



MONASH University
Accident Research Centre



E_BULLETIN

Edition 2

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INJURY DEATHS
VICTORIA

2005

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Human Services

Injury deaths, Victoria 2005

Summary results

All ages

- In 2005, 1,749 Victorians died as a result of injury. Seventy percent of these deaths were unintentional ⁽¹⁾ (n=1,216), 29% intentional (n=503) and the remaining 1% were classified as other or undetermined intent (n=30).
- Unintentional injury death rates were highest in older adults (93.2 per 100,000 persons) and lowest in children (3.1 per 100,000 persons). Intentional death rates were highest in adults (13.6 per 100,000 persons) and lowest in children (0.3 per 100,000 persons).
- Although there was a slight increasing trend in the frequency and rate of unintentional injury deaths over the decade 1996 to 2005 the increase was not statistically significant. Intentional injury deaths have decreased over the same period and the decrease in rate (but not frequency) was statistically significant.
- Males were overrepresented accounting for 59% of unintentional and 78% of intentional injury deaths.
- Falls (29%, n=513), suicide (27%, n=464) and transport (21%, n=366) accounted for more than three-quarters of all injury deaths.
- One-quarter of unintentional deaths (n=302) and more than two-thirds of intentional injury deaths (69%, n=345) occurred in the home. Persons were also commonly fatally injured on roads, streets and highways (29% of unintentional injury deaths and 8% of intentional injury deaths) and a sizeable proportion of unintentional injury deaths occurred in residential institutions (11%).

Children (0-14 years)

- In 2005, 33 Victorian children died as a result of injury. More than 90% of these deaths were unintentional (n=30), and 9% were intentional (n=3).
- Unintentional injury deaths in children decreased significantly in frequency and rate over the decade 1996 to 2005. Intentional injury deaths also decreased over the same decade although the decrease was not statistically significant.
- Males were overrepresented accounting for 70% of unintentional and 67% of intentional injury deaths.
- Transport accounted for almost 40% of child injury deaths (n=13), followed by drowning (21%, n=7) and fires/burns/scalds (12%, n=4).
- Almost forty percent of unintentional child deaths occurred in the home (37%, n=11) and a further third occurred on roads/streets/highways (n=10). The two homicides occurred in the home and the suicide occurred on the road/street/highway.

Note (1): The term "unintentional" is preferred to "accidental" as accidental tends to imply unavoidability.

Adolescents and young adults (15-24 years)

- In 2005, 193 Victorian adolescents and young adults died as a result of injury. Two-thirds of these deaths were unintentional (n=128), 32% were intentional (n=61) and the remaining 2% were classified as other or undetermined intent (n=4).
- Unintentional and intentional injury deaths in adolescents and young adults decreased significantly in both frequency and rate over the decade 1996 to 2005.
- Males were overrepresented accounting for 77% of unintentional and 80% of intentional injury deaths.
- Transport accounted for more than half of the adolescent and young adult injury deaths (51%, n=98), followed by suicide (29%, n=56) and poisoning (9%, n=18). There were 5 homicides (3% of all injury deaths in this age group) and the remaining 4 deaths (2%) were classified as of other or undetermined intent (2%).
- Almost three-quarters of the unintentional injury deaths occurred on the street and highway (73%). The home was the most common place of occurrence for intentional injury deaths (59%).

Adults (25-64 years)

- In 2005, 812 Victorian adults died as a result of injury. Fifty-two percent of these deaths were unintentional (n=426), 45% intentional (n=365) and the remaining 3% were classified as of other or undetermined intent (n=21).
- The trend in adult unintentional and intentional injury deaths was fairly static over the decade 1996-2005. None of the trends in frequency or rate reached statistical significance.
- Males were overrepresented accounting for three-quarters of unintentional and 79% of intentional injury deaths.
- Suicide accounted for 42% of adult injury deaths (n=339), followed by transport (23%, n=183) and poisoning (17%, n=134). Other causes of death were falls (4.8%, n=39) and homicide (3.2%, n=26).
- Thirty percent of unintentional (n=126) and 69% of intentional adult injury deaths (n=248) occurred in the home. Other locations where deaths commonly occurred were roads, streets and highways (41% of unintentional and 8% of intentional deaths) and trade and service areas (3% of unintentional and 4% of intentional deaths).

Older adults (65+ years)

- In 2005, 711 Victorian older adults died as a result of injury. Almost 90% of these deaths were unintentional (n=632), 10% intentional (n=74) and less than 1% were classified as other or undetermined intent (n=5).
- Unintentional injury deaths in older adults increased significantly in frequency and rate over the decade 1996 to 2005. By contrast, intentional injury deaths decreased over the decade although only the decrease in rate reached statistical significance.
- Females were overrepresented in unintentional injury deaths accounting for 56% of deaths whereas males were overrepresented in intentional injury deaths accounting for 69% of these deaths.
- Falls accounted for two-thirds of older adult injury deaths (n=471), followed by transport (10%, n=72), suicide (10%, n=68), choking/suffocation (4.2%, n=30) and unintentional poisoning (1.4%, n=10).
- Almost 80% of older adult intentional injury deaths occurred in the home (79%, n=54). Almost 40% of unintentional injury deaths had no information for location (n=238) but at least 23% occurred in the home (n=143) and 21% in residential institutions (n=133).

Introduction

This is the second of the E-bulletin series that aims to provide an overview of injury in Victoria on a bi-annual basis. This current edition provides an overview of injury deaths in 2005 (the latest available year of data from the Australian Bureau of Statistics (ABS)).

Method

Data have been extracted from the Australian Bureau of Statistics Death Unit Record File (ABS-DURF).

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

Rates per 100,000 population have been calculated for all years.

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 injury deaths in Victoria in 2005. Overall, there were 1,749 injury deaths recorded for Victoria, a rate of 34.8 deaths per 100,000 Victorians.

- Unintentional injury death rates were highest in older adults (93.2 per 100,000 persons) and lowest in children (3.1 per 100,000 persons).
- Intentional death rates were highest in adults (13.6 per 100,000 persons) and lowest in children (0.3 per 100,000 persons).
- All intents injury death rates were highest in older adults (104.8 per 100,000 persons) and lowest in children (3.4 per 100,000 persons).

Table 1. The frequency and rate of unintentional and intentional injury deaths by broad age group, Victoria 2005.

2005	Children 0-14 years		Youth and young adults 15-24 yrs		Adults 25-64 yrs		Older adults 65+ yrs		ALL	
	Freq.	Rate per 100,000	Freq.	Rate per 100,000	Freq.	Rate per 100,000	Freq.	Rate per 100,000	Freq.	Rate per 100,000
Unintentional	30	3.1	128	18.5	426	15.8	632	93.2	1,216	24.2
Intentional	3	0.3	61	8.8	365	13.6	74	10.9	503	10.0
All intents ⁽¹⁾	33	3.4	193	27.9	812	30.2	711	104.8	1,749	34.8

Note (1) 'all intents' includes 30 deaths that were classified as of other or undetermined intent

In 2005, age-specific unintentional injury death rates rose after childhood, were higher in adolescents and young adults than in adults and peaked in older adults. The male age-specific injury hospital admission rate was higher than the female rate in all 5-year age groups. (Figure 1)

In 2005, age-specific intentional injury death rates were lowest in children (0-4, 5-9 and 10-14 years) and peaked in the 25-29, 35-39 and 85+ aged groups. (Figure 2)

Figure 1. Unintentional injury death rates by age group and gender, Victoria 2005.

