, representing an estimated annual change of 5.2% (3.4% to 6.7%) and an overall increase of 66% (40% to 92%) based on the trend line.

Figure 3: Frequency of hospital admissions, Victoria 1996-2005

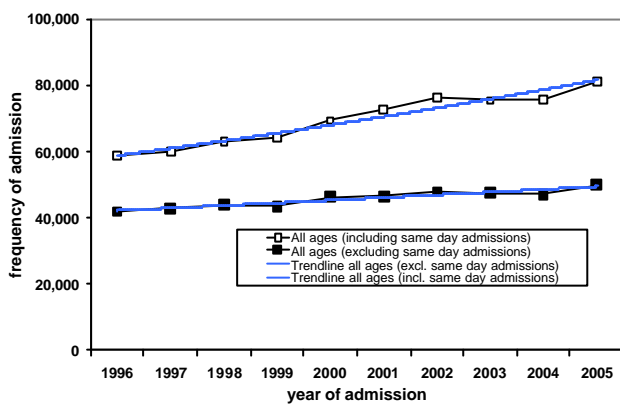
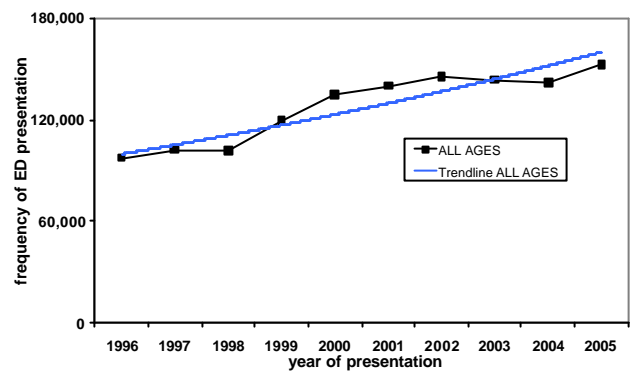


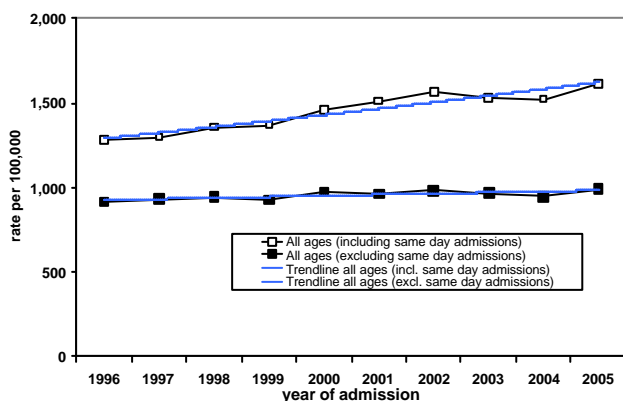
Figure 4: Frequency of hospital injury ED presentations, Victoria 1996-2005



RATE

- The ALL AGES unintentional injury and poisoning admission rate (INCLUDING same-day admissions) increased significantly over the decade from 1,286/100,000 in 1996 to 1,613/100,000 in 2005, representing an estimated annual change of 2.6% (1.9% to 3.2%) and an overall increase of 29% (20.4% to 36.6%) based on the trend line.
- The ALL AGES unintentional injury and poisoning admission rate (EXCLUDING same-day admissions) increased significantly over the decade from 918/100,000 in 1996 to 994/100,000 in 2005, representing an estimated annual change of 0.7% (0.2% to 1.1%) and an overall increase of 7% (2.3% to 11.7%) based on the trend line.
- The trend in the ED presentation rate cannot be determined because numerator data are not complete.

Figure 5: Hospital admissions rate per 100,000 population, Victoria 1996-2005



Rates cannot be calculated for ED presentations because numerator data are not complete for the 10-year period.

Gender

- Males are overrepresented accounting for 56% of hospital admissions (n=47,425) and 62% of ED presentations (n=131,901) in Victoria in 2005. (Figures 6 & 7)

Figure 6: Hospital injury admissions by gender, Victoria 2005

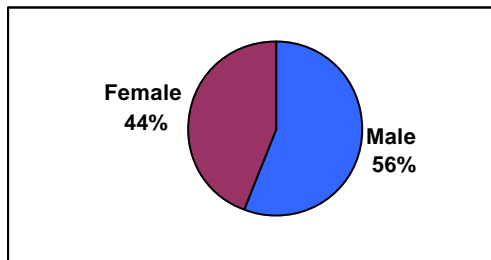
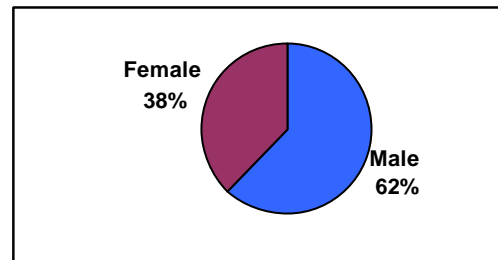


Figure 7: ED injury presentations by gender, Victoria 2005



- The rate of hospital admission and ED presentation is also higher for males than females (1,913 & 5,321/100,000 vs. 1,464 & 3,182/100,000). (Table 2)

Table 2. Frequency and rate of hospital admission and ED presentation, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
Male	47,425	1,913.2	131,901	5,321.0
Female	37,229	1,463.7	80,934	3,182.0
All	84,654	1,685.5	212,835	4,237.8

Age

- Persons aged 65 years and older have the highest rate of hospital admissions (3,885.6/100,000) and adults have the lowest (1,227.5/100,000).
- Young persons (0-14 and 15-24 year olds) have the highest ED presentation (non-admission) rates (6,446.2 and 6,346.9/100,000)

Table 3. Frequency and rate of hospital admission and ED presentation, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
0-14	13,169	1,373.8	61,793	6,446.2
15-24	12,075	1,744.0	43,945	6,346.9
25-64	33,057	1,227.5	90,435	3,358.1
65+	26,353	3,885.6	16,662	2,456.7
All	84,654	1,685.5	212,835	4,237.8

Leading causes of injury

- Four of the five major causes of hospital admissions and ED presentations are the same although the ranking on frequency of cases is different.
- The leading cause of both hospital admissions and ED presentations is falls. Falls account for 47% (n=39,602) of hospital admissions and 31% (n=66,600) of ED presentations.
- Transport accounts for 15% of admissions (n=12,982) but 7% of presentations (n=15,675) which indicates that transport injuries are more severe than injuries from other causes.
- Hit/struck/crush injuries account for 9% of admissions (n=7,213) but a higher proportion (22%) of ED presentations (n=46,077).
- Cutting and piercing injuries account for 6% of admissions (n=4,836) and 12% of ED presentations (n=25,681).
- The fifth ranking cause of hospital admissions is poisoning (3%, n=2,876) whereas for ED presentations it is natural/environmental/animal related injury (3%, n=6,862).

Figure 8: Hospital admissions by cause, Victoria 2005

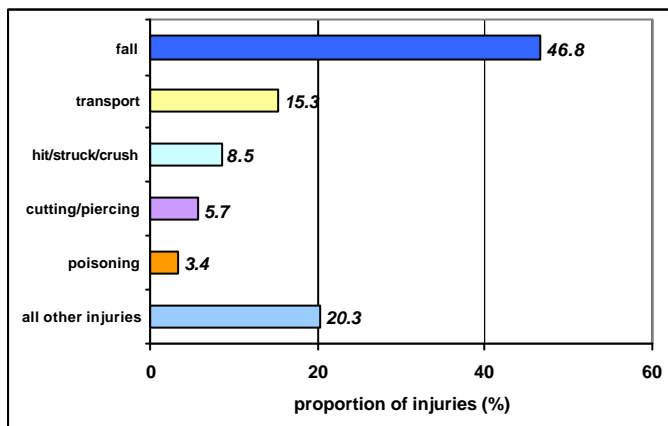
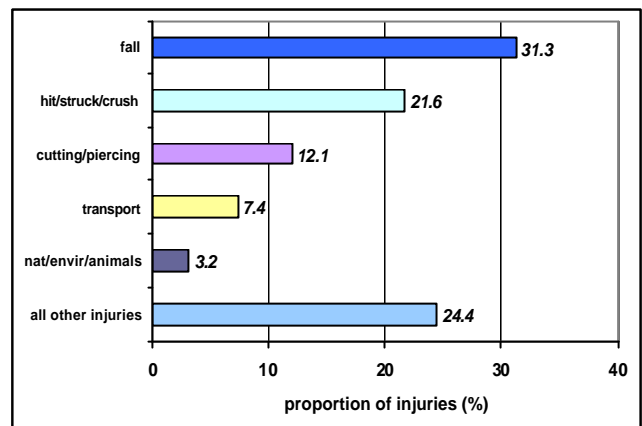


Figure 9: ED presentations by cause, Victoria 2005



Note: 'Other specified' and 'unspecified' cases were included in the 'all other injuries' category regardless of their ranking

Major injury type (body site and nature of injury)

Figures 10 & 11 show the five most common specific injury types for hospital admissions and ED presentations.

- Fractures of the upper limb account for 18% of hospital injury admissions and 10% of ED presentations.
- Fractures of the lower limb are the second most common type of injury requiring hospital admission (13%).
- Dislocations/sprains and strains of the lower limb (9%) and upper limb (8%) are common among ED presentations.
- Open wounds of the head/face/neck account for 7% of hospital injury admissions and 8% of ED presentations.

Figure 10: Major injury type, hospital admissions, Victoria 2005

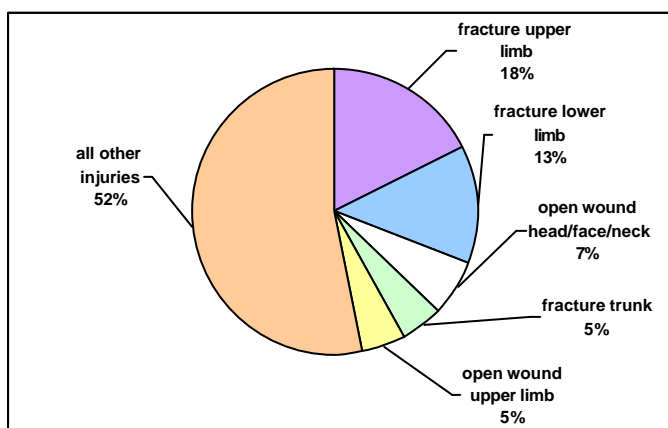
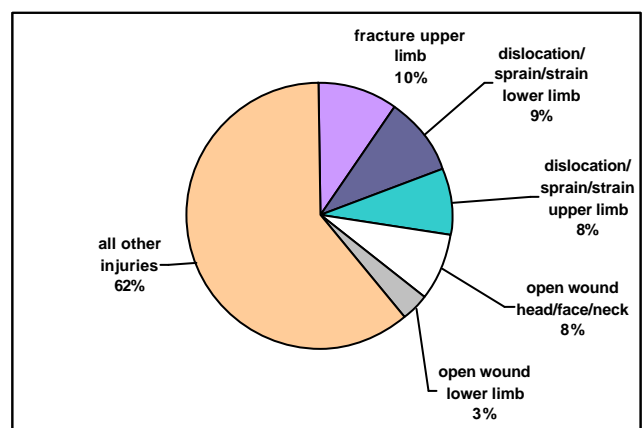


Figure 11: Major injury type, ED presentations, Victoria 2005



Place of injury occurrence

- At least 22% of all injuries requiring hospital admission and 38% of injuries resulting in ED presentation occurred in the home.
- Persons were also commonly injured on roads, streets and highways (12% of admissions and 9% of ED presentations), sports and athletics areas (6% of admissions and 8% of ED presentations) and schools and public buildings (6% of admissions and 6% of ED presentations).

Figure 12: Hospital admissions by place of occurrence, Victoria 2005

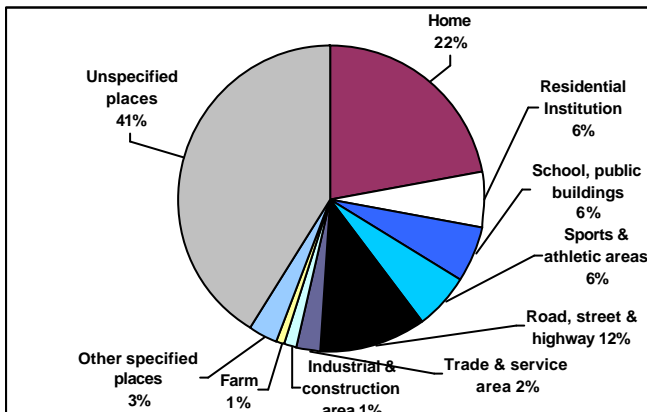
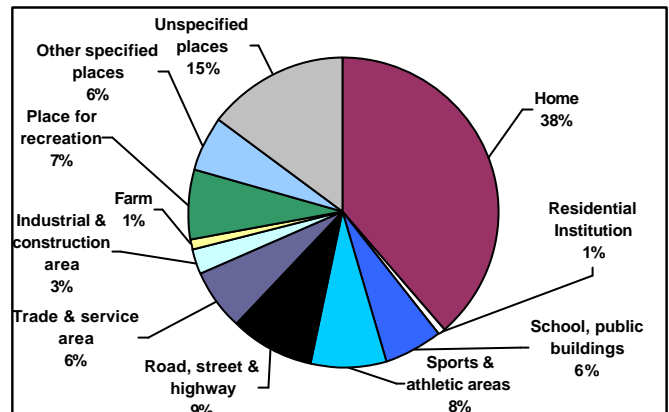


Figure 13: ED presentations by place of occurrence, Victoria 2005



Activity when injured

- Hospital admissions are mostly coded to unspecified activity (57%, n=47,838). Sport is recorded as the activity for more than 10% of injuries that are admitted to hospital (11%).
- Leisure is the most common activity recorded for ED presentations (41%, n=89,631) and sports and working for income each account for a further 10% of injuries.

