



**MONASH** University  
Accident Research Centre



***E\_BULLETIN***

**Edition 5**

**February 2010**

**INJURY DEATHS**  
**VICTORIA**

**2006**

**Nicolas Reid**

**Angela Clapperton**

**Erin Cassell**



Department of  
Human Services

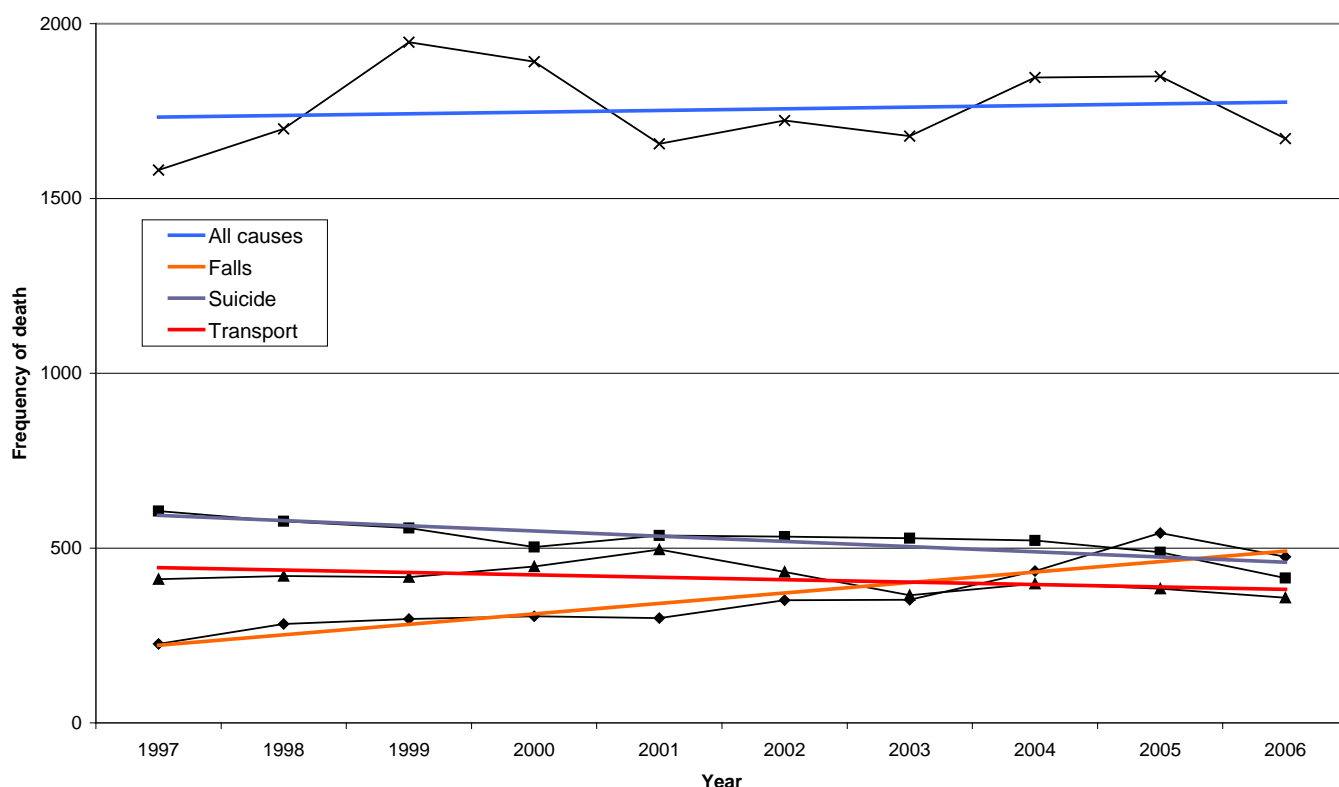


## Summary of injury deaths, Victoria 2006

### All ages

- In 2006, 1,671 Victorians died as a result of injury. Seventy-two percent of these deaths were unintentional <sup>(1)</sup> (n=1,203), 25% intentional (n=423) and the remaining 3% were classified as other or undetermined intent (n=45).
- The all ages unintentional injury death rate was 23.6 per 100,000 in 2006, unintentional death rates were highest in older adults (87.2 per 100,000 persons) and lowest in children (3.0 per 100,000 persons). The all ages intentional injury death rate was 8.3 per 100,000, intentional death rates were highest in adults (11.5 per 100,000 persons) and lowest in children (0.2 per 100,000 persons).
- Males were overrepresented, accounting for 58% of unintentional and 74% of intentional injury deaths.
- Falls (28%, n=475), suicide (25%, n=414) and transport incidents (21%, n=358) accounted for almost three-quarters of all injury deaths.
- The mechanisms of falls were mostly unspecified (62% of falls) while falls at the same level from slipping, tripping or stumbling accounted for 22%. Suicides were most frequently by hanging, strangling or suffocation (48%), poisoning by non-pharmaceutical substances (15%), and poisoning by pharmaceuticals (11%). Transport deaths most frequently involved car occupants (46%), followed by pedestrians (19%) and motorcyclists (15%).
- There were 178 fewer injury deaths in 2006 than 2005, a decrease of 10%.
- Although there was a slightly increasing trend in the frequency and rate of unintentional injury deaths over the eleven years 1996 to 2006, 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.