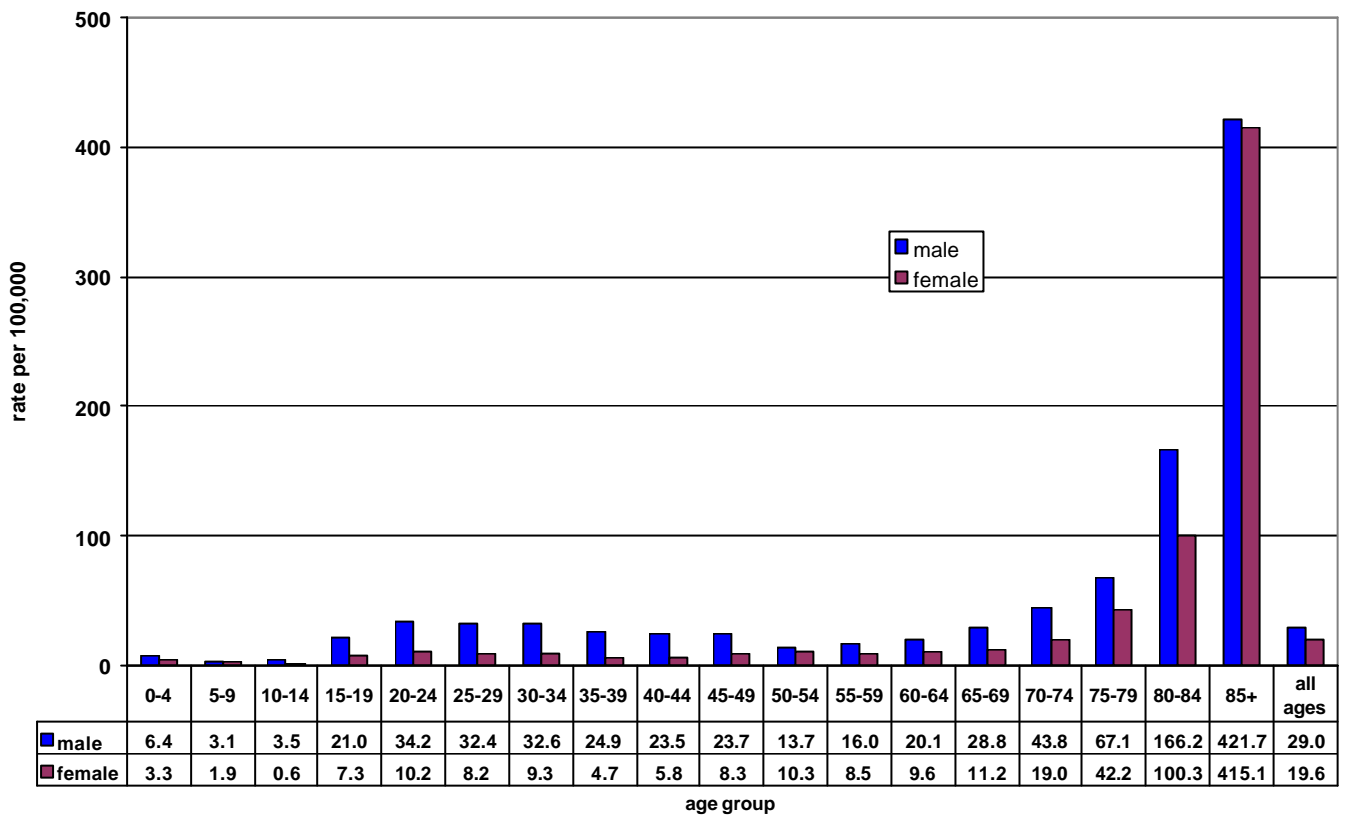
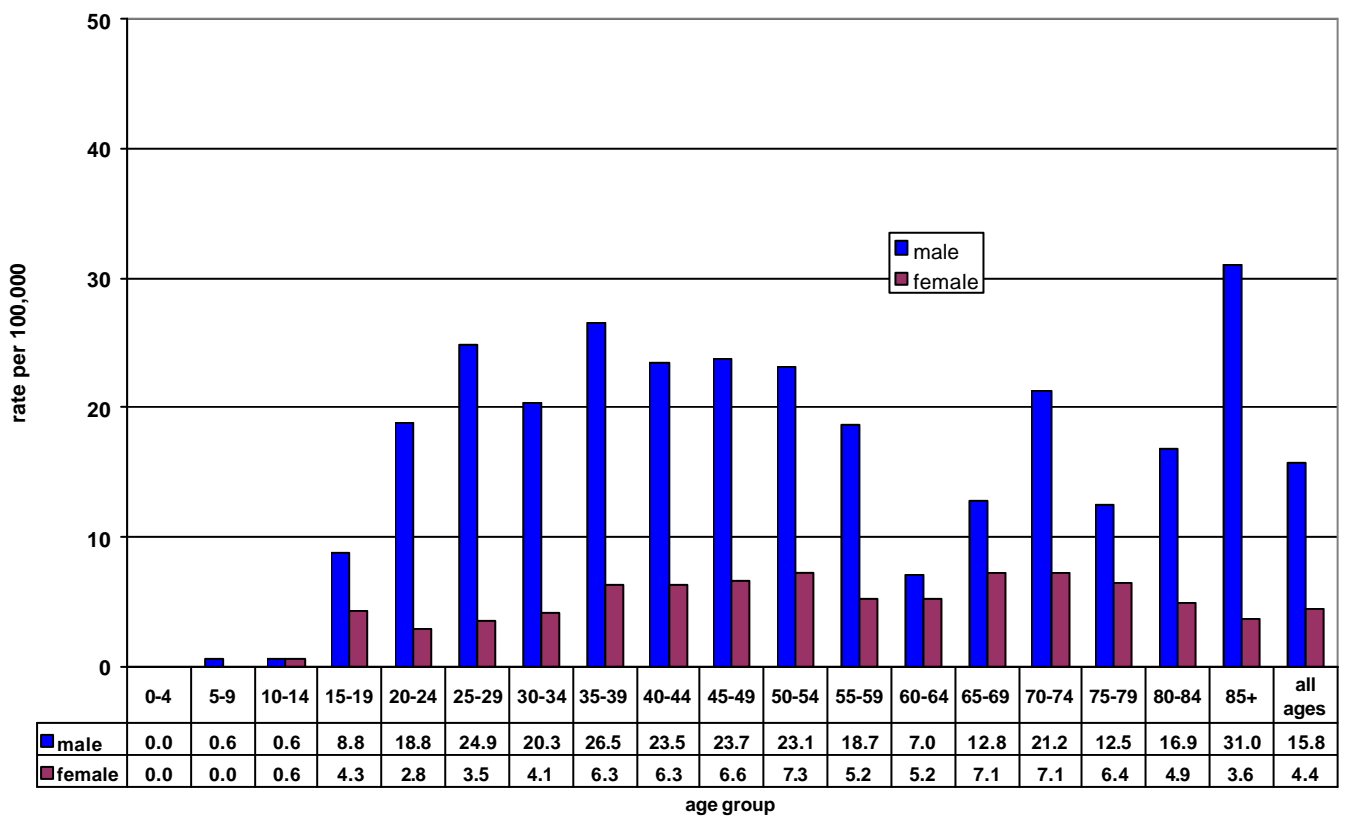


Figure 2. Intentional injury death rates by age group and gender, Victoria 2005.



Trend

- The frequency of UNINTENTIONAL injury deaths increased over the decade from 1,039 deaths in 1996 to 1,216 deaths in 2005, representing an estimated annual change of 1.7% (95% confidence interval -1.4% to 4.7%) and an overall increase of 18.2% (-12.9% to 58.6%) based on the trend line. This increase is not statistically significant.
- The frequency of INTENTIONAL injury deaths decreased over the decade from 542 in 1996 to 503 in 2005, representing an estimated annual reduction of 1.4% (95% confidence interval -3.3% to 0.5%) and an overall decrease of 13.1% (-28.4% to 5%) based on the trend line. This decrease is not statistically significant.

Figure 3: Trend in frequency of unintentional injury deaths, Victoria 1996-2005

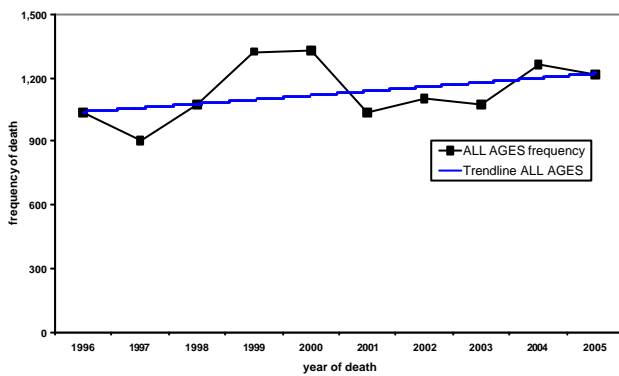
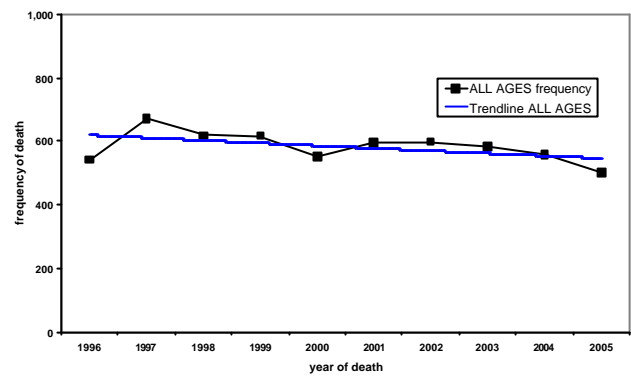


Figure 4: Trend in frequency of intentional injury deaths, Victoria 1996-2005



- The UNINTENTIONAL injury death rate increased over the decade from 22.8/100,000 in 1996 to 24.2/100,000 in 2005, representing an estimated annual change of 0.6% (-2.5% to 3.7%) and an overall increase of 6% (-22.6% to 43.4%) based on the trend line. This increase is not statistically significant.
- The INTENTIONAL injury death rate decreased significantly over the decade from 11.9/100,000 in 1996 to 10.0/100,000 in 2005, representing an estimated annual reduction of 2.5% (-4.4% to -0.6%) and an overall decrease of 22% (-36.4% to -5.4%) based on the trend line.

Figure 5: Trend in unintentional injury death rates per 100,000 population, Victoria 1996-2005

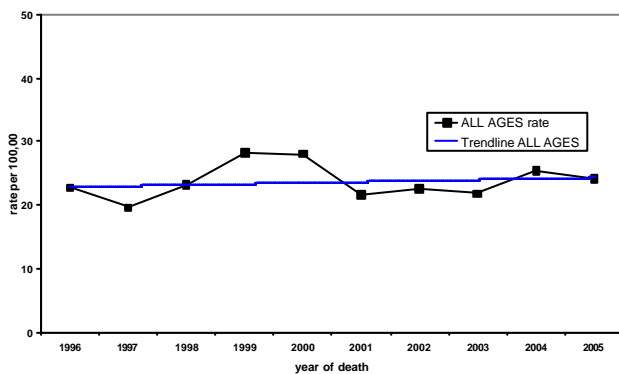
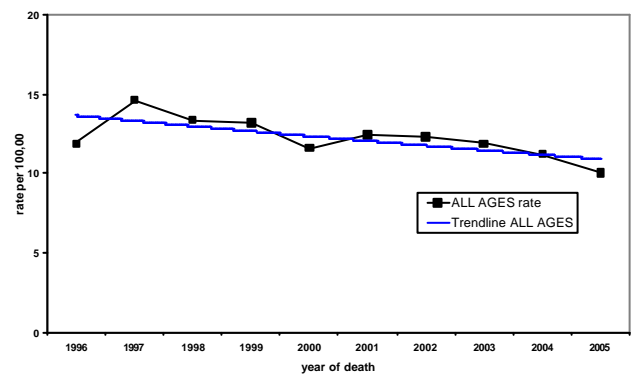