Figure 14: Hospital admissions by activity when injured, Victoria 2005

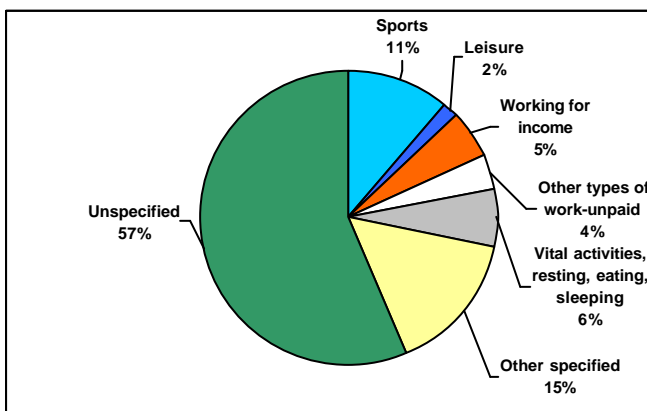


Figure 15: ED presentations by activity when injured, Victoria 2005

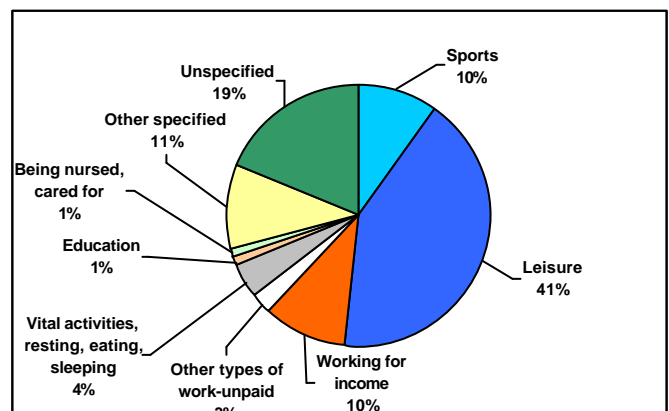


Table 4 Ranking of causes for hospital admissions and ED presentations, all ages, 2005

AGE GROUP	RANK	ADMISSIONS			PRESENTATIONS		
		CAUSE	FREQ	%	CAUSE	FREQ	%
0-14 years	1	fall	6,230	47.3	fall	25,898	41.9
	2	hit/struck/crush	1,802	13.7	hit/struck/crush	13,714	22.2
	3	transport	1,672	12.7	other specified unintentional	5,849	9.5
	4	cutting/piercing	627	4.8	unspecified factor	4,363	7.1
	5	poisoning	614	4.7	cutting/piercing	4,287	6.9
	6	unspecified factor	525	4.0	transport	2,670	4.3
	7	natural/environmental/animals	476	3.6	natural/environmental/animals	1,839	3.0
	8	foreign body - natural orifice	473	3.6	fires/burns/scalds	1,277	2.1
	9	fires/burns/scalds	271	2.1	foreign body - natural orifice	907	1.5
	10	other specified unintentional	147	1.1	poisoning	751	1.2
	11	overexertion & strenuous movements	144	1.1	choking/suffocate	148	<1
	12	choking/suffocate	112	<1	near drowning	43	<1
	13	near drowning	36	<1	machinery	43	<1
	14	machinery	29	<1	explosions/firearms	4	<1
	15	explosions/firearms	11	<1	overexertion & strenuous movements	N/A	N/A
		ALL	13,169	100.0	ALL	61,793	100.0
15-24 years	1	transport	3,328	27.6	hit/struck/crush	11,456	26.1
	2	fall	3,054	25.3	fall	10,335	23.5
	3	hit/struck/crush	1,810	15.0	cutting/piercing	5,888	13.4
	4	cutting/piercing	1,017	8.4	transport	4,900	11.2
	5	unspecified factor	909	7.5	other specified unintentional	4,178	9.5
	6	poisoning	513	4.2	unspecified factor	3,402	7.7
	7	overexertion & strenuous movements	408	3.4	natural/environmental/animals	1,207	2.7
	8	other specified unintentional	256	2.1	fires/burns/scalds	1,055	2.4
	9	machinery	244	2.0	poisoning	503	<1
	10	natural/environmental/animals	213	1.8	foreign body - natural orifice	485	<1
	11	fires/burns/scalds	135	1.1	machinery	471	<1
	12	foreign body - natural orifice	106	<1	choking/suffocate	40	<1
	13	choking/suffocate	41	<1	near drowning	20	<1
	14	explosions/firearms	34	<1	explosions/firearms	5	<1
	15	near drowning	7	<1	overexertion & strenuous movements	N/A	N/A
		ALL	12,075	100.0	ALL	43,945	100.0
25-64 years	1	fall	10,436	31.6	fall	21,429	23.7
	2	transport	6,678	20.2	hit/struck/crush	19,277	21.3
	3	unspecified factor	3,171	9.6	cutting/piercing	14,048	15.5
	4	hit/struck/crush	2,939	8.9	other specified unintentional	10,004	11.1
	5	cutting/piercing	2,817	8.5	unspecified factor	7,876	8.7
	6	overexertion & strenuous movements	1,489	4.5	transport	7,459	8.2
	7	poisoning	1,256	3.8	natural/environmental/animals	3,328	3.7
	8	natural/environmental/animals	1,123	3.4	fires/burns/scalds	2,290	2.5
	9	machinery	1,031	3.1	machinery	1,845	2.0
	10	other specified unintentional	757	2.3	foreign body - natural orifice	1,844	2.0
	11	foreign body - natural orifice	575	1.7	poisoning	819	<1
	12	fires/burns/scalds	436	1.3	choking/suffocate	151	<1
	13	choking/suffocate	279	<1	near drowning	58	<1
	14	explosions/firearms	60	<1	explosions/firearms	7	<1
	15	near drowning	10	<1	overexertion & strenuous movements	N/A	N/A
		ALL	33,057	100.0	ALL	90,435	100.0
65+ years	1	fall	19,882	75.4	fall	8,938	53.6
	2	transport	1,304	4.9	hit/struck/crush	1,630	9.8
	3	unspecified factor	1,150	4.4	unspecified factor	1,528	9.2
	4	choking/suffocate	702	2.7	cutting/piercing	1,458	8.8
	5	hit/struck/crush	662	2.5	other specified unintentional	1,292	7.8
	6	overexertion & strenuous movements	562	2.1	transport	646	3.9
	7	poisoning	493	1.9	natural/environmental/animals	488	2.9
	8	natural/environmental/animals	382	1.4	fires/burns/scalds	201	1.2
	9	cutting/piercing	375	1.4	foreign body - natural orifice	197	1.2
	10	foreign body - natural orifice	299	1.1	poisoning	130	<1
	11	other specified unintentional	199	<1	machinery	111	<1
	12	fires/burns/scalds	180	<1	choking/suffocate	34	<1
	13	machinery	151	<1	near drowning	7	<1
	14	explosions/firearms	10	<1	explosions/firearms	2	<1
	15	near drowning	2	<1	overexertion & strenuous movements	N/A	N/A
		ALL	26,353	100.0	ALL	16,662	100.0

Children (0-14 years)

Trend

FREQUENCY

Frequencies and rates for 2005 reported here differ slightly from those reported elsewhere in this report because stricter inclusion criteria based on admission and transfer sources (for admissions) and hospital site (for ED presentations) are used for the trend calculations.

- The frequency of CHILD unintentional injury and poisoning admissions (INCLUDING same-day admissions) increased significantly over the decade from 11,159 in 1996 to 12,970 in 2005, representing an estimated annual change of 1.3% (95% confidence interval 0.8% to 1.8%) and an overall increase of 14% (8% to 20%) based on the trend line.
- The frequency of CHILD unintentional injury and poisoning admissions (EXCLUDING same-day admissions) decreased significantly over the decade from 7,276 in 1996 to 6,431 in 2005, representing an estimated annual decrease of 1.9% (-2.6% to -1.2%) and an overall reduction of 17% (-24% to -11%) based on the trend line.
- The frequency of CHILD unintentional injury and poisoning ED presentations increased significantly over the decade from 28,375 in 1996 to 45,231 in 2005, representing an estimated annual change of 5.7% (3.4% to 7.7%) and an overall increase of 74% (40% to 110%) based on the trend line.

Figure 16: Frequency of hospital admissions, Victoria 1996-2005

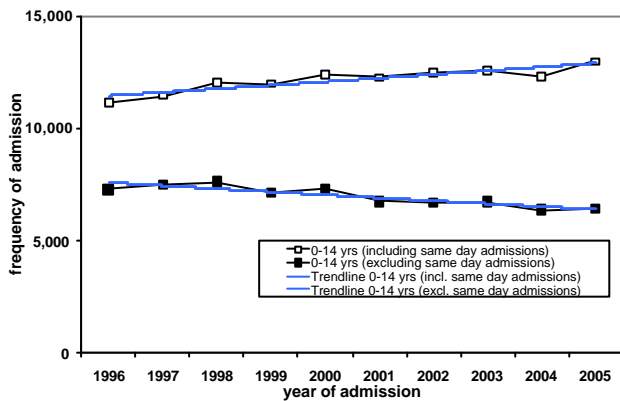
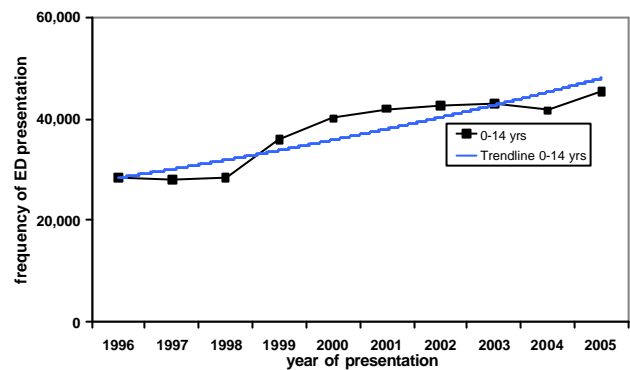


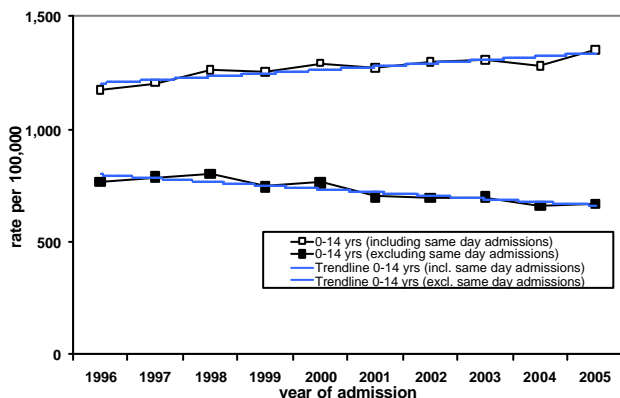
Figure 17: Frequency of hospital injury ED presentations, Victoria 1996-2005



RATE

- The CHILD unintentional injury and poisoning admission rate (INCLUDING same-day admissions) increased significantly over the decade from 1,178/100,000 in 1996 to 1,353/100,000 in 2005, representing an estimated annual change of 1.2% (0.7% to 1.6%) and an overall increase of 12% (7% to 18%) based on the trend line.
- The CHILD unintentional injury and poisoning admission rate (EXCLUDING same-day admissions) decreased significantly over the decade from 768/100,000 in 1996 to 671/100,000 in 2005, representing an estimated annual decrease of 2% (-2.8% to -1.3%) and an overall reduction of 19% (-25% to -12%) based on the trend line.
- The trend in the ED presentation rate cannot be determined because numerator data are not complete.

Figure 18: Hospital admissions rate per 100,000 population, Victoria 1996-2005



Rates cannot be calculated for ED presentations because numerator data are not complete for the 10-year period.

Gender

- Males are overrepresented in hospital injury data for children aged 0 to 14 years, accounting for 62% of hospital admissions (n=8,210) and 59% of ED presentations (n=36,206) in Victoria in 2005.

Figure 19: Child hospital injury admissions by gender, Victoria 2005

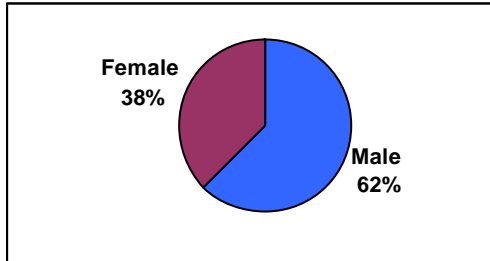
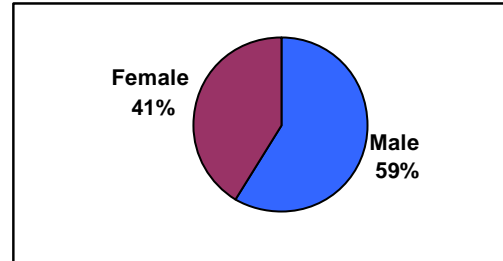


Figure 20: Child ED injury presentations by gender, Victoria 2005



- The rate of child hospital admission and ED presentation is also higher for males than females (1,671 & 7,370/100,000 vs. 1,061 & 5,475/100,000). (Table 5)

Table 5. Frequency and rate of hospital admission and ED presentation in children, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
Male	8,210	1,671.2	36,206	7,370.0
Female	4,959	1,061.1	25,587	5,475.1
All	13,169	1,373.8	61,793	6,446.2

Age

The frequency of child injury hospital admissions and ED presentations are fairly evenly spread across the three 5-year age groups.