Frequency of all injury deaths by leading causes of injury, 1997 to 2006

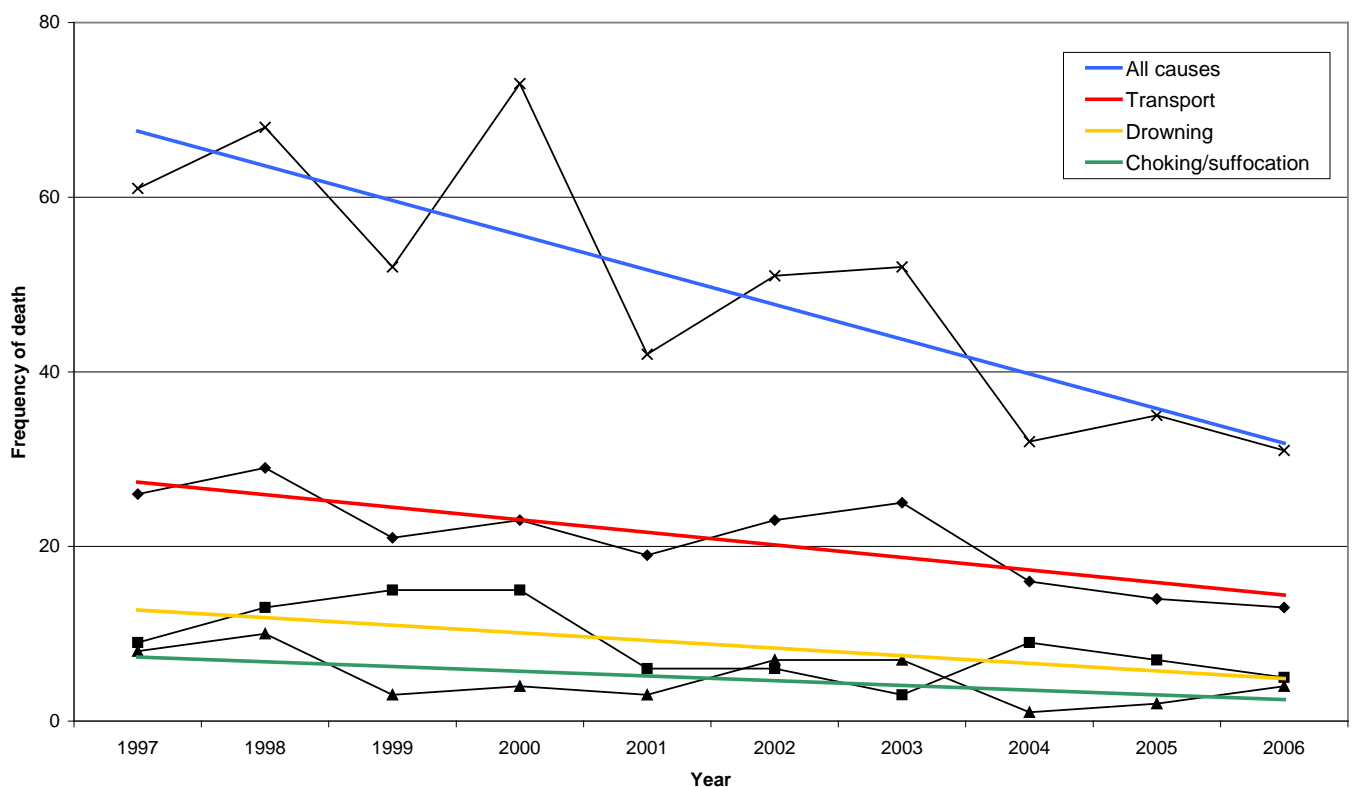


Note (1): The term "unintentional" is preferred to "accidental" as accidental tends to imply unavoidability.

## Children (0-14 years)

- In 2006, 31 Victorian children died as a result of injury. Ninety-four percent of these deaths were unintentional (n=29), while the remaining 6% were intentional (n=2).
- Males were strongly overrepresented, accounting for 69% of unintentional and 100% of intentional injury deaths.
- Transport incidents accounted for 42% of child injury deaths (n=13), followed by drowning (16%, n=5) and choking/suffocation (13%, n=4).
- Transport deaths most frequently involved car occupants (31%), pedestrians (23%) and occupants of heavy transport vehicles (15%). Drownings most frequently involved swimming pools (40%) and bathtubs (20%). Choking and suffocation deaths were most commonly due to unintentional hanging or strangulation (50%).
- There were 4 fewer child injury deaths in 2006 than 2005, a decrease of 11%.
- Unintentional injury deaths in children decreased by more than 50% in both frequency and rate over the eleven years 1996 to 2006. Intentional injury deaths also decreased over the same period although the decrease was not statistically significant.