Figure 6: Trend in intentional injury death rates per 100,000 population, Victoria 1996-2005



Gender distribution

- Males were overrepresented accounting for 59% of unintentional injury deaths (n=718) and 78% of intentional injury deaths (n=391) in Victoria in 2005. (Figures 7 & 8)

Figure 7: Unintentional injury deaths by gender, Victoria 2005

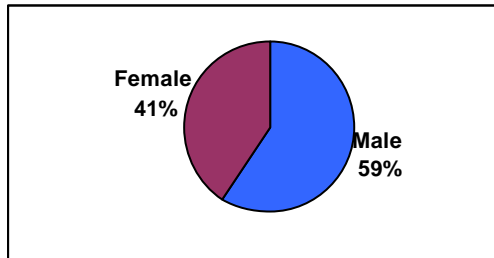
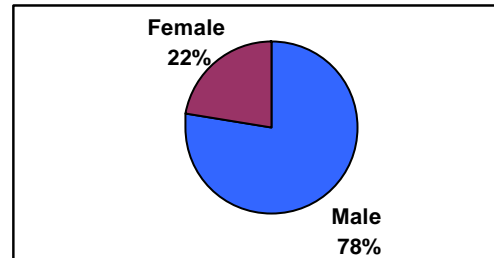


Figure 8: Intentional injury deaths by gender, Victoria 2005



- The overall rates of both unintentional and intentional injury deaths were also higher for males than females (29.0 & 15.8/100,000 vs. 19.6 & 4.4/100,000). (Table 2)

Table 2. Frequency and rate of injury deaths by intent and gender, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	718	29.0	391	15.8
Female	498	19.6	112	4.4
All	1,216	24.2	503	10.0

Age distribution

- Persons aged 65 years and older have the highest rates of unintentional injury death (93.2/100,000) and children (0-14 years) have the lowest (3.1/100,000).
- Adults (aged 25-64 years) have the highest intentional injury death rates (13.6/100,000) and children (0-14 years) have the lowest (0.3/100,000).

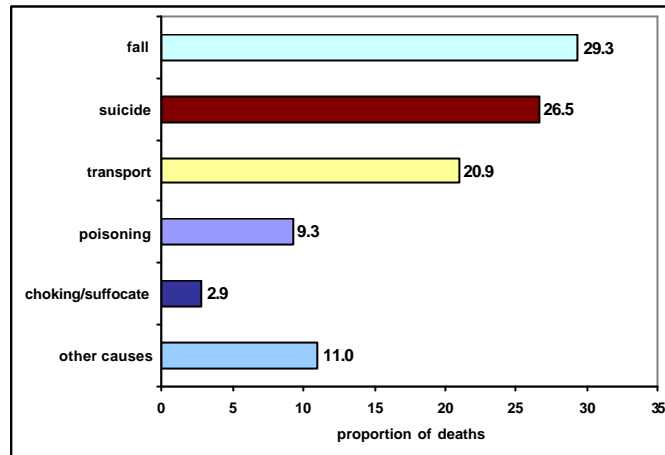
Table 3. Frequency and rate of injury deaths by intent and age group, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
0-14	30	3.1	3	0.3
15-24	128	18.5	61	8.8
25-64	426	15.8	365	13.6
65+	632	93.2	74	10.9
All	1,216	24.2	503	10.0

Leading causes of injury

- Figure 9 shows the 5 major causes of injury death. Falls (29%, n=513), suicide (27%, n=464) and transport (21%, n=366) account for more than three-quarters of all injury deaths. Other common causes of death are poisoning (9%, n=163) and choking/suffocation (3%, n=50).

Figure 9: Injury deaths by major cause (all intents), Victoria 2005



Note: 'Other specified' and 'unspecified' were included in the 'all other causes' category

Major causes in more detail

Table 4: Falls deaths, Victoria 2005

DETAILED CAUSE	n	%
- same level from slipping, tripping, stumbling	31	6.0
- involving bed	24	4.7
- other fall on same level	14	2.7
- on and from stairs and steps	12	2.3
- other fall from one level to another	11	2.1
- involving chair	9	1.8
- on and from ladder	9	1.8
- involving wheelchair	5	1.0
- involving other furniture	3	0.6
- from, out of or through building or structure	3	0.6
- invol ice skates, skis, rollerskates or skateboards	2	0.4
- same level collision w pushing by other person	1	0.2
- fracture unspecified, reclassified from X59	96	18.7
- unspecified fall	293	57.1
ALL	513	100

Table 5: Suicide deaths, Victoria 2005

DETAILED CAUSE	n	%
- hanging, strangulation & suffocation	229	49.4
- poisoning other substances	75	16.2
- poisoning- pharmaceuticals	56	12.1
- firearms	28	6.0
- jumping or lying b/f moving object	27	5.8
- jumping from a high place	20	4.3
- drowning & submersion	13	2.8
- sharp object	11	2.4
- smoke, fire & flames	2	0.4
- crashing of motor-vehicle	2	0.4
- other specified means	1	0.2
ALL	464	100.0

Table 6: Transport deaths, Victoria 2005

DETAILED CAUSE	n	%
- car occupant injured in transport acc	208	56.8
- pedestrian injured in transport acc	64	17.5
- motorcycle rider injured in transport acc	49	13.4
- other land transport acc	10	2.7
- occupant of pick-up truck or van	9	2.5
- occupant of heavy transport vehicle	8	2.2
- air and space transport acc	8	2.2
- pedal cyclist injured in transport acc	7	1.9
- occupant of three-wheeled motor vehicle	2	0.5
- water transport acc	1	0.3
ALL	366	100.0

Table 7: Poisoning deaths, Victoria 2005

DETAILED CAUSE	n	%
- oth & unspec drugs, medicaments & biological subs	90	55.2
- narcotics & psychodysleptics {hallucinogens} NEC	37	22.7
- antiepilep, sed-hypnot, antiparkinson & psychotropics NEC	16	9.8
- alcohol	8	4.9
- oth & unspec chemicals & noxious substances	5	3.1
- other gases & vapours	4	2.5
- nonopioid analgesics, antipyretics & antirheumatics	3	1.8
ALL	163	100.0

Place of injury occurrence

- One quarter of unintentional deaths (n=302) and more than two-thirds of intentional injury deaths (69%, n=345) occurred in the home.
- Deaths commonly also occurred on roads, streets and highways (29% of unintentional injury deaths and 8% of intentional injury deaths). A substantial proportion of unintentional injury deaths also occurred in residential institutions (11%).

Figure 10: Unintentional injury deaths by place of occurrence, Victoria 2005

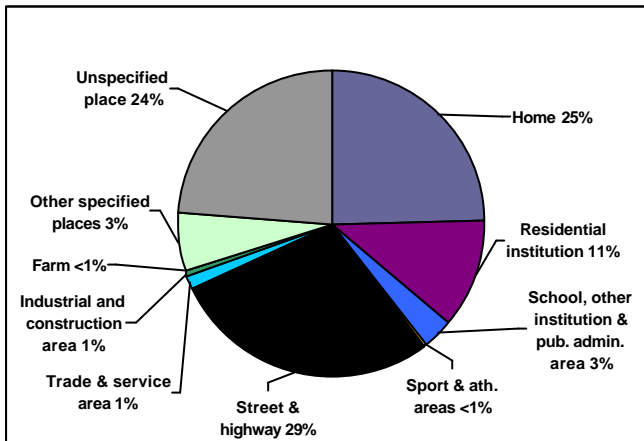
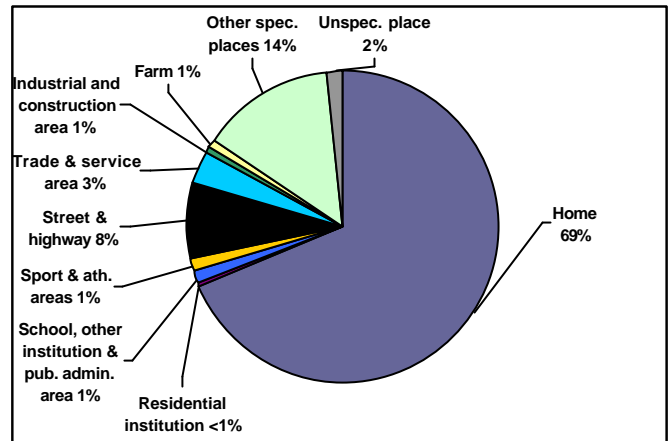


Figure 11: Intentional injury deaths by place of occurrence, Victoria 2005



Note: ABS location data have been recoded for transport deaths. If the external cause code indicated the death occurred in 'traffic' it was recoded to street and highway.