- Children aged 0-4 years account for one-third of child admissions and 34% of child ED presentations.
- Children aged 5-9 years account for 32% of child hospital admissions and 29% of child ED presentations.
- Children aged 10-14 years account for 35% of child admissions and 37% of child ED presentations.

Figure 21: Child hospital admissions by age group, Victoria 2005

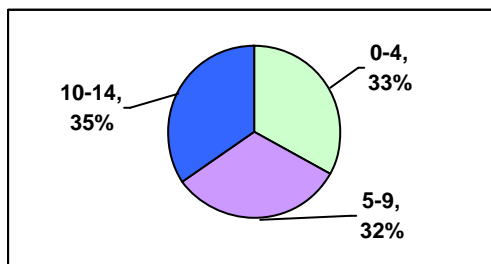
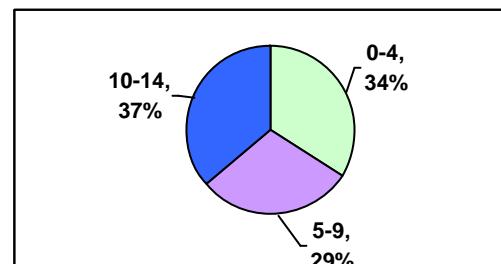


Figure 22: Child ED presentations by age group, Victoria 2005



- Hospital admission and ED presentation rates are slightly higher in 0-4 year old children than 5-9 or 10-14 year olds. (Table 6)

Table 6. Frequency and rate of hospital admission and ED presentation in children, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
0-4 years	4,358	1,422.6	21,241	6,933.6
5-9 years	4,231	1,332.7	18,052	5,686.0
10-14 years	4,580	1,368.1	22,500	6,721.2
All	13,169	1,373.8	61,793	6,446.2

Leading causes of injury

- Four of the five leading causes of child hospital admissions and ED presentations are the same although the ranking on frequency of cases is different.
- The leading cause of child hospital admissions and ED presentations is falls accounting for 47% (n=6,230) of child hospital admissions and 42% (n=25,898) of ED presentations.
- Hit/struck/crush injuries are the next major cause of injury accounting for 14% of admissions (n=1,802) and 22% of ED presentations (n=13,714).
- Transport accounts for 13% of admissions (n=1,672) and only 4% of presentations (n=2,670).
- Cutting and piercing injuries account for 5% of admissions (n=627) and 7% of ED presentations (n=4,287).
- The fifth ranking cause of hospital admissions is poisoning (5%, n=614) whereas for ED presentations it is natural/environmental/animals (3%, n=1,839).

Figure 23: Child hospital admissions by cause, Victoria 2005

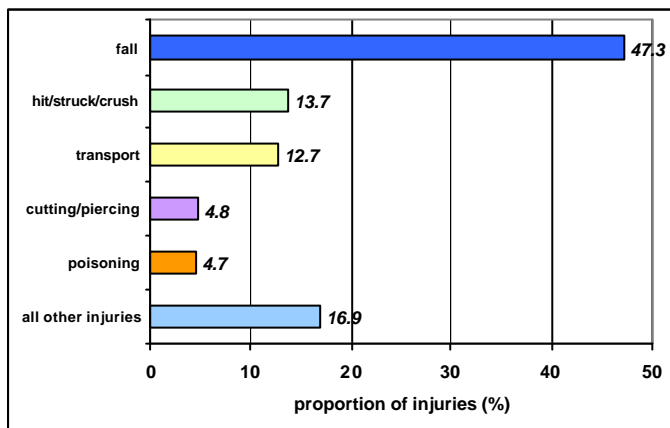
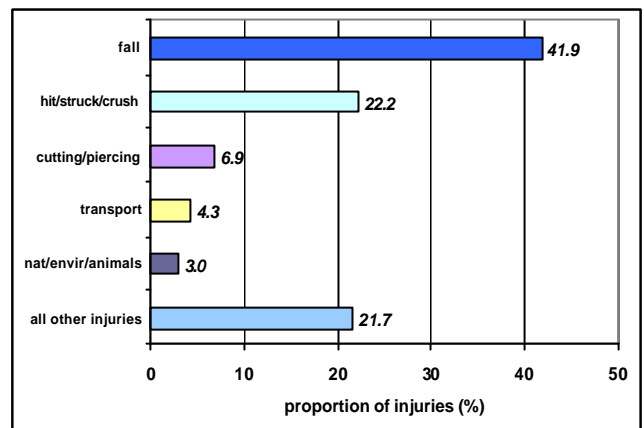


Figure 24: Child ED presentations by cause, Victoria 2005



Note: 'Other specified' and 'unspecified' cases were included in the 'all other injuries' category regardless of their ranking

Major injury type (body site and nature of injury)

Figures 25 & 26 show the five major injury types for child hospital admissions and presentations.

- Fractures of the upper limb account for more than one-third of child hospital injury admissions (34%) and 14% of ED presentations.
- Open wounds of the head/face/neck account for 12% of child hospital injury admissions and 14% of ED presentations.

Figure 25: Major injury type, child hospital admissions, Victoria 2005

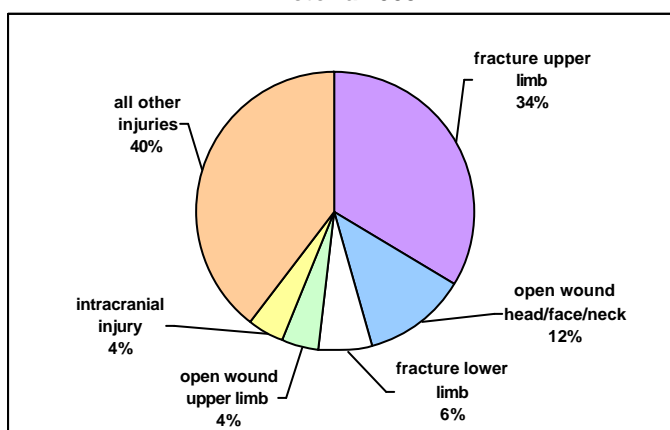
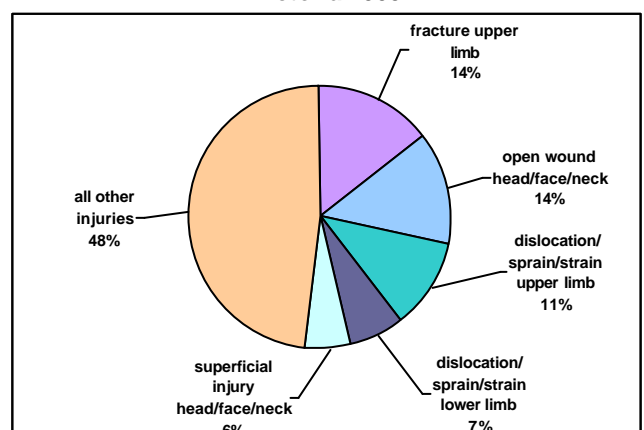


Figure 26: Major injury type, child ED presentations, Victoria 2005



Place of injury occurrence

- At least 20% of child injuries requiring hospital admission and almost half of child injuries resulting in ED presentations (48%) occurred in the home.
- Children were also commonly injured in schools and other public buildings (13% of admissions and 15% of ED presentations) and sports and athletics areas (7% of admissions and 7% of ED presentations).

Figure 27: Child hospital admissions by place of occurrence, Victoria 2005

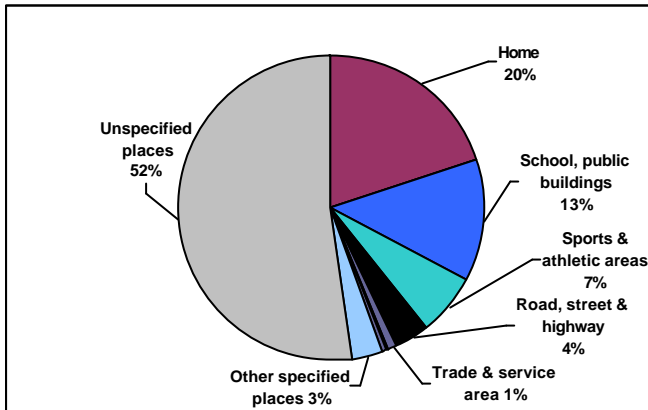
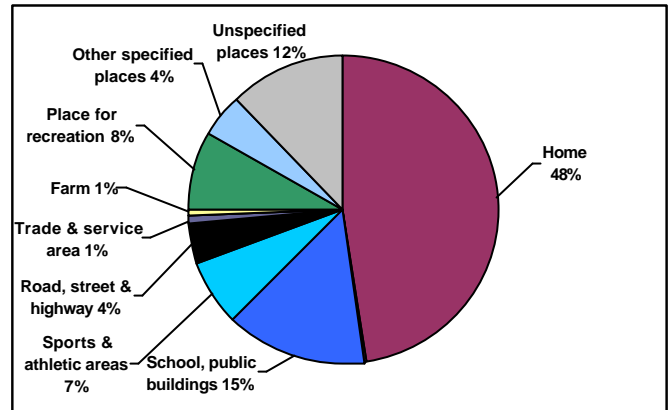


Figure 28: Child ED presentations by place of occurrence, Victoria 2005



Activity when injured

- The activity engaged in at the time of injury was unspecified for more than half of all child injury admissions (55%) and recorded as 'other specified' for a further 17% of injuries.
- Sport was the only activity recorded for a significant number of child admissions (19%).
- Leisure was recorded as the activity engaged in at the time of injury for 55% of child ED presentations, followed by sports (10%) and education (4%).

Figure 29: Child hospital admissions by activity when injured, Victoria 2005

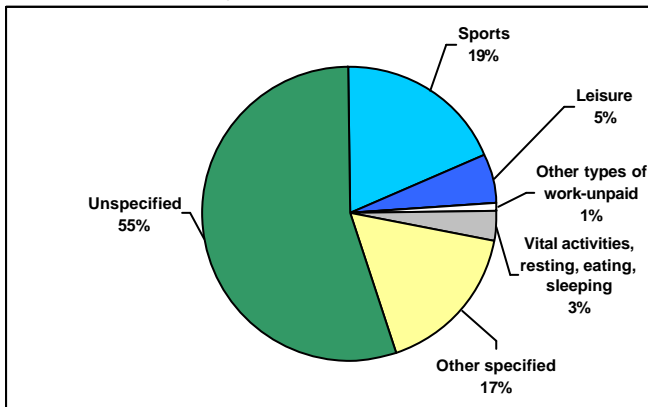


Figure 30: Child ED presentations by activity when injured, Victoria 2005

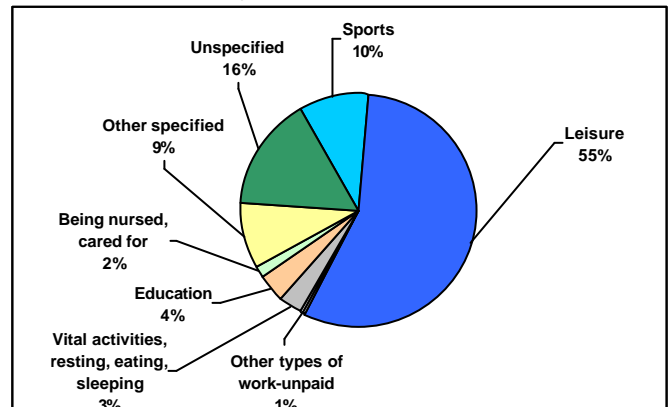


Table 7 Ranking of causes for hospital admissions and ED presentations, children aged 0-14 years, 2005