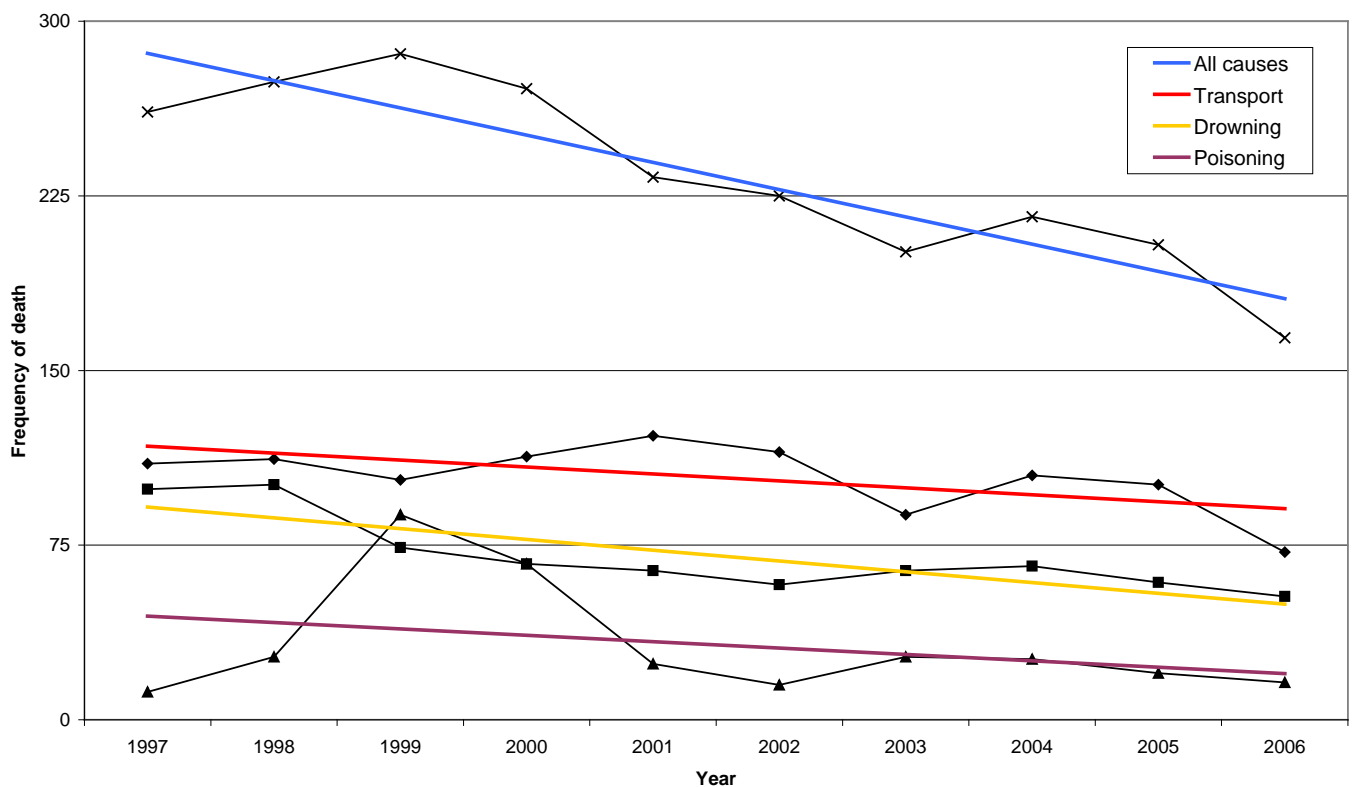
Frequency of child injury deaths by leading causes of injury, 1997 to 2006



## Adolescents and young adults (15-24 years)

- In 2006, 164 Victorian adolescents and young adults died as a result of injury. Almost two-thirds of these deaths were unintentional (63%, n=103), 34% were intentional (n=55) and the remaining 4% were classified as other or undetermined intent (n=6).
- Males were overrepresented, accounting for 69% of unintentional and 65% of intentional injury deaths.
- Transport incidents accounted for 44% of the adolescent and young adult injury deaths (n=72), followed by suicide (32%, n=53) and poisoning (10%, n=16).
- Transport deaths were mostly car occupants (69%), motorcycle riders (10%) and pedestrians (10%). Two-thirds of suicides were by hanging, strangulation or suffocation (66%), while poisoning with non-pharmaceutical substances (13%) was the second-most frequent method of suicide.
- There were 40 fewer adolescent and young adult injury deaths in 2006 than 2005, a decrease of 20%.
- The rate and frequency of unintentional injury deaths in adolescents and young adults decreased by 38% and 42% respectively over the eleven years 1996 to 2006. The rate and frequency of intentional adolescent and young adult injury deaths likewise decreased over the time period, by 48% and 52% respectively.