Table 8 Ranking of causes of injury deaths (all ages), Victoria 2005

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
0-14 years	1	transport	13	39.4
	2	drowning	7	21.2
	3	fires/burns/scalds	4	12.1
	4	choking/suffocation	2	6.1
	5	homicide	2	6.1
	6	poisoning	1	3.0
	7	fall	1	3.0
	8	explosions/firearms	1	3.0
	9	other unintentional	1	3.0
	10	suicide	1	3.0
		ALL	33	100.0
15-24 years	1	transport	98	51.9
	2	suicide	56	29.6
	3	poisoning	18	9.5
	4	homicide	5	2.6
	6	fires/burns/scalds	3	1.6
	7	fall	2	1.1
	8	choking/suffocation	2	1.1
	9	drowning	1	0.5
	10	hit/struck/crush	1	0.5
	11	cutting/piercing	1	0.5
	12	explosions/firearms	1	0.5
	13	other unintentional	1	0.5
			ALL	189
25-64 years	1	suicide	339	42.9
	2	transport	183	23.1
	3	poisoning	134	16.9
	4	fall	39	4.9
	5	homicide	26	3.3
	7	drowning	16	2.0
	8	choking/suffocation	16	2.0
	9	other unintentional	15	1.9
	10	hit/struck/crush	10	1.3
	11	fires/burns/scalds	7	0.9
	12	machinery	2	0.3
	13	cutting/piercing	2	0.3
	14	explosions/firearms	2	0.3
			ALL	791
65+ years	1	fall	471	66.7
	2	transport	72	10.2
	3	suicide	68	9.6
	4	other unintentional	33	4.7
	5	choking/suffocation	30	4.2
	6	poisoning	10	1.4
	7	fires/burns/scalds	9	1.3
	8	homicide	6	0.8
	10	drowning	4	0.6
	11	natural/environmental/animals	2	0.3
	12	explosions/firearms	1	0.1
			ALL	706

Note: Deaths classified as of other and undetermined intent have been excluded

Children (0-14 years)

Trend

- The frequency of CHILD UNINTENTIONAL injury deaths decreased significantly over the decade from 58 deaths in 1996 to 30 deaths in 2005, representing an estimated annual reduction of 6.8% (95% confidence interval -11.9% to -2.2%) and an overall decrease of 51% (-72% to -20%) based on the trend line.
- The frequency of CHILD INTENTIONAL injury deaths decreased over the decade from 5 in 1996 to 3 in 2005, representing an estimated annual reduction of 5.2% (95% confidence interval -17% to 6.2%) and an overall decrease of 42% (-84% to 83%) based on the trend line. This decrease was not statistically significant (mainly due to the higher than usual number of deaths in 2003).

Figure 12: Trend in frequency of child unintentional injury deaths, Victoria 1996-2005

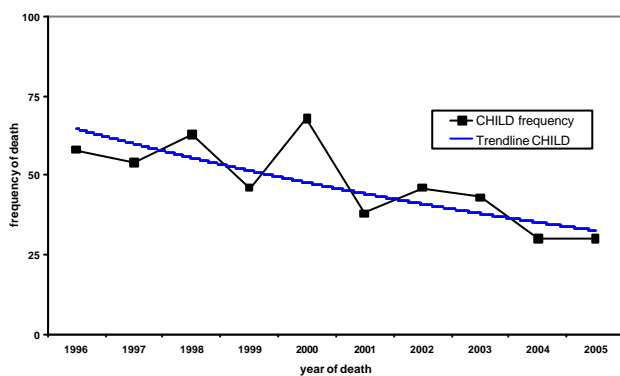
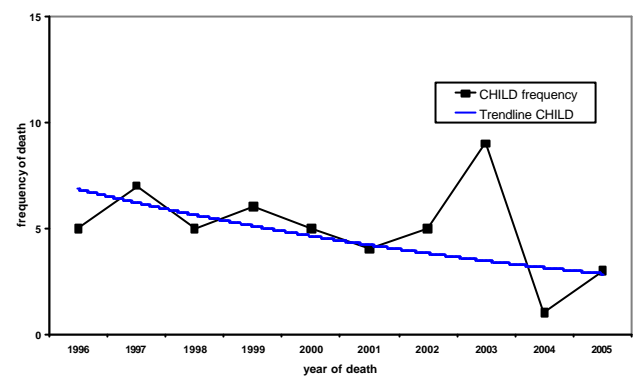


Figure 13: Trend in frequency of child intentional injury deaths, Victoria 1996-2005



- CHILD UNINTENTIONAL injury death rates decreased significantly over the decade from 6.1/100,000 in 1996 to 3.1/100,000 in 2005, representing an estimated annual reduction of 7.0% (-12.0% to -2.4%) and an overall decrease of 51% (-72.3% to -21.6%) based on the trend line.
- CHILD INTENTIONAL injury death rates decreased over the decade from 0.5/100,000 in 1996 to 0.3/100,000 in 2005, representing an estimated annual reduction of 5.2% (-17.0% to 6.2%) and an overall decrease of 42% (-84% to 83%) based on the trend line. This decrease was not statistically significant (mainly due to the higher than usual number of deaths in 2003).

Figure 14: Trend in unintentional child injury death rates per 100,000 population, Victoria 1996-2005

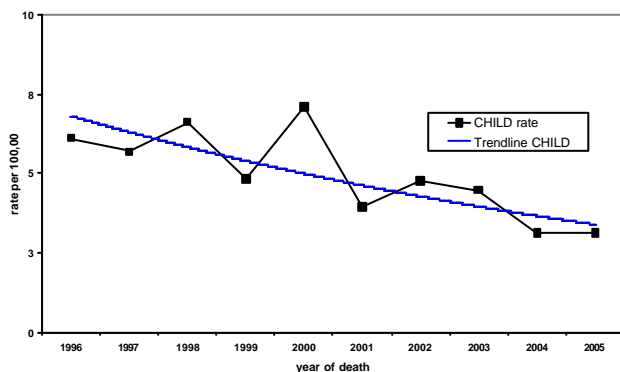
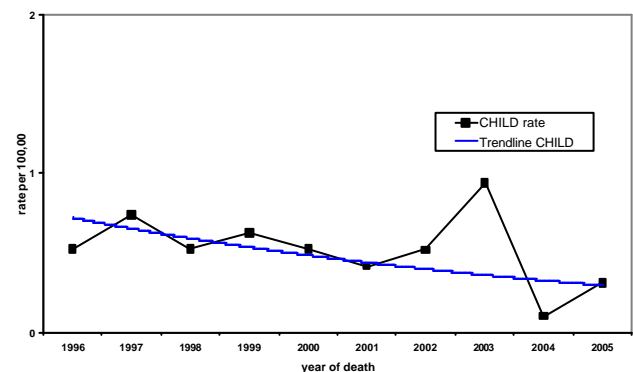


Figure 15: Trend in intentional child injury death rates per 100,000 population, Victoria 1996-2005



Gender distribution

- Males were overrepresented accounting for 70% of unintentional child injury deaths (n=21) and 67% of intentional injury deaths (n=2) in Victoria in 2005. (Figures 16 & 17)

Figure 16: Child unintentional injury deaths by gender, Victoria 2005

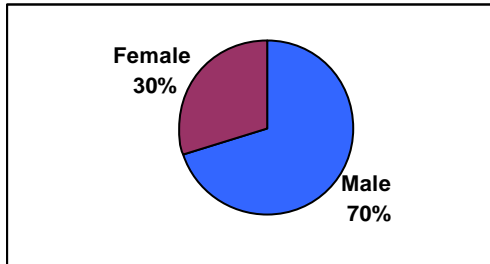
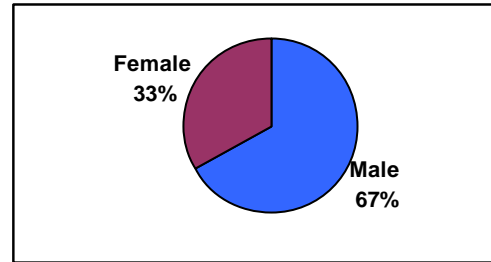


Figure 17: Child intentional injury deaths by gender, Victoria 2005



- The overall child unintentional and intentional injury death rates were also higher for males than females (4.3 & 70.4/100,000 vs. 1.9 & 0.2/100,000). (Table 9)

Table 9. Frequency and rate of child injury deaths by intent and gender, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	21	4.3	2	0.4
Female	9	1.9	1	0.2
All	30	3.1	3	0.3

Age distribution

- Children aged 0-4 years account for half of all unintentional child injury deaths in 2005 (n=15). No intentional deaths were recorded for this age group.
- Unintentional injury death rates are highest in 0-4 year olds while intentional injury death rates are highest in 10-14 year olds (Table 10)

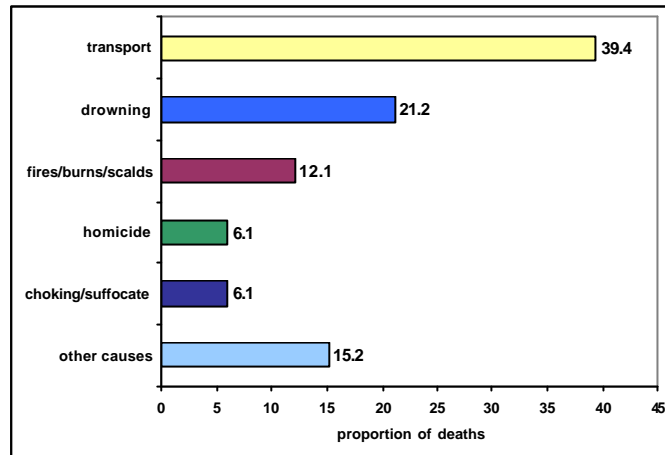
Table 10. Frequency and rate of child injury deaths by intent and age group, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
0-4 years	15	4.9	0	0.0
5-9 years	8	2.5	1	0.3
10-14 years	7	2.1	2	0.6
All	30	3.1	3	0.3

Leading causes of injury

- Figure 18 shows the 5 major causes of child injury death. Transport accounts for almost 40% of injury deaths (n=13), followed by drowning (21%, n=7), fires/burns/scalds (12%, n=4), homicide (6%, n=2) and choking/suffocation (6%, n=2).
- Transport deaths were mostly to car occupants (n=8) and pedestrians (n=4). Drowning deaths commonly occurred in natural water i.e., open sea, rivers, lakes and streams, (n=4).

Figure 18: Child injury deaths by major cause, Victoria 2005



Note: 'Other specified' and 'unspecified' were included in the 'all other causes' category

Place of injury occurrence

- Almost forty percent of unintentional child deaths occur in the home (37%, n=11) and a further third occur on roads/streets/highways (n=10).
- Of the intentional deaths, the two homicides occurred in the home and the suicide occurred on the road/street/highway.