AGE GROUP	RANK	ADMISSIONS			PRESENTATIONS		
		CAUSE	FREQ	%	CAUSE	FREQ	%
0-4 years	1	fall	1,739	39.9	fall	8,574	40.4
	2	hit/struck/crush	635	14.6	hit/struck/crush	3,921	18.5
	3	poisoning	475	10.9	other specified unintentional	2,507	11.8
	4	foreign body - natural orifice	270	6.2	unspecified	1,695	8.0
	5	unspecified factor	254	5.8	cutting/piercing	1,416	6.7
	6	cutting/piercing	234	5.4	fires/burns/scalds	814	3.8
	7	natural/environmental/animals	202	4.6	natural/environmental/animals	677	3.2
	8	fires/burns/scalds	183	4.2	poisoning	616	2.9
	9	transport	163	3.7	foreign body - natural orifice	560	2.6
	10	choking/suffocate	84	1.9	transport	310	1.5
	11	other specified unintentional	53	1.2	choking/suffocate	112	<1
	12	near drowning	28	<1	near drowning	27	<1
	13	overexertion & strenuous movements	21	<1	machinery	11	<1
	14	machinery	17	<1	explosions/firearms	1	<1
	15	explosions/firearms	0	0.0	overexertion & strenuous movements	N/A	N/A
		ALL	4,358	100.0	ALL	21,241	100.0
5-9 years	1	fall	2,426	57.3	fall	8,330	46.1
	2	hit/struck/crush	475	11.2	hit/struck/crush	3,882	21.5
	3	transport	472	11.2	cutting/piercing	1,383	7.7
	4	cutting/piercing	212	5.0	other specified unintentional	1,331	7.4
	5	natural/environmental/animals	168	4.0	unspecified	1,117	6.2
	6	foreign body - natural orifice	158	3.7	transport	816	4.5
	7	unspecified factor	121	2.9	natural/environmental/animals	568	3.1
	8	poisoning	67	1.6	foreign body - natural orifice	253	1.4
	9	other specified unintentional	44	1.0	fires/burns/scalds	250	1.4
	10	fires/burns/scalds	39	<1	poisoning	81	<1
	11	overexertion & strenuous movements	25	<1	choking/suffocate	23	<1
	12	choking/suffocate	14	<1	near drowning	10	<1
	13	near drowning	6	<1	machinery	7	<1
	14	machinery	4	<1	explosions/firearms	1	<1
	15	explosions/firearms	0	0.0	overexertion & strenuous movements	N/A	N/A
		ALL	4,231	100.0	ALL	18,052	100.0
10-14 years	1	fall	2,065	45.1	fall	8,994	40.0
	2	transport	1,037	22.6	hit/struck/crush	5,911	26.3
	3	hit/struck/crush	692	15.1	other specified unintentional	2,011	8.9
	4	cutting/piercing	181	4.0	unspecified	1,551	6.9
	5	unspecified factor	150	3.3	transport	1,544	6.9
	6	natural/environmental/animals	106	2.3	cutting/piercing	1,488	6.6
	7	overexertion & strenuous movements	98	2.1	natural/environmental/animals	594	2.6
	8	poisoning	72	1.6	fires/burns/scalds	213	<1
	9	other specified unintentional	50	1.1	foreign body - natural orifice	94	<1
	10	fires/burns/scalds	49	1.1	poisoning	54	<1
	11	foreign body - natural orifice	45	1.0	machinery	25	<1
	12	choking/suffocate	14	<1	choking/suffocate	13	<1
	13	explosions/firearms	11	<1	near drowning	6	<1
	14	machinery	8	<1	explosions/firearms	2	<1
	15	near drowning	2	<1	overexertion & strenuous movements	N/A	N/A
		ALL	4,580	100.0	ALL	22,500	100.0

Adolescents and young adults (15-24 years)

Trend

FREQUENCY

Frequencies and rates for 2005 reported here differ slightly from those reported elsewhere in this report because stricter inclusion criteria based on admission and transfer sources (for admissions) and hospital site (for ED presentations) are used for the trend calculations.

- The frequency of ADOLESCENT AND YOUNG ADULT unintentional injury and poisoning admissions (INCLUDING same-day admissions) increased significantly over the decade from 9,633 in 1996 to 12,970 in 2005, representing an estimated annual change of 2.2% (95% confidence interval 1.3% to 3.0%) and an overall increase of 24% (14% to 34%) based on the trend line.
- The frequency of ADOLESCENT AND YOUNG ADULT unintentional injury and poisoning admissions (EXCLUDING same-day admissions) decreased over the decade from 7,276 in 1996 to 6,431 in 2005, representing an estimated annual change of 0.2% (-1% to 0.5%) and an overall decrease of 2.2% (-9.2% to 5%) based on the trend line. The change was not statistically significant.
- The frequency of ADOLESCENT AND YOUNG ADULT unintentional injury and poisoning ED presentations increased significantly over the decade from 23,224 in 1996 to 31,053 in 2005, representing an estimated annual change of 3.2% (2.2% to 4%) and an overall increase of 37% (24% to 49%) based on the trend line.

Figure 31: Frequency of hospital admissions, Victoria 1996-2005

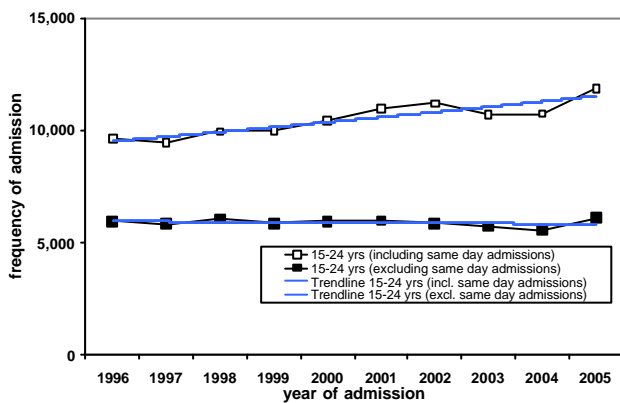
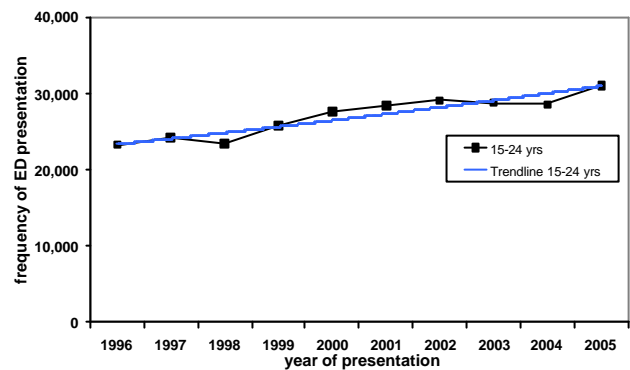


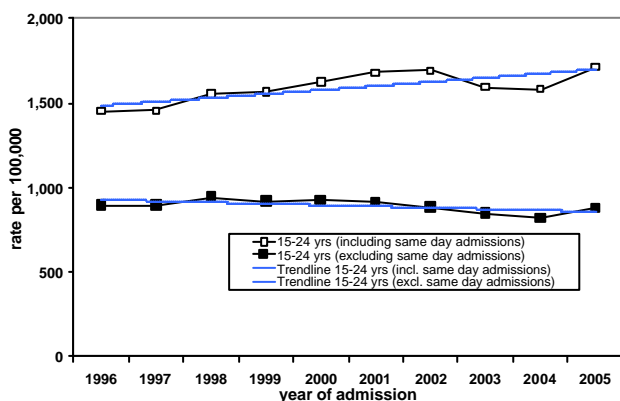
Figure 32: Frequency of hospital injury ED presentations, Victoria 1996-2005



RATE

- The ADOLESCENT AND YOUNG ADULT unintentional injury and poisoning admission rate (INCLUDING same-day admissions) increased significantly over the decade from 1,454/100,000 in 1996 to 1,713/100,000 in 2005, representing an estimated annual change of 1.5% (0.5% to 2.4%) and an overall increase of 16% (5% to 27%) based on the trend line.
- The ADOLESCENT AND YOUNG ADULT unintentional injury and poisoning admission rate (EXCLUDING same-day admissions) decreased significantly over the decade from 898/100,000 in 1996 to 881/100,000 in 2005, representing an estimated annual reduction of 0.9% (-1.7% to 0%) and an overall decrease of 8% (-16% to 0.2%) based on the trend line.
- The trend in ED presentation rate cannot be determined because numerator data are not complete.

Figure 33: Hospital admissions rate per 100,000 population, Victoria 1996-2005



Rates cannot be calculated for ED presentations because numerator data are not complete for the 10-year period.

Gender

- Males are overrepresented in hospital injury data for adolescents and young adults, accounting for 73% of hospital admissions (n=8,856) and 69% of ED presentations (n=30,430) in Victoria in 2005.

Figure 34: Adolescent and young adult hospital injury admissions by gender, Victoria 2005

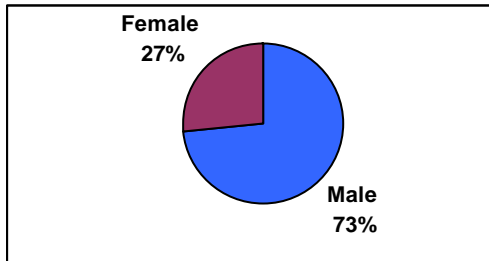
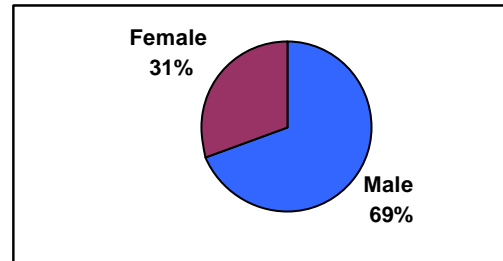


Figure 35: Adolescent and young adult ED injury presentations by gender, Victoria 2005



- The rate of hospital admission and ED presentation is also higher for males than females (2,513 & 8,636/100,000 vs. 947 & 3,975/100,000). (Table 8)

Table 8. Frequency and rate of hospital admission and ED presentation, adolescent and young adults, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
Male	8,856	2,513.3	30,430	8,636.0
Female	3,219	946.7	13,515	3,974.7
All	12,075	1,744.0	43,945	6,346.9

Age

- The frequency of adolescent and young adult injury hospital admissions and ED presentations are very evenly spread across the two 5-year age groups.
- Adolescents aged 15 to 19 years account for 49% of admissions and 51% of ED presentations.
- Young adults aged 20 to 24 years account for 51% of admissions and 49% of ED presentations.

Figure 36: Adolescent and young adult hospital admissions by age group, Victoria 2005

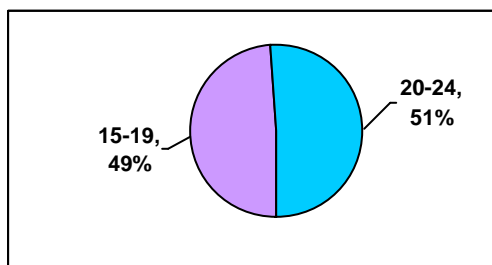
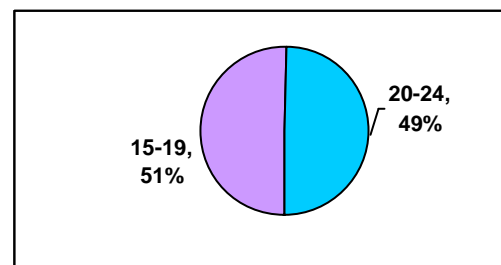


Figure 37: Adolescent and young adult ED presentations by age group, Victoria 2005



- Hospital admission and ED presentation rates are slightly higher in 15-19 year olds than 20-24 year olds. (Table 9)

Table 9. Frequency and rate of hospital admission and ED presentation in adolescent and young adults, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
15-19 years	5,916	1,763.5	22,206	6,619.5
20-24 years	6,159	1,725.6	21,739	6,090.8
All	12,075	1,744.0	43,945	6,346.9

Leading causes of injury

- Four of the five leading causes of adolescent and young adult hospital admissions and ED presentations are the same although the ranking on frequency of cases is different. (Figures 38 & 39)
- While transport is the leading cause of adolescent and young adult hospital admissions (28%, n=3,328), it only accounts for 11% of ED presentations (n=4,900).
- Falls is the second most common cause of both hospital admissions and ED presentations in this age group accounting for 25% of admissions (n=3,054) and 24% of ED presentations (n=10,335).
- Hit/struck/crush injuries account for 15% of hospital admissions (n=1,810) and are the leading cause of ED presentations (26%, n=11,456).
- Cutting and piercing injuries account for 8% of admissions (n=1,017) and 13% of ED presentations (n=5,888).
- The fifth ranking cause of adolescent and young adult hospital admissions is poisoning (4%, n=513) whereas for ED presentations it is natural/environmental/animals (3%, n=1,207).

Figure 38: Adolescent and young adult hospital admissions by cause, Victoria 2005

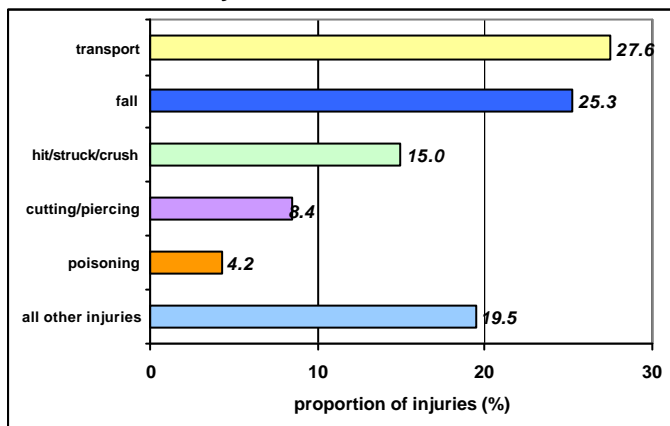
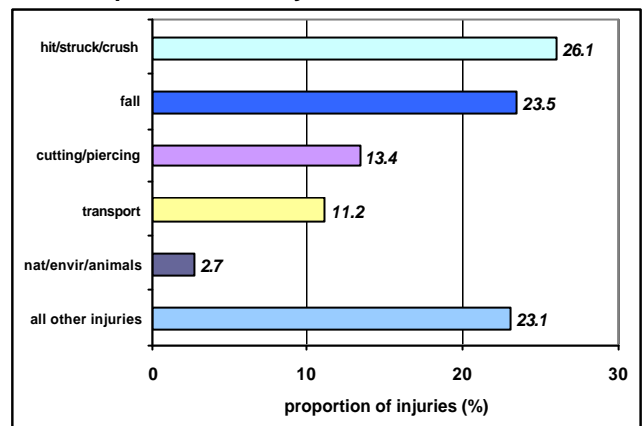


Figure 39: Adolescent and young adult ED presentations by cause, Victoria 2005



Note: 'Other specified' and 'unspecified' cases were included in the 'all other injuries' category regardless of their ranking

Major injury type (body site and nature of injury)

Figures 40 & 41 show the five major specific injury types for adolescent and young adult hospital admissions and ED presentations.