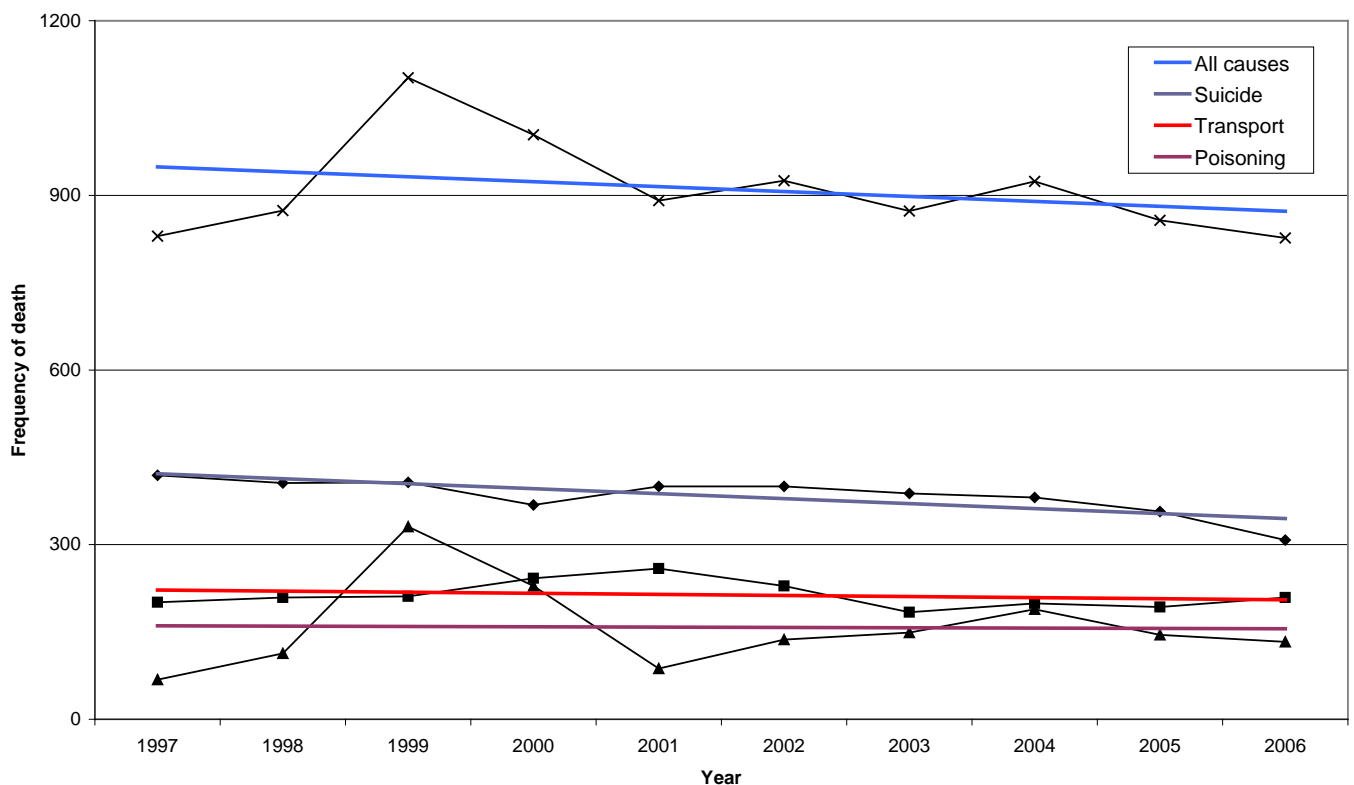
Frequency of adolescent and young adult injury deaths by leading causes of injury, 1997 to 2006



## Adults (25-64 years)

- In 2006, 827 Victorian adults died as a result of injury. Fifty-eight percent of these deaths were unintentional (n=479), 38% intentional (n=315) and the remaining 4% were classified as of other or undetermined intent (n=33).
- Males were grossly overrepresented, accounting for three-quarters of unintentional and 77% of intentional injury deaths.
- Suicides accounted for 37% of adult injury deaths (n=308), followed by transport incidents (25%, n=209) and unintentional poisonings (16%, n=133). Other causes of death were falls (4%, n=33) and homicide (3%, n=27).
- Suicides were most frequently by hanging, strangulation or suffocation (47%), poisoning with non-pharmaceutical substances (15%) and poisoning with pharmaceuticals (12%). Transport deaths most commonly involved car occupants (41%), motorcycle riders (22%) and pedestrians (16%). Unintentional poisoning deaths most frequently involved unspecified pharmaceuticals or biological substances (49%), narcotics or hallucinogens (23%) and alcohol (11%).
- There were 30 fewer adult injury deaths in 2006 than 2005, a 4% decrease.
- The trend in adult unintentional and intentional injury deaths was fairly static over the eleven year period 1996-2006. None of the trends in frequency or rate reached statistical significance except for the intentional injury death rate which showed a small but significant decrease over the eleven years.

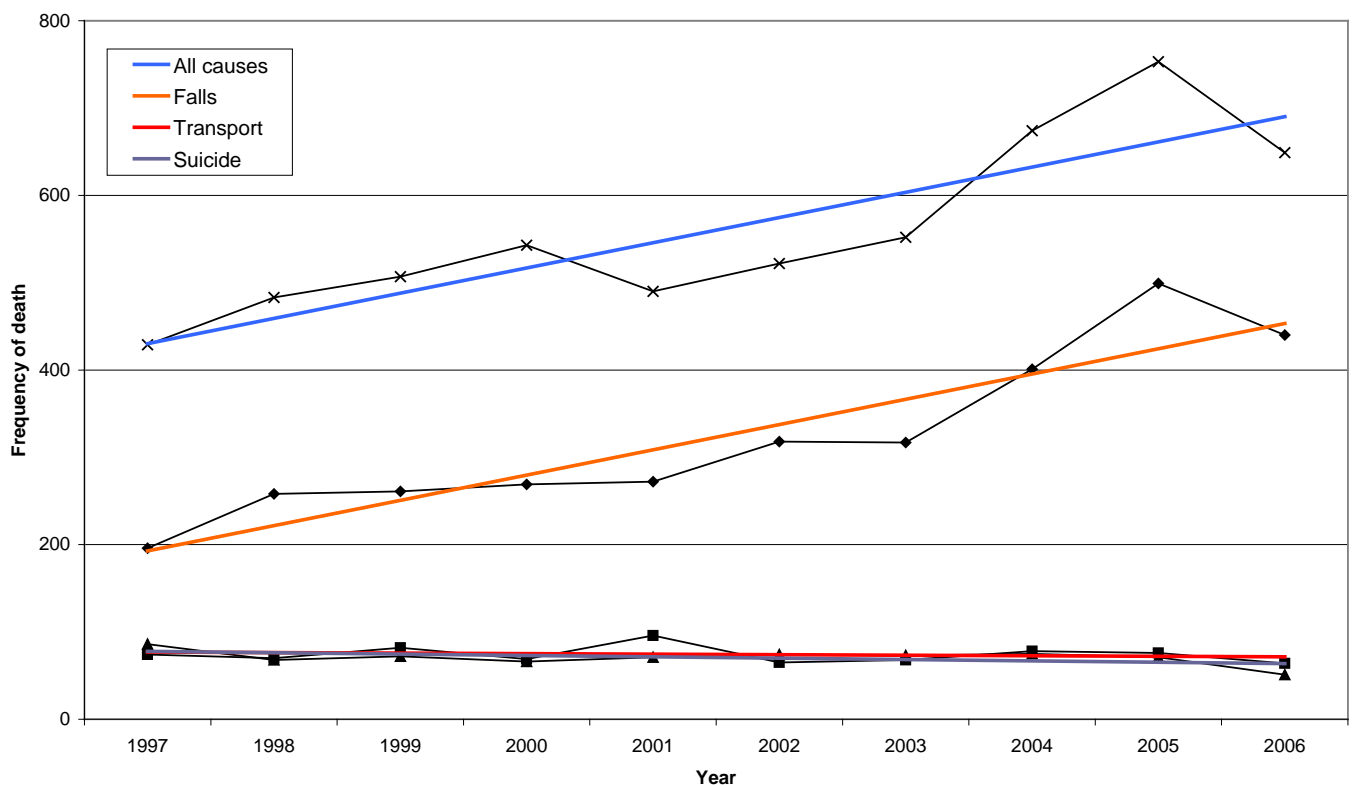
Frequency of adult injury deaths by leading causes of injury, 1997 to 2006