Note: ABS location data have been recoded for transport deaths. If the external cause code indicated the death occurred in 'traffic' it was recoded to street and highway.

Table 11 Ranking of causes for injury death among children aged 0-14 years, Victoria 2005

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
0-4 years	1	transport	5	33.3
	2	drowning	3	20.0
	3	fires/burns/scalds	3	20.0
	4	choking/suffocation	2	13.3
	5	poisoning	1	6.7
	6	other unintentional	1	6.7
		ALL	15	100
5-9 years	1	transport	4	44.4
	2	drowning	3	33.3
	3	fires/burns/scalds	1	11.1
	4	homicide	1	11.1
		ALL	9	100
10-14 years	1	transport	4	44.4
	2	drowning	1	11.1
	3	fall	1	11.1
	4	explosions/firearms	1	11.1
	5	suicide	1	11.1
	6	homicide	1	11.1
		ALL	9	100

Note: Deaths classified as of other and undetermined intent have been excluded

Adolescents and young adults (15-24 years)

Trend

- The frequency of ADOLESCENT AND YOUNG ADULT UNINTENTIONAL injury deaths decreased significantly over the decade from 183 deaths in 1996 to 128 deaths in 2005, representing an estimated annual reduction of 3.5% (95% confidence interval -7.0% to -0.1%) and an overall decrease of 29.9% (-52% to -1.1%) based on the trend line.
- The frequency of ADOLESCENT AND YOUNG ADULT INTENTIONAL injury deaths decreased significantly over the decade from 95 in 1996 to 61 in 2005, representing an estimated annual reduction of 5.6% (95% confidence interval -8.5% to -3.1%) and an overall decrease of 44% (-59% to -27%) based on the trend line.

Figure 19: Trend in frequency of adolescent and young adult unintentional injury deaths, Victoria 1996-2005

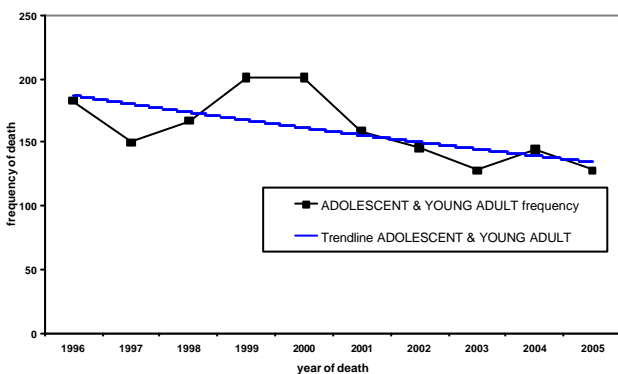
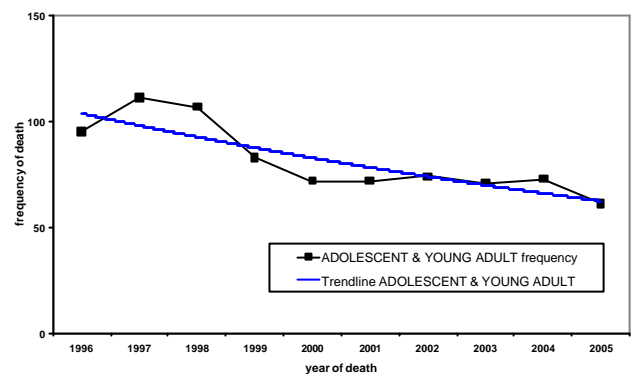


Figure 20: Trend in frequency of adolescent and young adult intentional injury deaths, Victoria 1996-2005



- The ADOLESCENT AND YOUNG ADULT UNINTENTIONAL injury death rates decreased significantly over the decade from 27.6/100,000 in 1996 to 18.5/100,000 in 2005, representing an estimated annual reduction of -4.0% (-7.9% to -0.3%) and an overall decrease of 34% (-56 to -2.6%) based on the trend line.
- The ADOLESCENT AND YOUNG ADULT INTENTIONAL injury death rates decreased significantly over the decade from 14.8/100,000 in 1996 to 13.6/100,000 in 2005, representing an estimated annual reduction of 6.2% (-9.2% to 3.5%) and an overall decrease of 47% (-62% to -30%) based on the trend line.

Figure 21: Trend in unintentional adolescent and young adult injury death rates per 100,000 population, Victoria 1996-2005

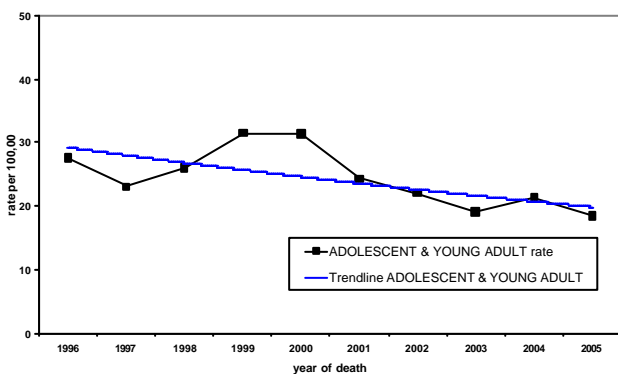
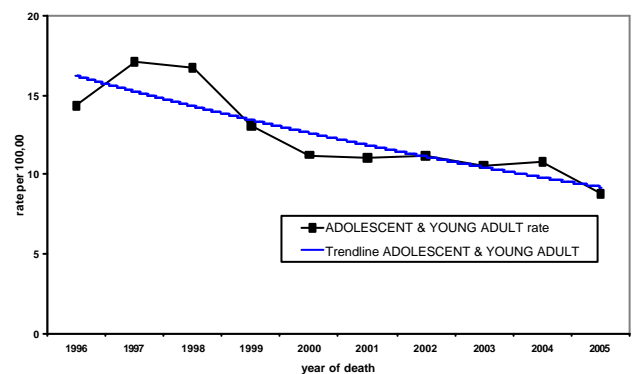


Figure 22: Trend in intentional adolescent and young adult injury death rates per 100,000 population, Victoria 1996-2005



Gender distribution

- Males are overrepresented accounting for 77% of unintentional adolescent and young adult injury deaths (n=98) and 80% of intentional injury deaths (n=56) in Victoria in 2005. (Figures 23 & 24)

Figure 23: Adolescent and young adult unintentional injury deaths by gender, Victoria 2005

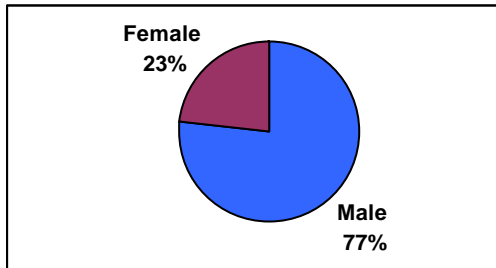
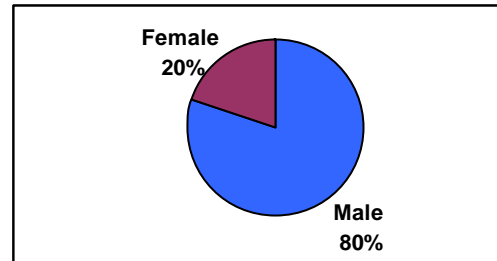


Figure 24: Adolescent and young adult intentional injury deaths by gender, Victoria 2005



- The adolescent and young adult unintentional and intentional injury death rates are also higher for males than females (27.8 & 13.9/100,000 vs. 8.8 & 3.5/100,000). (Table 12)

Table 12. Frequency and rate of injury deaths in adolescent and young adults by intent and gender, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	98	27.8	49	13.9
Female	30	8.8	12	3.5
All	128	18.5	61	8.8

Age distribution

- The unintentional and intentional injury death rates are higher among persons aged 20-24 years than persons aged 15-19 years (22.4 & 10.9/100,000 vs. 14.3 & 6.6/100,000). (Table 13)

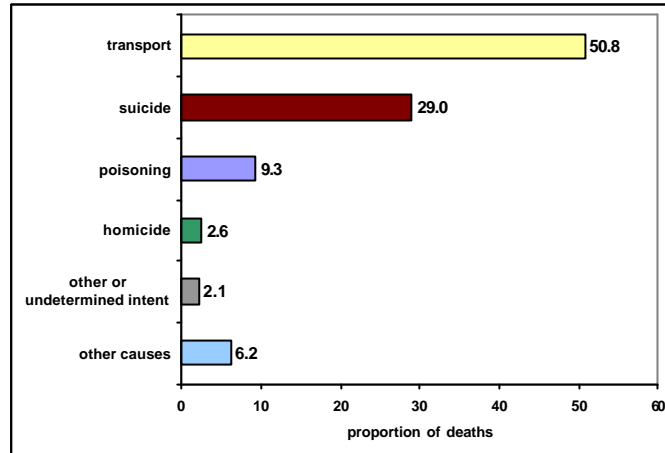
Table 13. Frequency and rate of injury death in adolescents and young adults by intent and age group, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
15-19 years	48	14.3	22	6.6
20-24 years	80	22.4	39	10.9
All	128	18.5	61	8.8

Leading causes of injury

- Figure 25 shows the 5 major causes of adolescent and young adult injury death. Transport accounted for more than half of the injury deaths (n=51%, n=98), followed by suicide (29%, n=56), poisoning (9%, n=18), homicide (3%, n=5) and deaths of other or undetermined intent (2%, n=4).
- Transport deaths mostly involved car occupants (n=66). Suicide deaths were most often caused by hanging (n=33).