- Fractures of the upper limb account for 19% of hospital injury admissions and 9% of ED presentations.
- Fractures of the lower limb are the second most common type of injury requiring hospital admission (9%).
- Dislocations/sprains and strains of the lower limb (13%) and open wounds of the upper limb (11%) are common among ED presentations.

Figure 40: Major injury type, adolescent and young adult hospital admissions, Victoria 2005

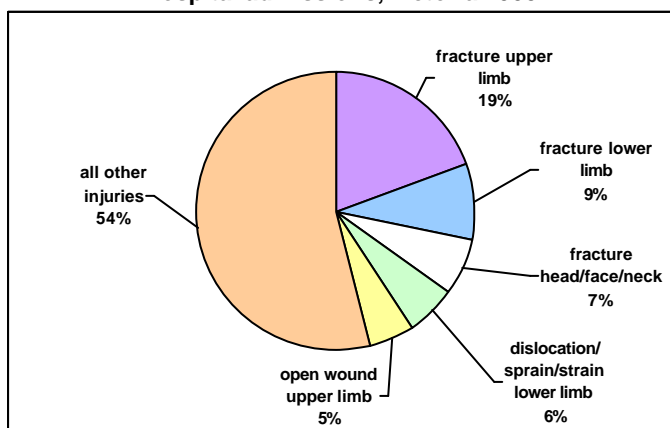
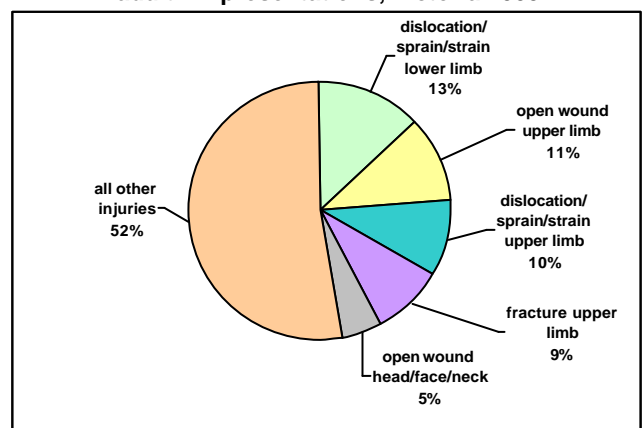


Figure 41: Major injury type, adolescent and young adult ED presentations, Victoria 2005



Place of injury occurrence

- The road, street and highway is the most common place of occurrence of adolescent and young adult injuries resulting in hospital admission (19%) whereas the home is the leading place of occurrence for injuries resulting in ED presentation (24%).
- Other locations where injuries to adolescents and young adults commonly occurred were:
 - sports and athletics areas (15% of admissions and 17% of ED presentations)
 - place for recreation (11% of ED presentations) and
 - trades and service areas (3% of admissions and 8% of ED presentations).

Figure 42: Adolescent and young adult hospital admissions by place of occurrence, Victoria 2005

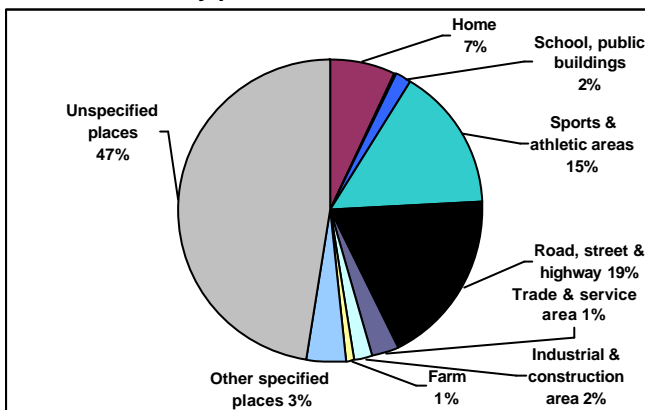
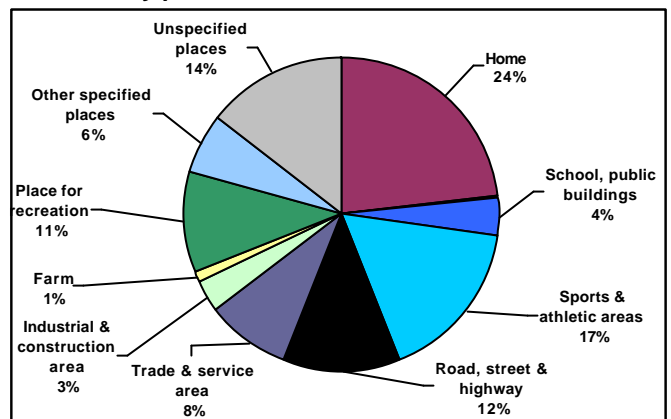


Figure 43: Adolescent and young adult ED presentations by place of occurrence, Victoria 2005



Activity when injured

- The activity engaged in at the time of injury was unspecified for almost half of adolescent and young adult injury admissions (47%) and recorded as 'other specified' for a further 15% of injuries.
- Sports (25%) and working for income (7%) were the only activities recorded for a significant number of adolescent and young adult admissions.
- Leisure was recorded as the activity engaged in at the time of injury for 37% of adolescent and young adult ED presentations, followed by sports (19%) and working for income (12%).

Figure 44: Adolescent and young adult hospital admissions by activity when injured, Victoria 2005

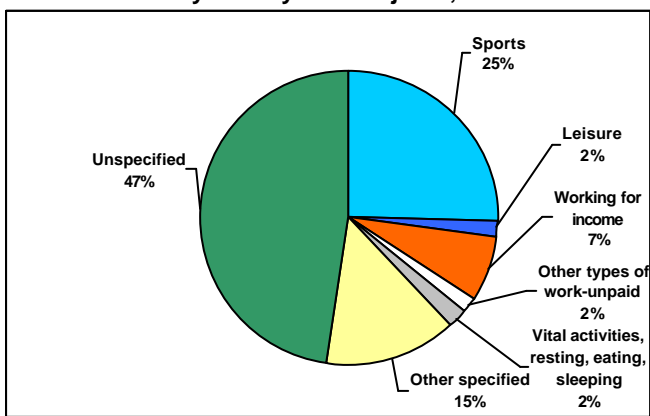


Figure 45: Adolescent and young adult ED presentations by activity when injured, Victoria 2005

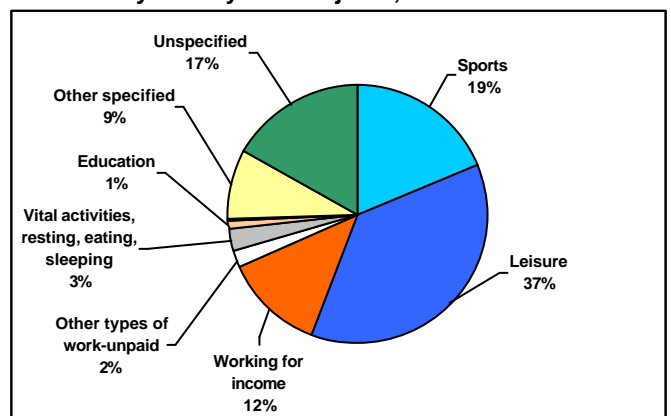


Table 10 Ranking of causes for hospital admissions and ED presentations, persons aged 15 to 24 years, 2005

AGE GROUP	RANK	ADMISSIONS			PRESENTATIONS		
		CAUSE	FREQ	%	CAUSE	FREQ	%
15-19 years	1	transport	1,622	27.4	hit/struck/crush	5,994	27.0
	2	fall	1,621	27.4	fall	5,786	26.1
	3	hit/struck/crush	960	16.2	cutting/piercing	2,679	12.1
	4	cutting/piercing	435	7.4	transport	2,467	11.1
	5	unspecified factor	424	7.2	other specified unintentional	2,059	9.3
	6	overexertion & strenuous movements	204	3.4	unspecified	1,629	7.3
	7	poisoning	200	3.4	natural/environmental/animals	529	2.4
	8	other specified unintentional	116	2.0	fires/burns/scalds	469	2.1
	9	natural/environmental/animals	92	1.6	poisoning	208	<1
	10	machinery	90	1.5	machinery	181	<1
	11	fires/burns/scalds	66	1.1	foreign body - natural orifice	181	<1
	12	foreign body - natural orifice	47	<1	near drowning	12	<1
	13	explosions/firearms	19	<1	choking/suffocate	12	<1
	14	choking/suffocate	16	<1	explosions/firearms	0	0.0
	15	near drowning	4	<1	overexertion & strenuous movements	N/A	N/A
		ALL	5,916	100.0	ALL	22,206	100.0
20-24 years	1	transport	1,706	27.7	hit/struck/crush	5,462	25.1
	2	fall	1,433	23.3	fall	4,549	20.9
	3	hit/struck/crush	850	13.8	cutting/piercing	3,209	14.8
	4	cutting/piercing	582	9.4	transport	2,433	11.2
	5	unspecified factor	485	7.9	other specified unintentional	2,119	9.7
	6	poisoning	313	5.1	unspecified	1,773	8.2
	7	overexertion & strenuous movements	204	3.3	natural/environmental/animals	678	3.1
	8	machinery	154	2.5	fires/burns/scalds	586	2.7
	9	other specified unintentional	140	2.3	foreign body - natural orifice	304	1.4
	10	natural/environmental/animals	121	2.0	poisoning	295	1.4
	11	fires/burns/scalds	69	1.1	machinery	290	1.3
	12	foreign body - natural orifice	59	1.0	choking/suffocate	28	<1
	13	choking/suffocate	25	<1	near drowning	8	<1
	14	explosions/firearms	15	<1	explosions/firearms	5	<1
	15	near drowning	3	<1	overexertion & strenuous movements	N/A	N/A
		ALL	6,159	100.0	ALL	21,739	100.0

Adults (25-64 years)

Trend

FREQUENCY

Frequencies and rates for 2005 reported here differ slightly from those reported elsewhere in this report because stricter inclusion criteria based on admission and transfer sources (for admissions) and hospital site (for ED presentations) are used for the trend calculations.

- The frequency of ADULT unintentional injury and poisoning admissions (INCLUDING same-day admissions) increased significantly over the decade from 22,242 in 1996 to 31,876 in 2005, representing an estimated annual change of 4.2% (95% confidence interval 3.2% to 5.0%) and an overall increase of 50% (37% to 62%) based on the trend line.
- The frequency of ADULT unintentional injury and poisoning admissions (EXCLUDING same-day admissions) increased significantly over the decade from 15,133 in 1996 to 18,486 in 2005, representing an estimated annual change of 2% (1.4% to 2.6%) and an overall increase of 22% (15% to 29%) based on the trend line.
- The frequency of ADULT unintentional injury and poisoning ED presentations increased significantly over the decade from 39,543 in 1996 to 64,267 in 2005, representing an estimated annual change of 5.5% (3.7% to 7%) and an overall increase of 71% (44% to 97%) based on the trend line.

Figure 46: Frequency of hospital admissions, Victoria 1996-2005

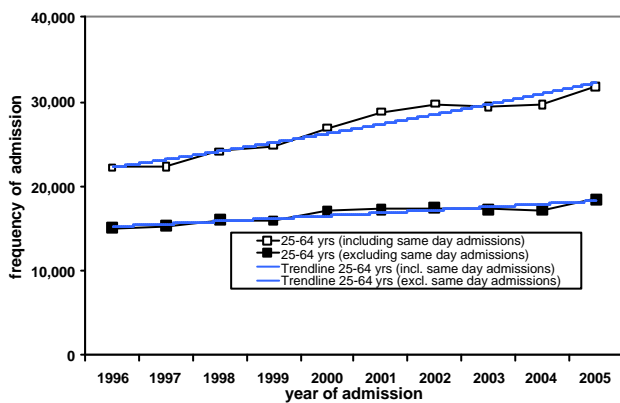
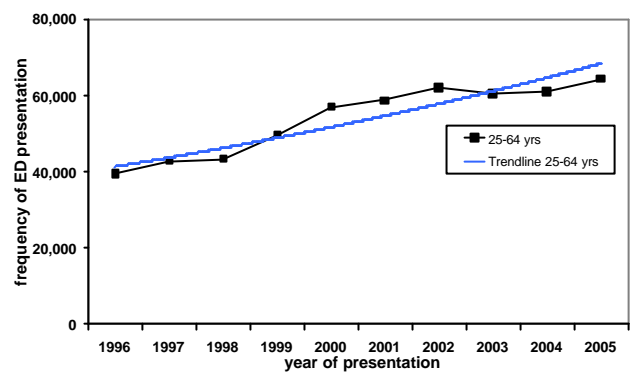


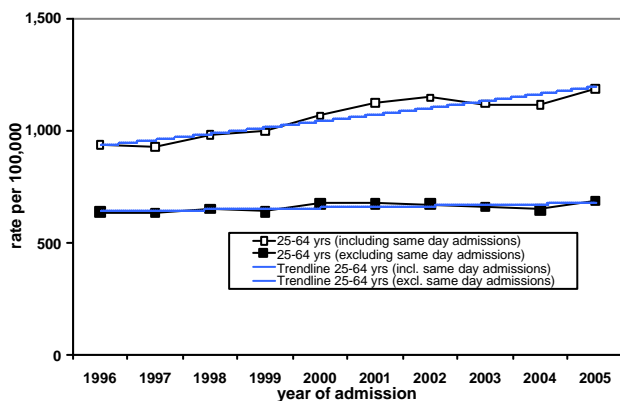
Figure 47: Frequency of hospital injury ED presentations, Victoria 1996-2005



RATE

- The ADULT unintentional injury and poisoning admission rate (INCLUDING same-day admissions) increased significantly over the decade from 934/100,000 in 1996 to 1,184/100,000 in 2005, representing an estimated annual change of 2.8% (1.9% to 3.6%) and an overall increase of 31% (21% to 42%) based on the trend line.
- The ADULT unintentional injury and poisoning admission rate (EXCLUDING same-day admissions) increased significantly over the decade from 636/100,000 in 1996 to 686/100,000 in 2005, representing an estimated annual change of 0.7% (0.1% to 1.2%) and an overall increase of 7% (0.7% to 13%) based on the trend line.
- The trend in ED presentation rate cannot be determined because numerator data are not complete.