## Older adults (65+ years)

- In 2006, 649 Victorian older adults died as a result of injury. Ninety-one percent of these deaths were unintentional (n=592), 8% intentional (n=51) and approximately 1% were classified as other or undetermined intent (n=6).
- Females were overrepresented in unintentional injury deaths, accounting for 58% of deaths in this age group, whereas males were overrepresented in intentional injury deaths, accounting for 65% of deaths.
- Falls accounted for over two-thirds of injury deaths (68%, n=440), with a smaller number of transport deaths (10%, n=64) and suicides (8%, n=51).
- The mechanism of falls was unspecified in 64% of fall cases, while slipping, tripping or stumbling at the same level accounted for 22%. Transport deaths were mostly of car occupants (42%) or pedestrians (36%). Suicides were most frequently by hanging, strangulation or suffocation (37%), firearms (18%), poisoning with pharmaceuticals (12%) and poisoning with other substances (12%).
- There were 104 fewer older adult injury deaths in 2006 than 2005, a 10% decrease.
- Unintentional injury deaths in older adults increased significantly in frequency (93%) and rate (57%) over the eleven years 1996 to 2006. By contrast, intentional injury deaths decreased significantly over the same period in both frequency (-25%) and rate (-39%).

Frequency of older adult injury deaths by leading causes of injury, 1997 to 2006



## Introduction

This is the fifth 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 2006 (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).

For further information about the data source and selection criteria for this report please see Appendix 1.

## 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.

While all deaths in Victoria must be registered, cases of death are not included in ABS data files until coronial investigations are complete. In a minority of cases there can be several years delay between the occurrence of a death and the case data being released. With each annual release of the ABS-DURF the previous years' figures are revised to include the cases that have since been made public. The historical trend data reported in this edition of the *E\_Bulletin* have been updated accordingly and may therefore differ slightly from the figures reported in previous editions.



## All ages

Table 1 provides an overview of injury deaths in Victoria in 2006. Overall, there were 1,671 injury deaths recorded for Victoria, a rate of 32.8 deaths per 100,000 Victorians. There were 178 fewer injury deaths in 2006 than 2005, a decrease of 10%.

- The all ages unintentional injury death rate was 23.6 per 100,000 Victorians. Unintentional injury death rates were highest in older adults (87.2 per 100,000 persons) and lowest in children (3.0 per 100,000 persons).
- The all ages intentional injury death rate was 8.3 per 100,000 Victorians. Intentional death rates were highest in adults (11.5 per 100,000 persons) and lowest in children (0.2 per 100,000 persons).
- The all ages and intents injury death rate was 32.8 per 100,000 Victorians. All intents injury death rates were highest in older adults (95.6 per 100,000 persons) and lowest in children (3.2 per 100,000 persons).