Figure 25: Adolescent and young adult injury deaths by major cause, Victoria 2005



Note: 'Other specified' and 'unspecified' were included in the 'all other causes' category

Major causes in more detail

- Transport deaths mostly involved car occupants (n=66), motorcycle riders (n=14) and pedestrians (n=11).
- Hanging was clearly the most common method of suicide (n=33). (Tables 14 & 15)

Table 14: Adolescent and young adult transport deaths, Victoria 2005

DETAILED CAUSE	n	%
- car occupant in transport incident	66	67.3
- motorcycle rider in transport incident	14	14.2
- pedestrian injured in transport incident	11	11.2
- other land transport incident	4	4.1
- occupant of pick-up truck or van	2	2.0
- air and space transport incident	1	1.0
ALL	98	100.0

Table 15: Adolescent and young adult suicide deaths, Victoria 2005

DETAILED CAUSE	n	%
- hanging, strangulation & suffocation	33	58.9
- jumping or lying before moving object	7	12.5
- poisoning- other substances	5	8.9
- jumping from a high place	4	7.1
- poisoning- pharmaceuticals	3	5.4
- drowning & submersion	2	3.6
- crashing of motor-vehicle	2	3.6
ALL	56	100.0

Place of injury occurrence

- The street and highway is the most common place of occurrence of unintentional injury deaths in adolescents and young adults (73%) whereas the home is the leading place of occurrence for intentional injury deaths (59%).

Figure 26: Adolescent and young adult unintentional injury deaths by place of occurrence, Victoria 2005

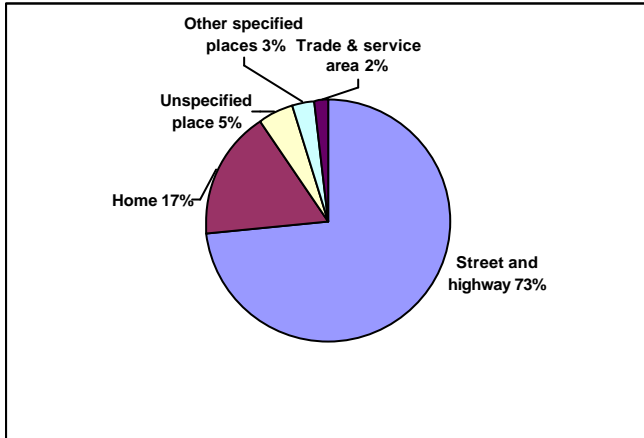
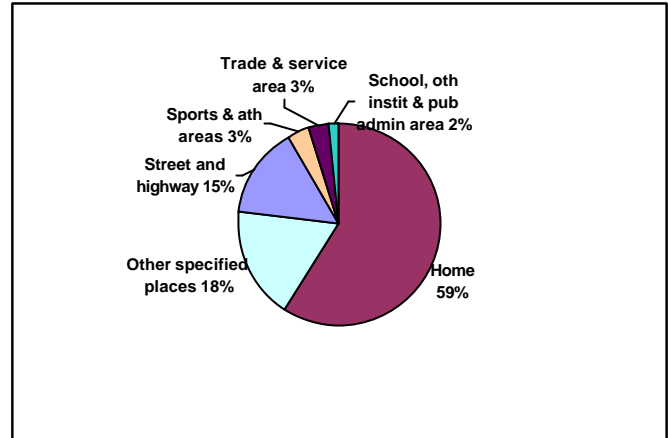


Figure 27: Adolescent and young adult intentional injury deaths by place of occurrence, Victoria 2005



Note: ABS location data have been recoded for transport deaths. If the external cause code indicated the death occurred in 'traffic' it was recoded to street and highway.

Table 16 Ranking of causes of injury deaths among adolescents and young adults, Victoria 2005

AGE GROUP	RANK	CAUSE	ALL INTENTS	
			FREQ	%
15-19 years	1	transport	38	54.3
	2	suicide	21	30.0
	3	poisoning	3	4.3
	4	fires/burns/scalds	2	2.9
	5	drowning	1	1.4
	6	choking/suffocation	1	1.4
	7	hit/struck/crush	1	1.4
	8	cutting/piercing	1	1.4
	9	explosions/firearms	1	1.4
	10	homicide	1	1.4
		ALL	70	100
20-24 years	1	transport	60	50.4
	2	suicide	35	29.4
	3	poisoning	15	12.6
	4	homicide	4	3.4
	5	fall	2	1.7
	6	fires/burns/scalds	1	0.8
	7	choking/suffocation	1	0.8
	8	other unintentional	1	0.8
		ALL	119	100

Note: Deaths classified as of other and undetermined intent have been excluded

Adults (25-64 years)

Trend

- The frequency of ADULT UNINTENTIONAL injury deaths decreased slightly over the decade from 435 deaths in 1996 to 426 deaths in 2005, representing an estimated annual change of 0.2% (95% confidence interval -4.7% to 5%). However, this represented a non-significant overall increase of 1.7% (-38% to 63%) based on the trend line.
- Although the frequency of ADULT INTENTIONAL injury deaths increased slightly over the decade from 353 in 1996 to 365 in 2005, representing an estimated annual change of 0.5% (95% confidence interval -2.9% to 1.8%), this represented an overall non-significant decrease of 5% (-25% to 20%) based on the trend line.

Figure 28: Trend in frequency of adult unintentional injury deaths, Victoria 1996-2005

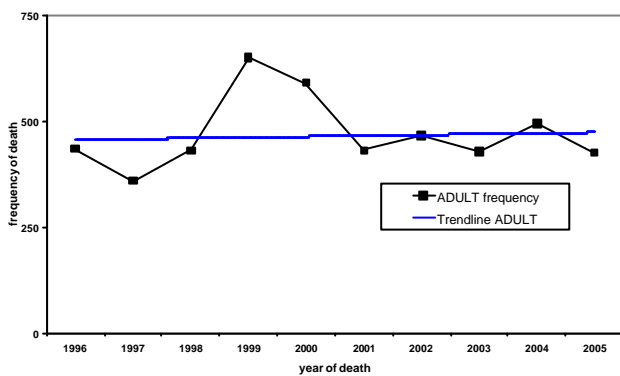
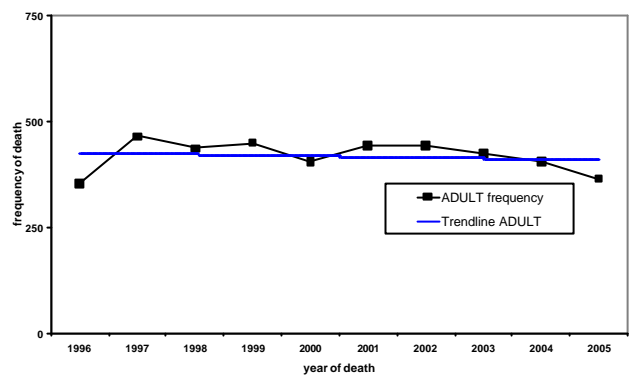


Figure 29: Trend in frequency of adult intentional injury deaths, Victoria 1996-2005



- The ADULT UNINTENTIONAL injury death rates decreased over the decade from 18.3/100,000 in 1996 to 15.8/100,000 in 2005, representing an estimated annual change of 1.1% (-6% to 3.7%) and an overall decrease of 10.7% (-46% to 44%) based on the trend line. This decrease was not statistically significant.
- The ADULT INTENTIONAL injury death rates decreased over the decade from 14.8/100,000 in 1996 to 13.6/100,000 in 2005, representing an estimated annual change of 1.8% (-4.1% to 0.5%) and an overall decrease of 16.4% (-34% to 5.5%) based on the trend line. This decrease was not statistically significant.

Figure 30: Trend in unintentional adult injury death rates per 100,000 population, Victoria 1996-2005

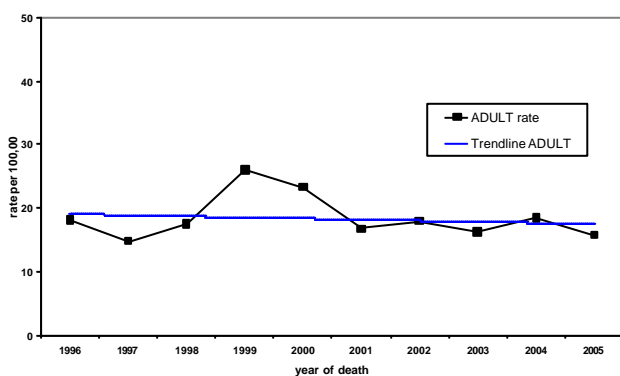
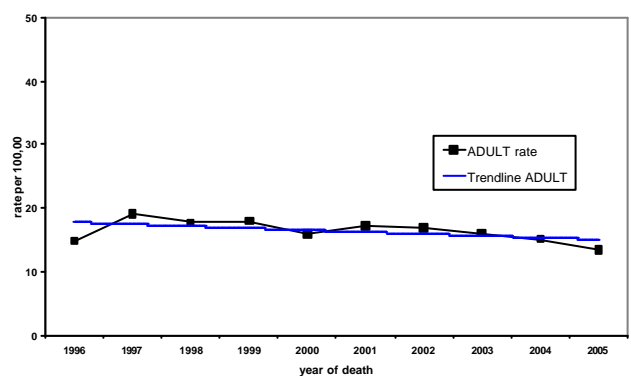


Figure 31: Trend in intentional adult injury death rates per 100,000 population, Victoria 1996-2005



Gender distribution

- Males were overrepresented in injury deaths accounting for 75% of unintentional injury deaths (n=318) and 79% of intentional injury deaths (n=286) in Victoria in 2005.