Figure 48: Hospital admissions rate per 100,000 population, Victoria 1996-2005



Rates cannot be calculated for ED presentations because numerator data are not complete for the 10-year period.

Gender

- Males are overrepresented in hospital injury data for adults aged 25 to 64 years, accounting for 64% of hospital admissions (n=21,305) and ED presentations (n=58,073) in Victoria in 2005.

Figure 49: Adult hospital injury admissions by gender, Victoria 2005

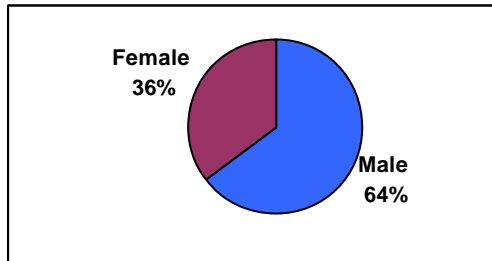
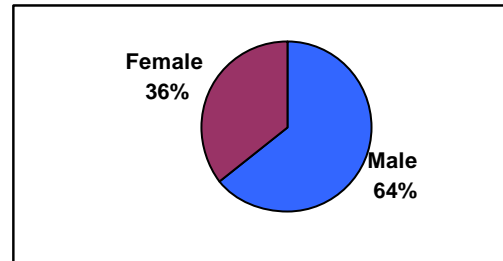


Figure 50: Adult ED injury presentations by gender, Victoria 2005



- The rate of hospital admission and ED presentation is higher for males compared with females (1,597 & 4,352/100,000 vs. 865 & 2,382/100,000). (Table 11)

Table 11. Frequency and rate of adult hospital admission and ED presentation, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
Male	21,305	1,596.5	5,8073	4,351.7
Female	11,752	865.0	3,2362	2,381.9
All	33,057	1,227.5	9,0435	3,358.0

Age

- Persons aged 25 to 44 years account for a higher proportion of adult hospital admissions and ED presentations (56% and 66%) than those aged 45 to 64 years (44% and 34%).

Figure 51: Adult hospital admissions by age group, Victoria 2005

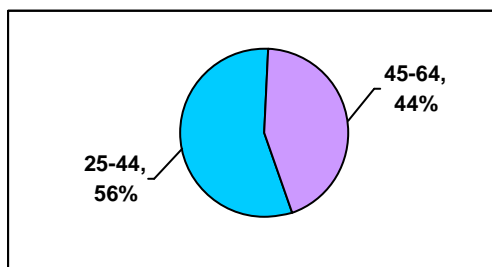
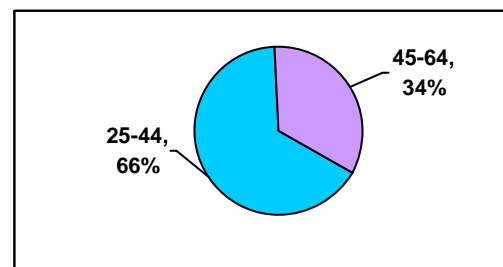


Figure 52: Adult ED presentations by age group, Victoria 2005



- The highest adult hospital admissions rates are in 60-64 and 25-29 year olds. The highest ED presentation rates are in 25-29 year olds, rates then decrease as age increases. (Table 12)

Table 12. Frequency and rate of hospital admission and ED presentation in adults, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
25-29 years	5,019	1,459.7	17,282	5,026.2
30-34 years	4,943	1,300.8	16,123	4,242.8
35-39 years	4,379	1,168.2	13,659	3,643.9
40-44 years	4,301	1,137.2	12,406	3,280.1
45-49 years	3,975	1,108.8	10,129	2,825.5
50-54 years	3,624	1,113.3	8,386	2,576.1
55-59 years	3,654	1,206.6	7,231	2,387.8
60-64 years	3,162	1,378.4	5,219	2,275.2
All	33,057	1,227.5	90,435	3,358.0

Leading causes of injury

- Four of the five leading causes of adult hospital admissions and ED presentations are the same although the ranking on frequency of cases is different.
- The leading cause of adult hospital admissions and ED presentations is falls accounting for 32% (n=10,436) of hospital admissions and 24% (n=21,429) of ED presentations.
- Transport accounts for 20% of admissions (n=6,678) and only 8% of presentations (n=7,459).
- Hit/struck/crush injuries account for just 9% of admissions (n=2,939) but 21% of ED presentations (n=19,277).
- Cutting and piercing injuries account for 9% of admissions (n=2,817) and 16% of ED presentations (n=14,048).
- The fifth ranking cause of hospital admissions is overexertion and strenuous movements (5%, n=1,489) whereas for ED presentations it is natural/environmental/animals (4%, n=3,328).

Figure 53: Adult hospital admissions by cause, Victoria 2005

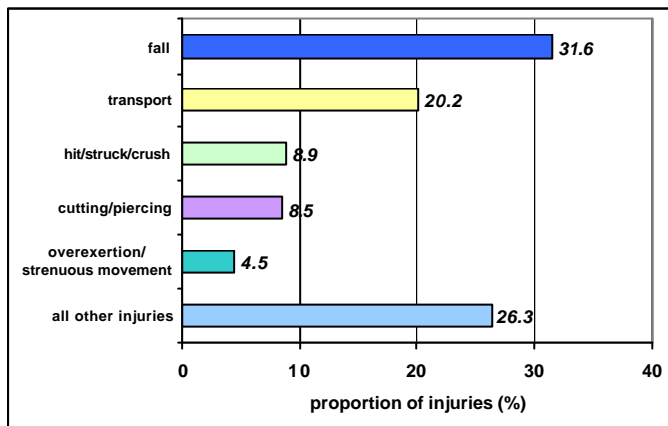
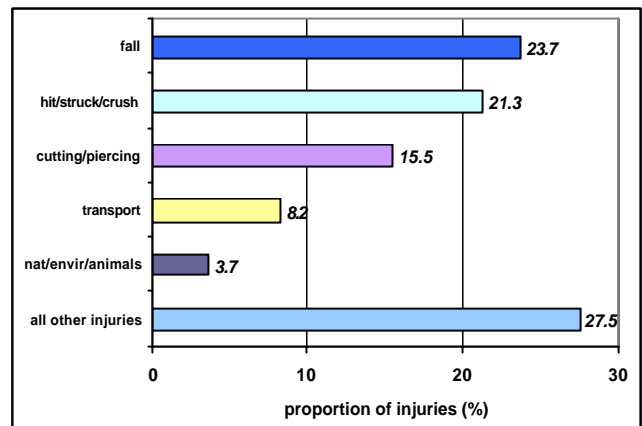


Figure 54: Adult ED presentations by cause, Victoria 2005



Note: 'Other specified' and 'unspecified' cases were included in the 'all other injuries' category regardless of their ranking

Major injury type (body site and nature of injury)

Figures 55 & 56 show the five major specific injury types for adult hospital admissions and ED presentations.

- Fractures of the upper limb account for 15% of adult hospital injury admissions and 7% of ED presentations.
- Fractures of the lower limb are the second most common type of adult injury requiring hospital admission (11%).
- Open wounds of the upper limb (12%) and dislocations/sprains and strains of the lower limb (10%) are common among ED presentations.

Figure 55: Major injury type, adult hospital admissions, Victoria 2005

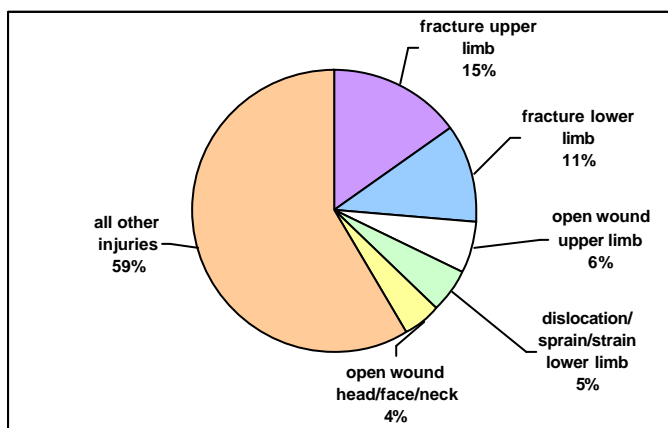
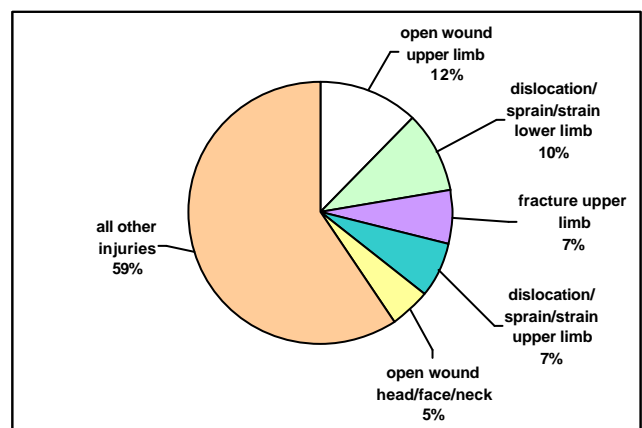


Figure 56: Major injury type, adult ED presentations, Victoria 2005



Place of injury occurrence

- Sixteen percent of adult injuries requiring hospital admission and 38% of injuries resulting in ED presentation occurred in the home.
- Other locations where injuries to adults commonly occurred were:
 - roads, streets and highways (16% of admissions and 10% of ED presentations)
 - trade and service areas (3% of admissions and 10% of ED presentations) and
 - sports and athletics areas (6% of admissions and 6% of ED presentations).

Figure 57: Adult hospital admissions by place of occurrence, Victoria 2005

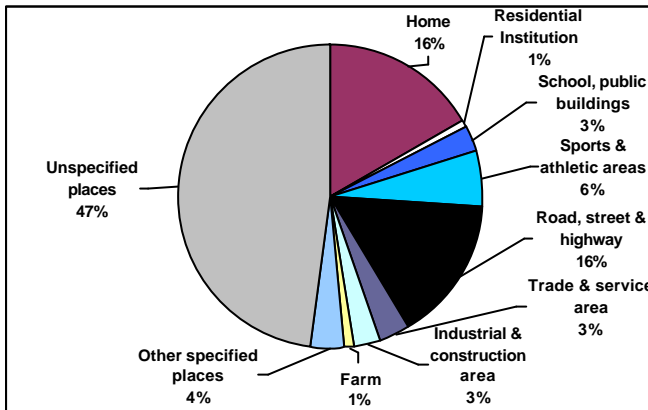
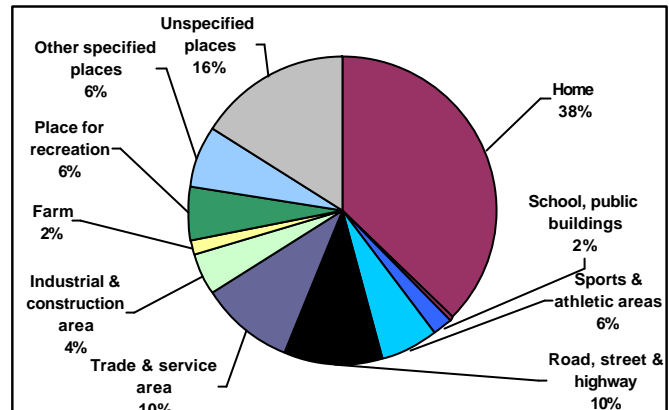


Figure 58: Adult ED presentations by place of occurrence, Victoria 2005



Activity when injured

- The activity engaged in at the time of injury was unspecified for more than half of adult injury admissions (53%) and recorded as 'other specified' for a further 15% of injuries.
- Working for income (11%) and sports (11%) were the only activities recorded for a significant number of older adult admissions.
- Leisure was recorded as the activity engaged in at the time of injury for 36% of adult ED presentations, followed by working for income (17%) and sports (7%).