**Table 1. The frequency and rate of unintentional and intentional injury deaths by broad age group, Victoria 2006.**

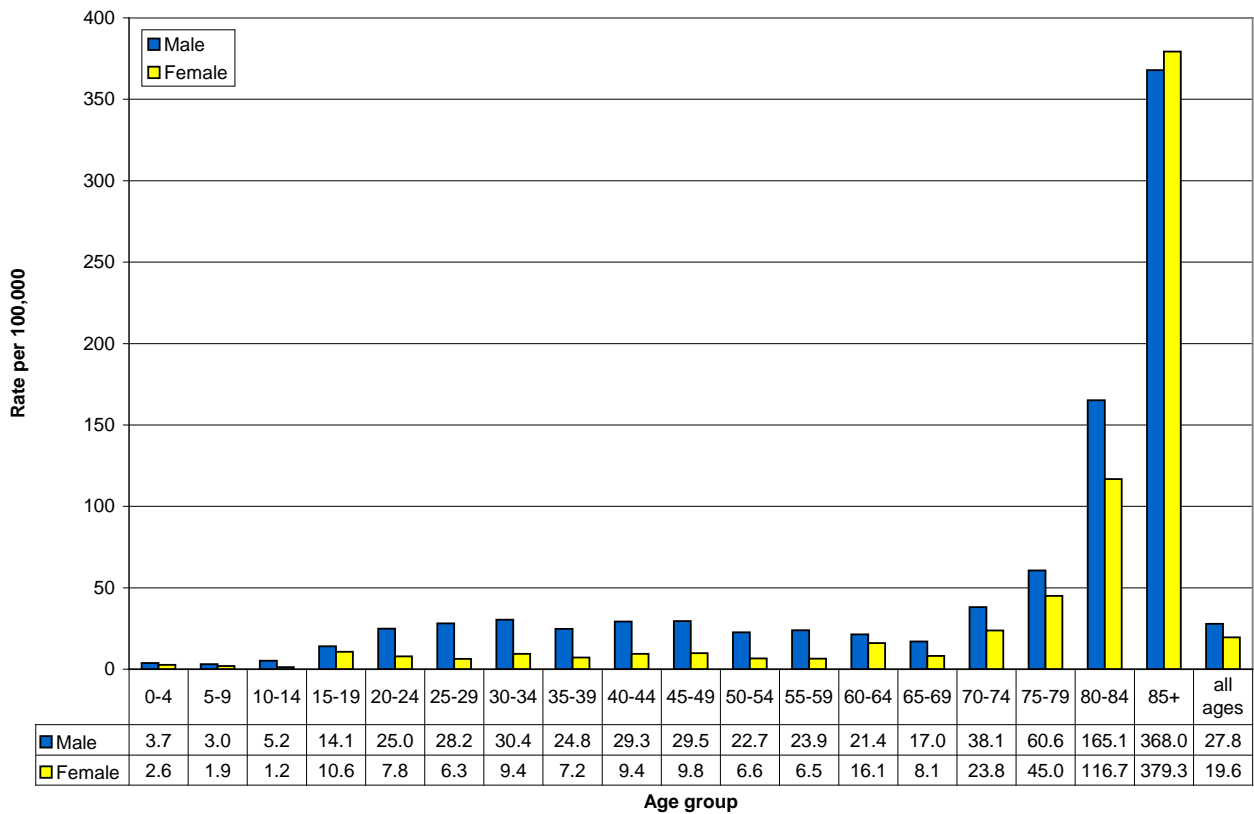
2006	Children 0-14 years		Youth and young adults 15-24 yrs		Adults 25-64 yrs		Older adults 65+ yrs		ALL	
	Freq.	Rate per 100,000	Freq.	Rate per 100,000	Freq.	Rate per 100,000	Freq.	Rate per 100,000	Freq.	Rate per 100,000
Unintentional	29	3.0	103	14.5	479	17.6	592	87.2	1,203	23.6
Intentional	2	0.2	55	7.8	315	11.5	51	7.5	423	8.3
All intents <sup>(1)</sup>	31	3.2	164	23.1	827	30.3	649	95.6	1671	32.8

Note (1) 'all intents' includes 45 deaths that were classified as of other or undetermined intent

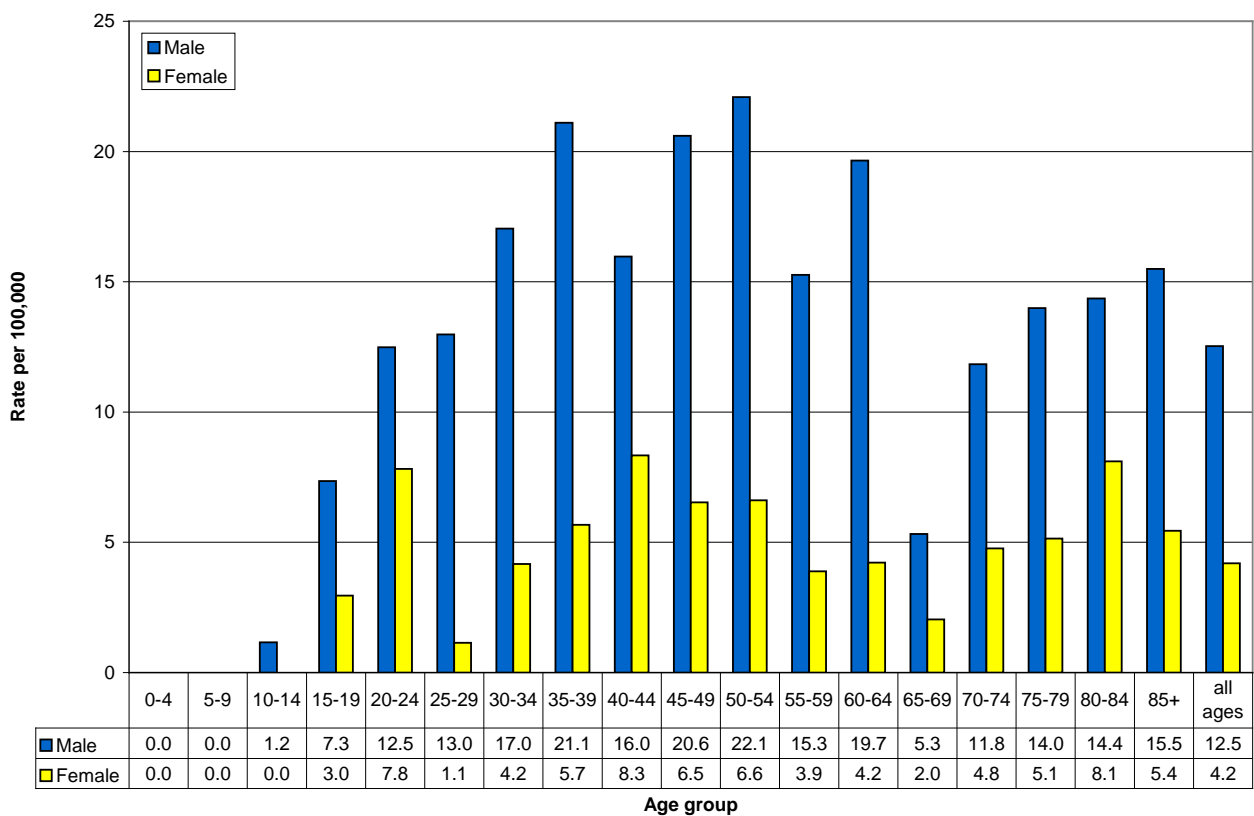
In 2006, age-specific unintentional injury death rates rose after childhood, were higher in adolescents and young adults than in adults and peaked in older adults. The male age-specific injury hospital admission rate was higher than the female rate in all 5-year age groups except the 85+ group. (Figure 1)