Figure 32: Adult unintentional injury deaths by gender, Victoria 2005

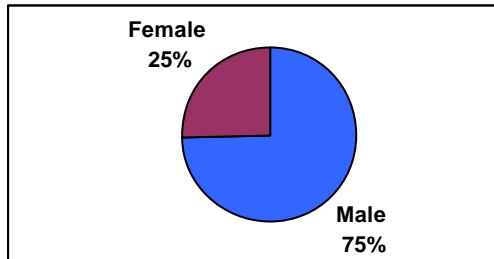
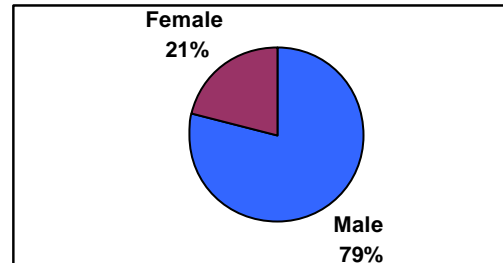


Figure 33: Adult intentional injury deaths by gender, Victoria 2005



- The unintentional and intentional injury death rates were higher for males compared with females (23.8 & 21.7/100,000 vs. 7.9 & 5.6/100,000). (Table 17)

Table 17. Frequency and rate of adult injury deaths by intent and gender, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	318	23.8	289	21.7
Female	108	7.9	76	5.6
All	426	15.8	365	13.6

Age distribution

- 25-29 and 30-34 year olds have the highest unintentional injury death rates and 35-39 years olds have the highest intentional injury death rates (Table 18).

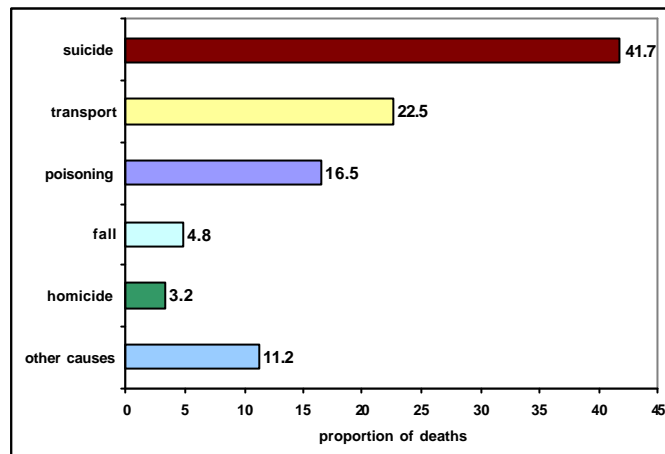
Table 18. Frequency and rate of adult injury deaths by intent and age group, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
25-29 years	70	20.4	49	14.3
30-34 years	79	20.8	46	12.1
35-39 years	55	14.7	61	16.3
40-44 years	55	14.5	56	14.8
45-49 years	57	15.9	54	15.1
50-54 years	39	12.0	49	15.1
55-59 years	37	12.2	36	11.9
60-64 years	34	14.8	14	6.1
All	426	15.8	365	13.6

Leading causes of injury

- Figure 34 shows the 5 major causes of adult injury death. Suicide accounts for 42% of injury deaths (n=339), followed by transport (23%, n=183), poisoning (17%, n=134), falls (4.8%, n=39) and homicide (3.2%, n=26).
- The major methods of suicide were commonly hanging, strangulation and suffocation (50% of suicides, n=168) and poisoning (30%, n=103). Transport deaths were mostly car occupants (54%, n=99) followed by motorcycle riders 18%, n=33).

Figure 34: Adult injury deaths by cause, Victoria 2005



Note: 'Other specified' and 'unspecified' were included in the 'all other causes' category

Major causes in more detail

Table 19: Adult suicide deaths, Victoria 2005

DETAILED CAUSE	n	%
- hanging, strangulation & suffocation	168	49.6
- poisoning other substances	63	18.6
- poisoning- pharmaceuticals	40	11.8
- firearms	20	5.9
- jumping or lying b/f moving object	16	4.7
- jumping from a high place	16	4.7
- sharp object	8	2.4
- drowning & submersion	5	1.5
- smoke, fire & flames	2	0.6
- other specified means	1	0.3
ALL	339	100

Table 20: Adult transport deaths, Victoria 2005

DETAILED CAUSE	n	%
- car occupant injured in transport acc	99	54.1
- motorcycle rider injured in transport acc	33	18.0
- pedestrian injured in transport acc	23	12.6
- occupant of heavy transport vehicle	7	3.8
- air and space transport acc	7	3.8
- pedal cyclist injured in transport acc	6	3.3
- occupant of pick-up truck or van	4	2.2
- other land transport acc	3	1.6
- water transport acc	1	0.5
ALL	183	100

Table 21: Adult poisoning deaths, Victoria 2005

DETAILED CAUSE	n	%
- other & unspecified drugs, medicaments & biological subs	76	56.7
- narcotics & psychodysleptics (hallucinogens) NEC	32	23.9
- antiepileptic, sedative-hypnotic, antiparkinson & psychotropics NEC	13	9.7
- alcohol	8	6.0
- other gases & vapours	4	3.0
- nonopioid analgesics, antipyretics & antirheumatics	1	0.7
ALL	134	100.0

Place of injury occurrence

- Thirty percent of unintentional (n=126) and 69% of intentional adult injury deaths (n=248) occurred in the home.
- Other locations where adult deaths commonly occurred were:
 - roads, streets and highways (41% of unintentional and 8% of intentional deaths) and
 - trade and service areas (3% of unintentional and 4% of intentional deaths).

Figure 35: Adult unintentional injury deaths by place of occurrence, Victoria 2005

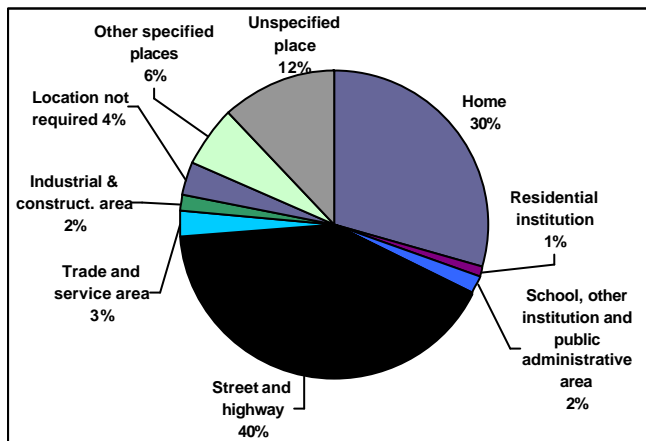
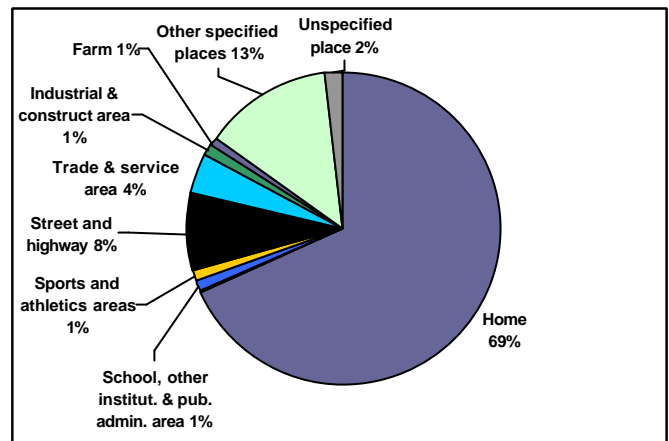


Figure 36: Adult intentional injury deaths by place of occurrence, Victoria 2005



Note: ABS location data have been recoded for transport deaths. If the external cause code indicated the death occurred in 'traffic' it was recoded to street and highway.

Table 22 Ranking of causes for adult injury deaths, Victoria 2005

		ALL INTENTS		
AGE GROUP	RANK	CAUSE	FREQ	%
25-44 years	1	suicide	199	42.3
	2	transport	117	24.8
	3	poisoning	92	19.5
	4	fall	13	2.8
	5	homicide	13	2.8
	6	choking/suffocation	9	1.9
	7	drowning	8	1.7
	8	other unintentional	8	1.7
	9	fires/burns/scalds	4	0.8
	10	hit/struck/crush	4	0.8
	11	machinery	2	0.4
	12	cutting/piercing	1	0.2
	13	explosions/firearms	1	0.2
		ALL	471	100
45-64 years	1	suicide	140	43.8
	2	transport	66	20.6
	3	poisoning	42	13.1
	4	fall	26	8.1
	5	homicide	13	4.1
	6	drowning	8	2.5
	7	choking/suffocation	7	2.2
	8	other unintentional	7	2.2
	9	hit/struck/crush	6	1.9
	10	fires/burns/scalds	3	0.9
	11	cutting/piercing	1	0.3
	12	explosions/firearms	1	0.3
		ALL	320	100

Note: Deaths classified as of other and undetermined intent have been excluded

Older adults (65 years and older)

Trend

- The frequency of OLDER ADULT UNINTENTIONAL injury deaths increased significantly over the decade from 361 deaths in 1996 to 632 deaths in 2005, representing an estimated annual change of 6.2% (95% confidence interval 3.7% to 8.4%) and an overall increase of 83% (44% to 124%) based on the trend line.
- The frequency of OLDER ADULT INTENTIONAL injury deaths decreased over the decade from 89 in 1996 to 74 in 2005, representing an estimated annual reduction of 1.3% (95% confidence interval -3.3% to 0.6%) and an overall decrease of 12.5% (-28% to 5.9%) based on the trend line. This decrease was not statistically significant.