Figure 59: Adult hospital admissions by activity when injured, Victoria 2005

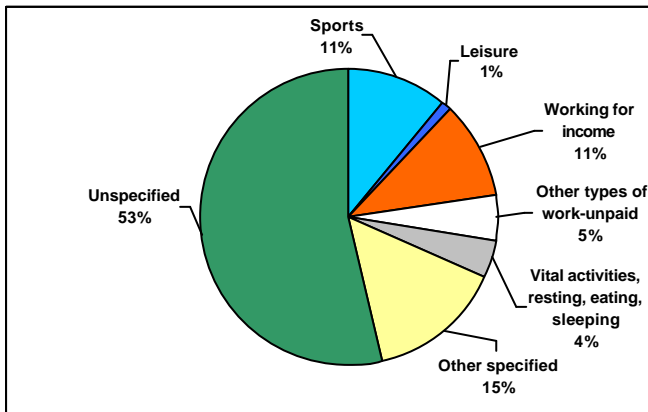


Figure 60: Adult ED presentations by activity when injured, Victoria 2005

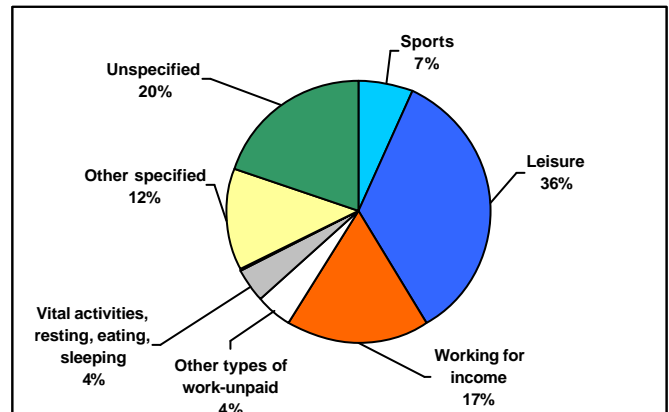


Table 13 Ranking of causes for hospital admissions and ED presentations, persons aged 25 to 64 years, 2005

AGE GROUP	RANK	ADMISSIONS			PRESENTATIONS		
		CAUSE	FREQ	%	CAUSE	FREQ	%
25-44 years	1	fall	4,566	24.5	hit/struck/crush	13,794	23.2
	2	transport	4,430	23.8	fall	12,611	21.2
	3	hit/struck/crush	2,065	11.1	cutting/piercing	9,365	15.7
	4	unspecified factor	1,853	9.9	other specified unintentional	6,586	11.1
	5	cutting/piercing	1,753	9.4	transport	5,356	9.0
	6	overexertion & strenuous movements	897	4.8	unspecified	5,043	8.5
	7	poisoning	820	4.4	natural/environmental/animals	2,059	3.5
	8	natural/environmental/animals	568	3.0	fires/burns/scalds	1,574	2.6
	9	machinery	557	3.0	machinery	1,222	2.1
	10	other specified unintentional	483	2.6	foreign body - natural orifice	1,157	1.9
	11	foreign body - natural orifice	259	1.4	poisoning	565	1.0
	12	fires/burns/scalds	249	1.3	choking/suffocate	89	<1
	13	choking/suffocate	99	<1	near drowning	44	<1
	14	explosions/firearms	36	<1	explosions/firearms	5	<1
	15	near drowning	7	<1	overexertion & strenuous movements	N/A	N/A
		ALL	18,642	100.0	ALL	59,470	100.0
45-64 years	1	fall	5,870	40.7	fall	8,818	28.5
	2	transport	2,248	15.6	hit/struck/crush	5,483	17.7
	3	unspecified factor	1,318	9.1	cutting/piercing	4,683	15.1
	4	cutting/piercing	1,064	7.4	other specified unintentional	3,418	11.0
	5	hit/struck/crush	874	6.1	unspecified	2,833	9.1
	6	overexertion & strenuous movements	592	4.1	transport	2,103	6.8
	7	natural/environmental/animals	555	3.9	natural/environmental/animals	1,269	4.1
	8	machinery	474	3.3	fires/burns/scalds	716	2.3
	9	poisoning	436	3.0	foreign body - natural orifice	687	2.2
	10	foreign body - natural orifice	316	2.2	machinery	623	2.0
	11	other specified unintentional	274	1.9	poisoning	254	<1
	12	fires/burns/scalds	187	1.3	choking/suffocate	62	<1
	13	choking/suffocate	180	1.2	near drowning	14	<1
	14	explosions/firearms	24	<1	explosions/firearms	2	<1
	15	near drowning	3	<1	overexertion & strenuous movements	N/A	N/A
		ALL	14,415	100.0	ALL	30,965	100.0

Older adults (65 years and older)

Trend

FREQUENCY

Frequencies and rates for 2005 reported here differ slightly from those reported elsewhere in this report because stricter inclusion criteria based on admission and transfer sources (for admissions) and hospital site (for ED presentations) are used for the trend calculations.

- The frequency of OLDER ADULT unintentional injury and poisoning admissions (INCLUDING same-day admissions) increased significantly over the decade from 15,588 in 1996 to 24,313 in 2005, representing an estimated annual change of 5.3% (95% confidence interval 4.4% to 6%) and an overall increase of 68% (53% to 79%) based on the trend line.
- The frequency of OLDER ADULT unintentional injury and poisoning admissions (EXCLUDING same-day admissions) increased significantly over the decade from 13,511 in 1996 to 18,890 in 2005, representing an estimated annual change of 3.9% (3.2% to 4.5%) and an overall increase of 47% (37% to 55%) based on the trend line.
- The frequency of OLDER ADULT unintentional injury and poisoning ED presentations increased significantly over the decade from 6,326 in 1996 to 11,688 in 2005, representing an estimated annual change of 7.2% (4.1% to 9.8%) and an overall increase of 100% (50% to 154%) based on the trend line.

Figure 61: Frequency of hospital admissions, Victoria 1996-2005

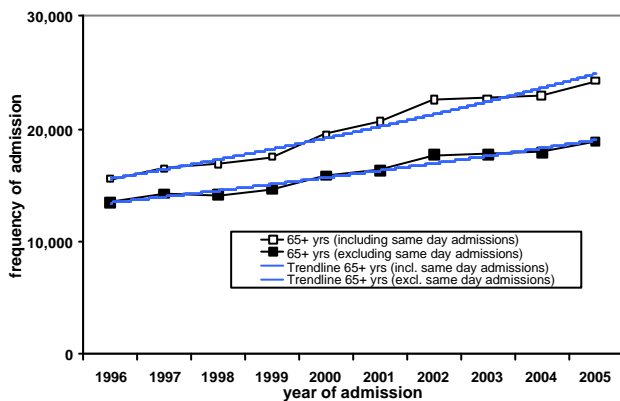
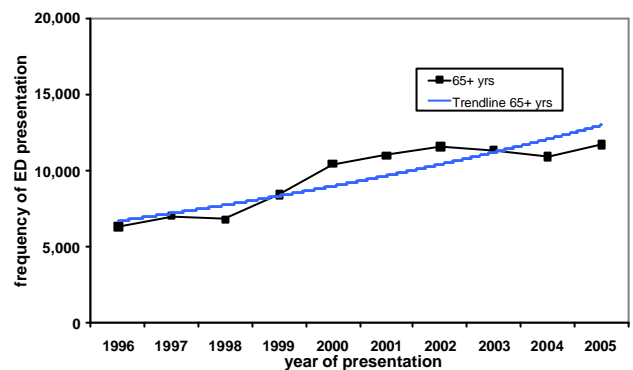


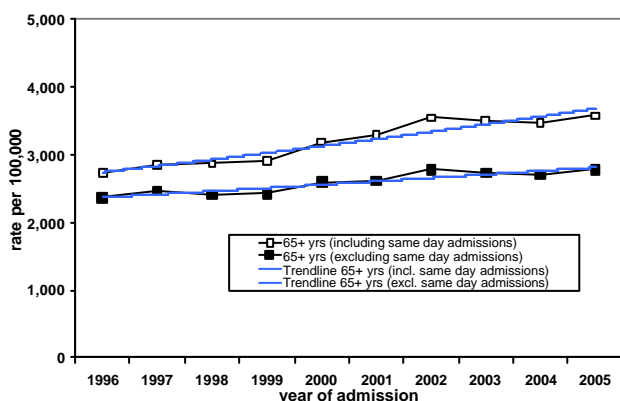
Figure 62: Frequency of hospital injury ED presentations, Victoria 1996-2005



RATE

- The OLDER ADULT unintentional injury and poisoning admission rate (INCLUDING same-day admissions) increased significantly over the decade from 2,737/100,000 in 1996 to 3,585/100,000 in 2005, representing an estimated annual change of 3.3% (2.4% to 4.1%) and an overall increase of 38% (27% to 49%) based on the trend line.
- The OLDER ADULT unintentional injury and poisoning admission rate (EXCLUDING same-day admissions) increased significantly over the decade from 2,373/100,000 in 1996 to 2,785/100,000 in 2005, representing an estimated annual change of 1.9% (1.3% to 2.6%) and an overall increase of 21% (13% to 29%) based on the trend line.
- The trend in ED presentation rate cannot be determined because numerator data are not complete.

Figure 63: Hospital admissions rate per 100,000 population, Victoria 1996-2005



Rates cannot be calculated for ED presentations because numerator data are not complete for the 10-year period.

Gender

- Females are overrepresented in hospital injury data for persons aged 65 years and older. They accounted for 66% of hospital admissions (n=17,299) and 57% of ED presentations (n=7,192) in Victoria in 2005.

Figure 64: Older adult hospital injury admissions by gender, Victoria 2005

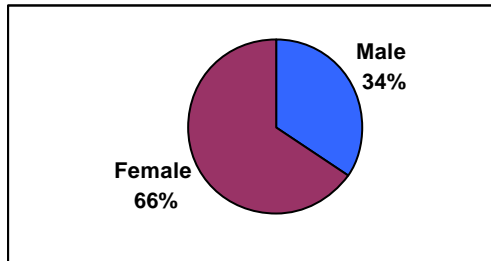
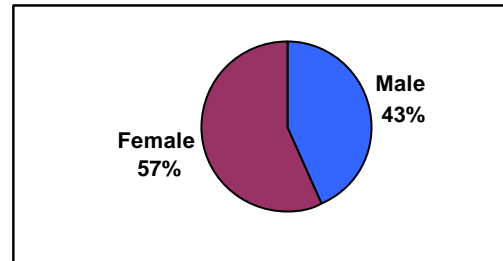


Figure 65: Older adult ED injury presentations by gender, Victoria 2005



- The rate of hospital admission and ED presentation is also higher for females than males (4,583 & 2,509/100,000 vs. 3,010 & 2,391/100,000). (Table 14)

Table 14. Frequency and rate of older adult hospital admission and ED presentation, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
Male	9,054	3,010.4	7,192	2,391.3
Female	17,299	4,582.9	9,470	2,508.8
All	26,353	3,885.6	16,662	2,456.7

Age

- Persons aged 85 years and older account for almost one third of older injuries requiring hospital admission (32%) and persons aged 80-84 years account for a further 23%.
- The frequency of older adult ED presentations are fairly evenly spread across the five age groups with persons aged 65-69 years accounting for one-quarter of injuries, those aged 70 to 74 years for 21%, 75 to 79 years for 20%, 80 to 84 years for 17% and 85 years and older also account for 17%.

Figure 66: Older adult hospital admissions by age group, Victoria 2005

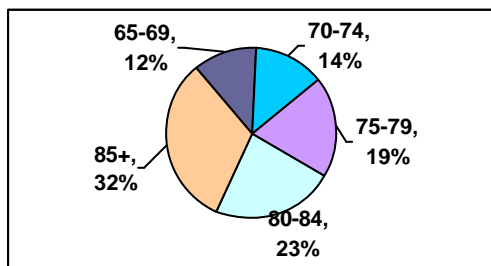
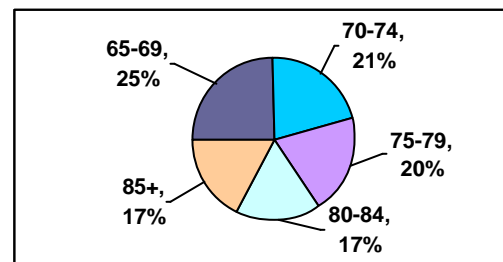


Figure 67: Older adult ED presentations by age group, Victoria 2005



- In persons aged 65 years and older both admission and ED presentation rates increase as age increases and the highest rates are in persons aged 85 years and older. (Table 15)

Table 15. Frequency and rate of hospital admission and ED presentation in older adults, Victoria 2005.

	Hospital admissions		ED presentations	
	Frequency	Rate	Frequency	Rate
65-69 years	3,087	1,607.9	4132	2,152.1
70-74 years	3,595	2,253.6	3449	2,162.1
75-79 years	5,023	3,529.2	3353	2,355.9
80-84 years	6,139	5,939.2	2825	2,733.1
85+ years	8,509	10,502.3	2903	3,583.1
All	26,353	3,885.6	16,662	2,456.7

Leading causes of injury

- The leading cause of hospital admissions and ED presentations for older adults is falls. Falls account for three-quarters of hospital admissions (n=19,882) and more than half of ED presentations (54%, n=8,938) in this age group.
- Transport is the second most common cause of hospital admission (5%, n=1,304) and the cause of 4% of presentations (n=646).
- Hit/struck/crush injuries account for 3% of admissions (n=662) and 10% of ED presentations (n=1,630).
- Cutting and piercing injuries account for 9% of ED presentations (n=1,458).
- Choking and suffocation accounts for 3% of hospital admissions (n=702).
- The fifth ranking cause of hospital admissions is overexertion and strenuous movements (2%, n=562) whereas for ED presentations it is natural/environmental/animals (3%, n=488).