In 2006, age-specific intentional injury death rates were lowest in children (0-4, 5-9 and 10-14 years) and peaked in the 35-39, 45-49 and 50-54 aged groups. (Figure 2)

**Figure 1. Unintentional injury death rates by age group and gender, Victoria 2006.**



**Figure 2. Intentional injury death rates by age group and gender, Victoria 2006.**

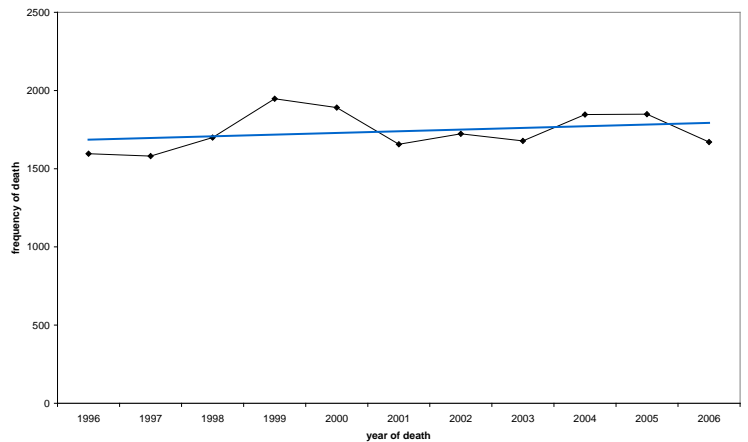


## Trend in frequency of injury deaths

The frequency of ALL injury deaths increased over the eleven year period from 1,596 deaths in 1996 to 1,671 deaths in 2006, representing an estimated annual change of 0.6% (95% confidence interval -- 0.9% to 2.2%) and an overall increase of 7% (-10% to 26%) based on the trend line.

This increase is not statistically significant.

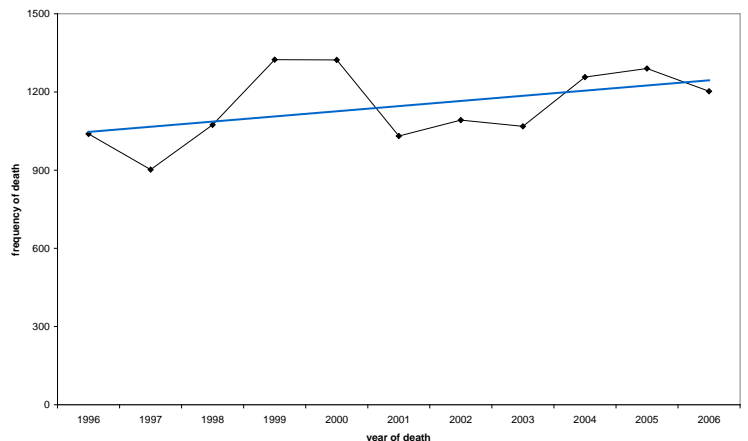
**Figure 3: Trend in frequency of all injury deaths, Victoria 1996-2006**



The frequency of UNINTENTIONAL injury deaths increased over the eleven year period from 1,039 deaths in 1996 to 1,203 deaths in 2006, representing an estimated annual change of 1.7% (95% confidence interval -0.8% to 4.2%) and an overall increase of 21% (-8% to 58%) based on the trend line.

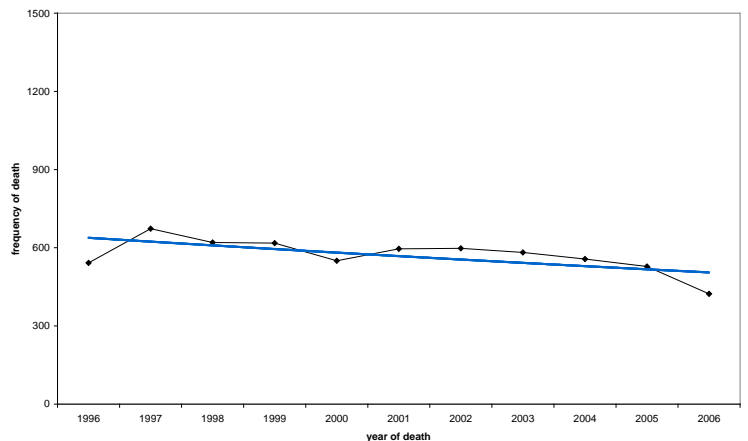
This increase is not statistically significant.