Figure 37: Trend in frequency of older adult unintentional injury deaths, Victoria 1996-2005

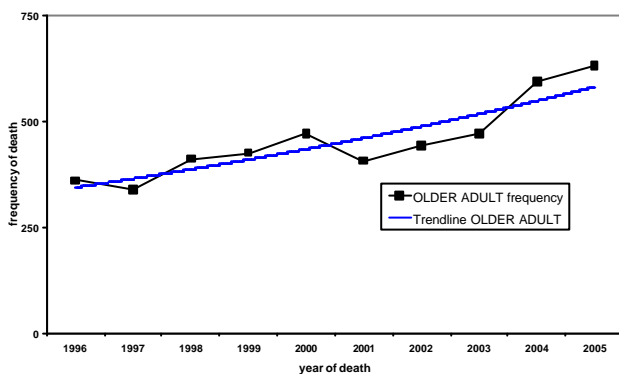
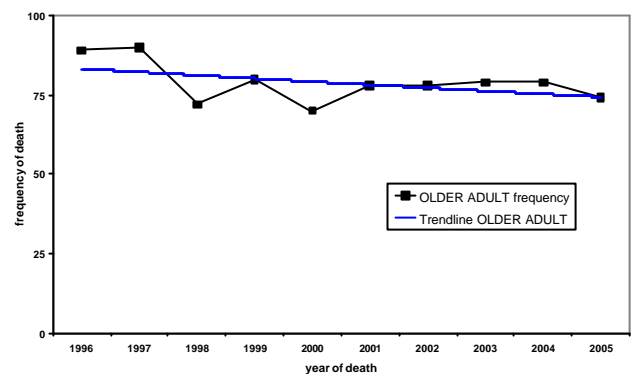


Figure 38: Trend in frequency of older adult intentional injury deaths, Victoria 1996-2005



- The OLDER ADULT UNINTENTIONAL injury death rates increased significantly over the decade from 63.4/100,000 in 1996 to 93.2/100,000 in 2005, representing an estimated annual change of 4.1% (1.7% to 6.4%) and an overall increase of 50% (18.8% to 85%) based on the trend line.
- The OLDER ADULT INTENTIONAL injury death rates decreased significantly over the decade from 15.6/100,000 in 1996 to 10.9/100,000 in 2005, representing an estimated annual reduction of 3.3% (-5.2% to -1.4%) and an overall decrease of 28% (-42% to -13%) based on the trend line.

Figure 39: Trend in unintentional older adult injury death rate per 100,000 population, Victoria 1996-2005

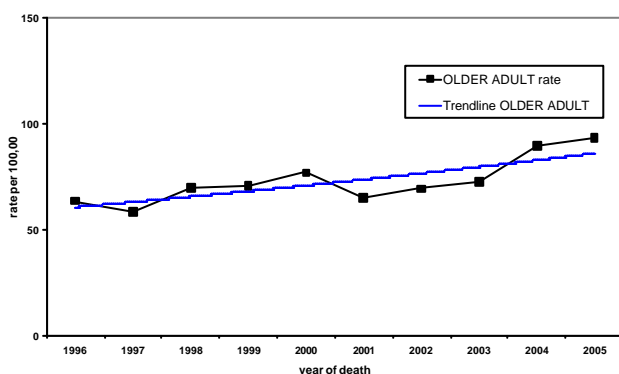
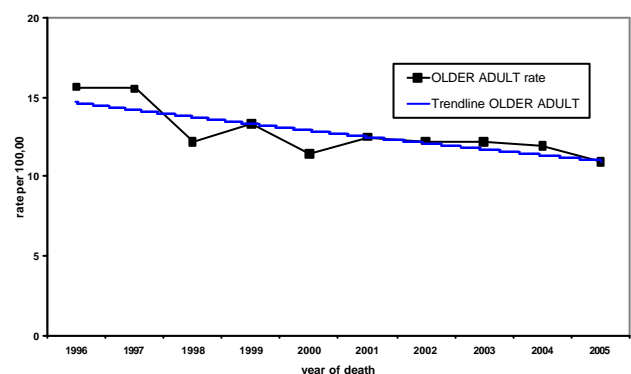


Figure 40: Trend in intentional older adult injury death rate per 100,000 population, Victoria 1996-2005



Gender distribution

- Females are overrepresented in unintentional injury deaths (56%, n=351) and males are overrepresented in intentional injury death (69%, n=47) among persons aged 65 years and older in Victoria in 2005.

Figure 41: Older adult unintentional injury deaths by gender, Victoria 2005

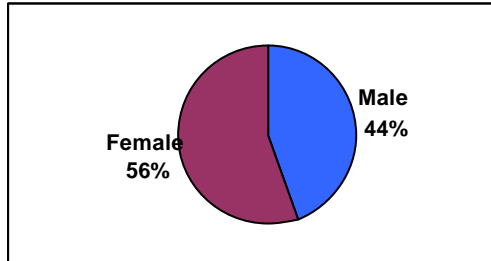
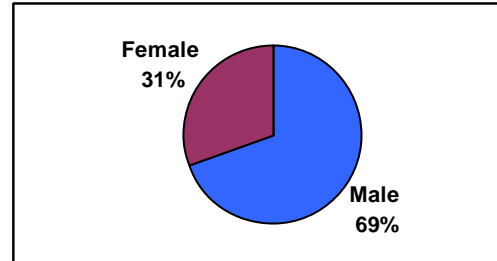


Figure 42: Older adult intentional injury deaths by gender, Victoria 2005



- The overall unintentional injury death rate is very similar for males and females (93.4 and 93.0/100,000 respectively). Males have a higher overall intentional injury death rate 17/100,000 v 6.1/100,000. (Table 23)

Table 23. Frequency and rate of older adult injury deaths by intent and gender, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	281	93.4	51	17.0
Female	351	93.0	23	6.1
All	632	93.2	74	10.9

Age distribution

- Unintentional injury death rates increase as age increases and the highest rates are in persons aged 85 years and older (417/100,000). Intentional injury death rates are more consistent with 70-74 year olds and persons aged 85 years and older have slightly higher rates than the other age groups (Table 24)

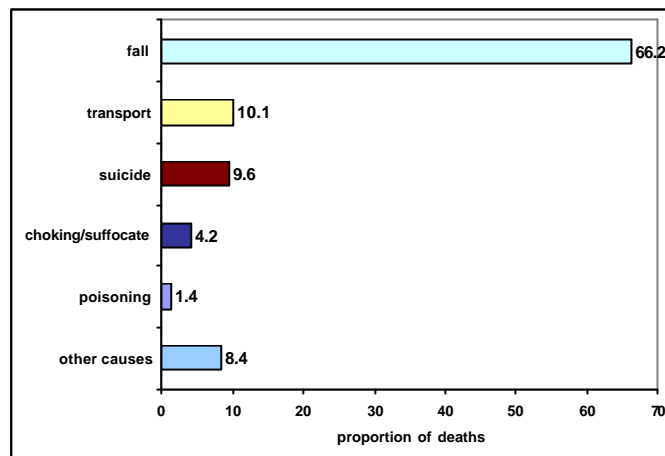
Table 24. Frequency and rate of older adult injury deaths by intent and age group, Victoria 2005.

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
65-69 years	38	19.8	19	9.9
70-74 years	49	30.7	22	13.8
75-79 years	76	53.4	13	9.1
80-84 years	131	126.7	10	9.7
85+ years	338	417.2	10	12.3
All	632	93.2	74	10.9

Leading causes of injury

- Figure 43 shows the 5 major causes of older adult injury death. Falls account for two-thirds of injury deaths (n=471), followed by transport (10%, n=72), suicide (10%, n=68), choking/suffocation (4.2%, n=30) and unintentional poisoning (1.4%, n=10).
- The cause of fall death is mostly unspecified (59% of fall deaths, n=276). Of specified cases, 15% (n=29) involved beds and 12% (n=23) were slips, trips and stumbles.

Figure 43: Older adult injury deaths by major cause, Victoria 2005



Note: 'Other specified' and 'unspecified' were included in the 'all other causes' category

Place of injury occurrence

- Almost 80% of older adult intentional injury deaths occurred in the home (79%, n=54).
- Although almost 40% of unintentional injury deaths had no location information (n=238) at least 23% occurred in the home (n=143) and 21% in residential institutions (n=133). Other locations where unintentional injury deaths to older adults occurred were roads, streets and highways (10%) and schools and other public buildings (5%).

Note: ABS location data have been recoded for transport deaths. If the external cause code indicated the death occurred in 'traffic' it was recoded to street and highway.

Table 25 Ranking of causes for injury deaths among persons aged 65 years and older, Victoria 2005

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
65-74 years	1	suicide	36	28.1
	2	fall	33	25.8
	3	transport	29	22.7
	4	choking/suffocation	8	6.3
	5	poisoning	5	3.9
	6	other unintentional	5	3.9
	7	homicide	5	3.9
	8	fires/burns/scalds	4	3.1
	9	drowning	2	1.6
	10	natural/environmental/animals	1	0.8
		ALL	128	100
75-84 years	1	fall	146	63.5
	2	transport	35	15.2
	3	suicide	22	9.6
	4	other unintentional	11	4.8
	5	choking/suffocation	10	4.3
	6	poisoning	2	0.9
	7	fires/burns/scalds	2	0.9
	8	drowning	1	0.4
	9	homicide	1	0.4
		ALL	230	100
85+ years	1	fall	292	83.9
	2	other unintentional	17	4.9
	3	choking/suffocation	12	3.4
	4	suicide	10	2.9
	5	transport	8	2.3
	6	poisoning	3	0.9
	7	fires/burns/scalds	3	0.9
	8	drowning	1	0.3
	9	natural/environmental/animals	1	0.3
	10	explosions/firearms	1	0.3
		ALL	348	100

Note: Deaths classified as of other and undetermined intent have been excluded