Figure 68: Older adult hospital admissions by cause, Victoria 2005

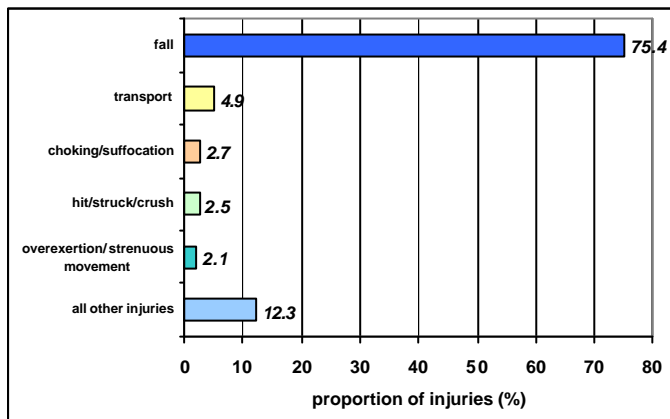
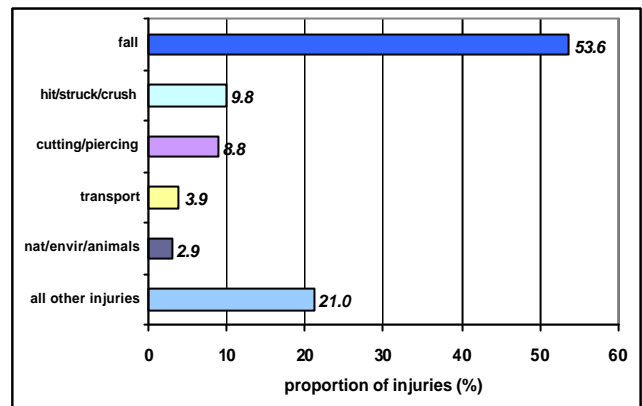


Figure 69: Older adult ED presentations by cause, Victoria 2005



Note: 'Other specified' and 'unspecified' cases were included in the 'all other injuries' category regardless of their ranking

Major injury type (body site and nature of injury)

Figures 70 & 71 show the five major specific injury types for older adult hospital admissions and ED presentations.

- Fractures of the upper limb account for 21% of hospital injury admissions and 10% of ED presentations.
- Fractures of the lower limb (12%) and fractures of the trunk (10%) are the second and third most common types of injury requiring hospital admission.
- Open wounds of the head/face/neck account for 7% of hospital injury admissions and are common among ED presentations (11%).

Figure 70: Major injury type, older adult hospital admissions, Victoria 2005

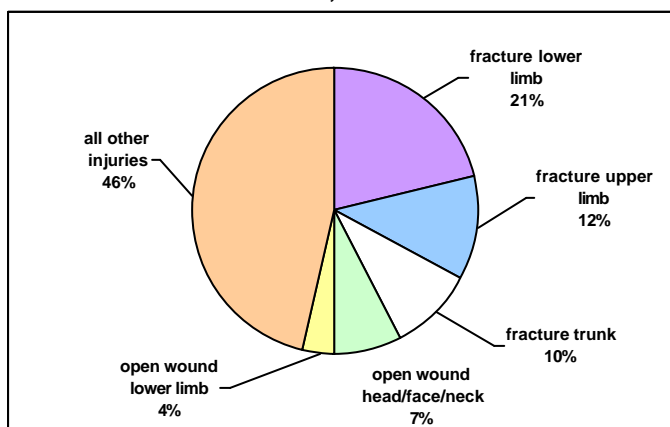
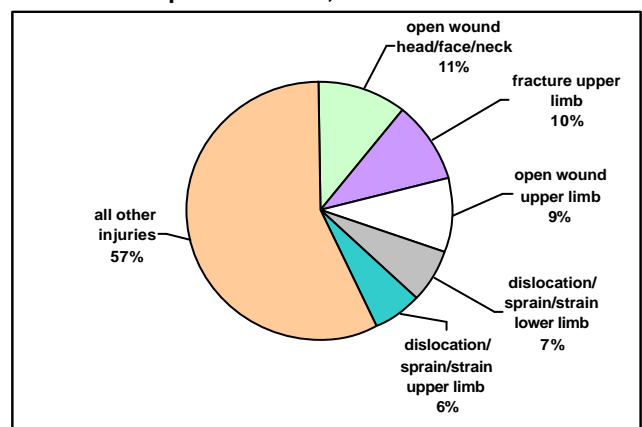


Figure 71: Major injury type, older adult ED presentations, Victoria 2005



Place of injury occurrence

- Almost 40% of older adult injuries requiring hospital admission and more than half of injuries resulting in ED presentations occurred in the home (39% and 54%).
- Other locations where injuries to older adults commonly occurred were:
 - residential institutions (17% of admissions and 5% of ED presentations)
 - roads, streets and highways (7% of admissions and 10% of ED presentations) and
 - schools and other public buildings (8% of admissions and 1% of ED presentations).

Figure 72: Older adult hospital admissions by place of occurrence, Victoria 2005

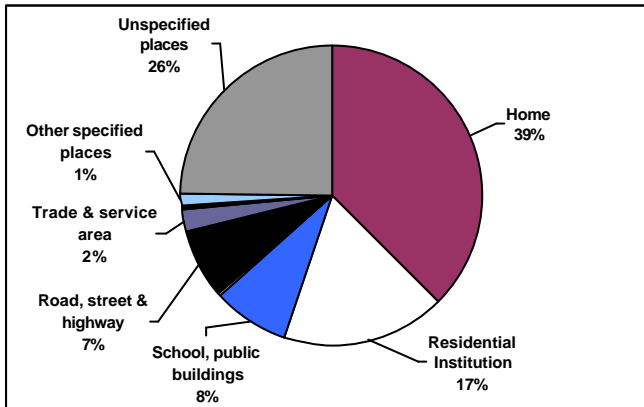
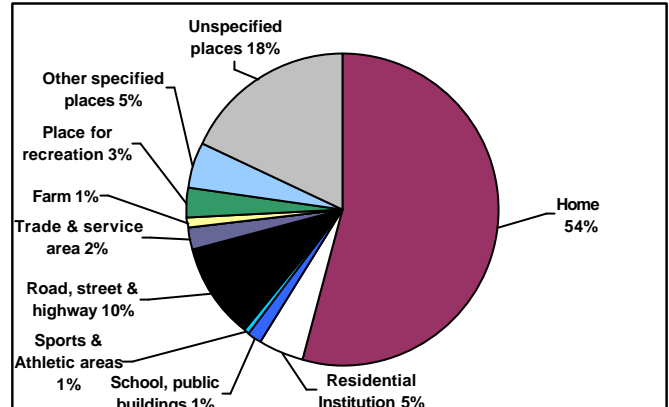


Figure 73: Older adult ED presentations by place of occurrence, Victoria 2005



Activity when injured

- The activity engaged in at the time of injury was unspecified for 65% of older adult injury admissions and recorded as 'other specified' for a further 15% of injuries.
- Vital activities such as resting, eating and sleeping were the only activities recorded for a significant number of older adult admissions (12%).
- Leisure was recorded as the activity engaged in at the time of injury for 44% of older adult ED presentations, followed by vital activities such as resting, eating and sleeping (9%).

Figure 74: Older adult hospital admissions by activity when injured, Victoria 2005

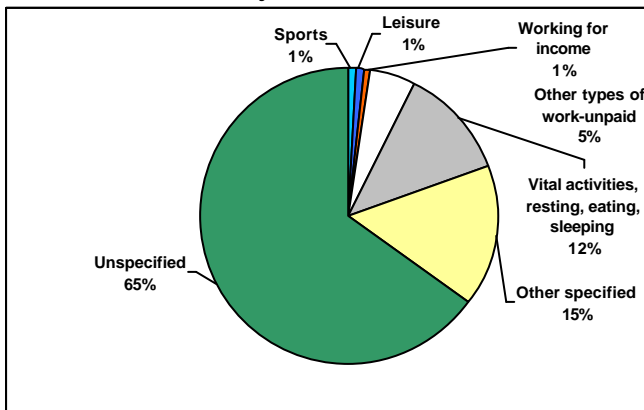


Figure 75: Older adult ED presentations by activity when injured, Victoria 2005

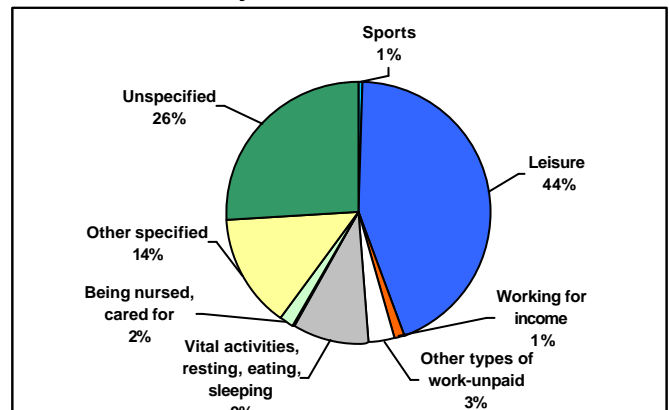


Table 16 Ranking of causes for hospital admissions and ED presentations, persons aged 65 years and older, 2005

AGE GROUP	RANK	ADMISSIONS			PRESENTATIONS		
		CAUSE	FREQ	%	CAUSE	FREQ	%
65-74 years	1	fall	4,091	61.2	fall	3,367	44.4
	2	transport	614	9.2	cutting/piercing	874	11.5
	3	unspecified factor	401	6.0	hit/struck/crush	857	11.3
	4	cutting/piercing	238	3.6	unspecified	725	9.6
	5	overexertion & strenuous movements	213	3.2	other specified unintentional	685	9.0
	6	hit/struck/crush	205	3.1	transport	361	4.8
	7	choking/suffocate	181	2.7	natural/environmental/animals	294	3.9
	8	poisoning	165	2.5	fires/burns/scalds	137	1.8
	9	natural/environmental/animals	161	2.4	foreign body - natural orifice	115	1.5
	10	foreign body - natural orifice	128	1.9	machinery	80	1.1
	11	machinery	110	1.6	poisoning	67	<1
	12	other specified unintentional	95	1.4	choking/suffocate	16	<1
	13	fires/burns/scalds	75	1.1	near drowning	2	<1
	14	explosions/firearms	4	<1	explosions/firearms	1	<1
	15	near drowning	1	<1	overexertion & strenuous movements	N/A	N/A
		ALL	6,682	100.0	ALL	7,581	100.0
75-84 years	1	fall	8,528	76.4	fall	3,532	57.2
	2	transport	517	4.6	unspecified	565	9.1
	3	unspecified factor	479	4.3	hit/struck/crush	561	9.1
	4	choking/suffocate	314	2.8	cutting/piercing	474	7.7
	5	hit/struck/crush	306	2.7	other specified unintentional	460	7.4
	6	overexertion & strenuous movements	234	2.1	transport	227	3.7
	7	poisoning	221	2.0	natural/environmental/animals	159	2.6
	8	natural/environmental/animals	144	1.3	foreign body - natural orifice	67	1.1
	9	foreign body - natural orifice	128	1.1	fires/burns/scalds	47	<1
	10	cutting/piercing	107	1.0	poisoning	40	<1
	11	other specified unintentional	72	<1	machinery	30	<1
	12	fires/burns/scalds	71	<1	choking/suffocate	13	<1
	13	machinery	35	<1	near drowning	2	<1
	14	explosions/firearms	5	<1	explosions/firearms	1	<1
	15	near drowning	1	<1	overexertion & strenuous movements	N/A	N/A
		ALL	11,162	100.0	ALL	6,178	100.0
85+ years	1	fall	7,263	85.4	fall	2,039	70.2
	2	unspecified factor	270	3.2	unspecified	238	8.2
	3	choking/suffocate	207	2.4	hit/struck/crush	212	7.3
	4	transport	173	2.0	other specified unintentional	147	5.1
	5	hit/struck/crush	151	1.8	cutting/piercing	110	3.8
	6	overexertion & strenuous movements	115	1.4	transport	58	2.0
	7	poisoning	107	1.3	natural/environmental/animals	35	1.2
	8	natural/environmental/animals	77	<1	poisoning	23	<1
	9	foreign body - natural orifice	43	<1	fires/burns/scalds	17	<1
	10	fires/burns/scalds	34	<1	foreign body - natural orifice	15	<1
	11	other specified unintentional	32	<1	choking/suffocate	5	<1
	12	cutting/piercing	30	<1	near drowning	3	<1
	13	machinery	6	<1	machinery	1	<1
	14	explosions/firearms	1	<1	explosions/firearms	0	0
	15	near drowning	0	0.0	overexertion & strenuous movements	N/A	N/A
		ALL	8,509	100.0	ALL	2,903	100.0