**Figure 4: Trend in frequency of unintentional injury deaths, Victoria 1996-2006**



The frequency of INTENTIONAL injury deaths decreased significantly over the eleven year period from 542 in 1996 to 423 in 2006, representing an estimated annual reduction of 2.2% (95% confidence interval -4.2% to 0.2%) and an overall decrease of 22% (-38% to -2%) based on the trend line.

**Figure 5: Trend in frequency of intentional injury deaths, Victoria 1996-2006**

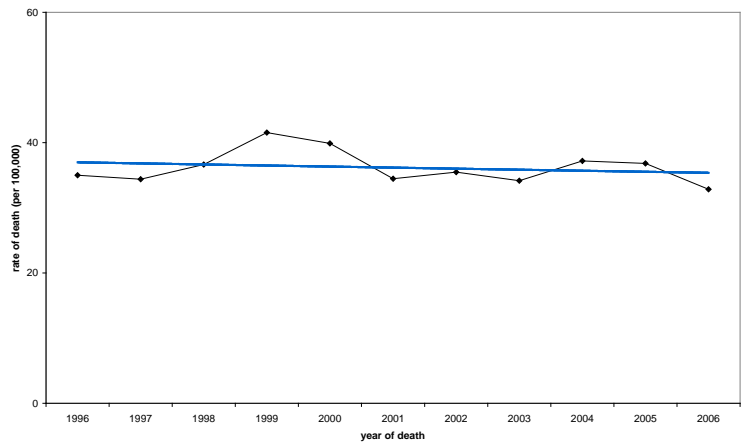


## Trend in rate of injury deaths

The ALL injury death rate decreased over the eleven year period from 35.0/100,000 in 1996 to 32.8/100,000 in 2006, representing an estimated annual change of -0.5% (-2.0% to 1.1%) and an overall decrease of -5% (-20% to 13%) based on the trend line.

This decrease is not statistically significant.

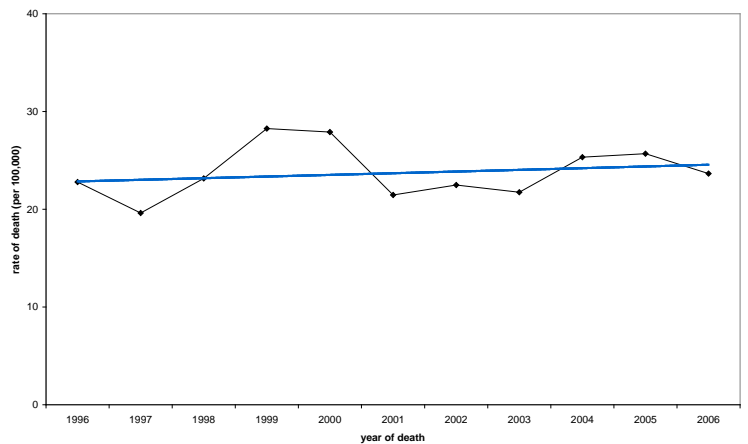
**Figure 6: Trend in all injury death rates per 100,000 population, Victoria 1996-2006**



The UNINTENTIONAL injury death rate increased over the eleven year period from 22.8/100,000 in 1996 to 23.6/100,000 in 2006, representing an estimated annual change of 0.6% (-1.9% to 3.1%) and an overall increase of 7% (-19% to 41%) based on the trend line.

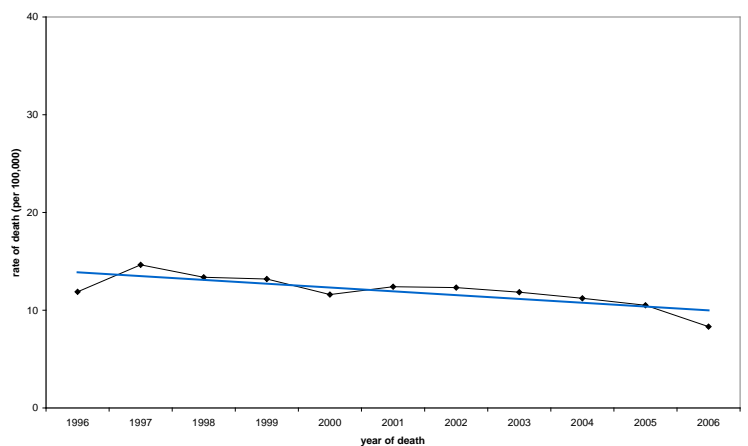
This increase is not statistically significant.

**Figure 7: Trend in unintentional injury death rates per 100,000 population, Victoria 1996-2006**



The INTENTIONAL injury death rate decreased significantly over the eleven year period from 11.9/100,000 in 1996 to 8.3/100,000 in 2006, representing an estimated annual reduction of 3.2% (-5.3% to -1.3%) and an overall decrease of 30% (-45% to -13%) based on the trend line.

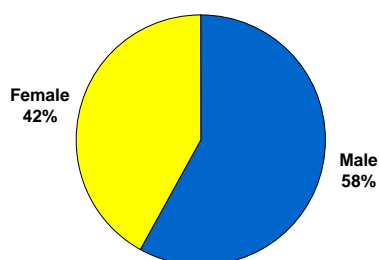
**Figure 8: Trend in intentional injury death rates per 100,000 population, Victoria 1996-2006**



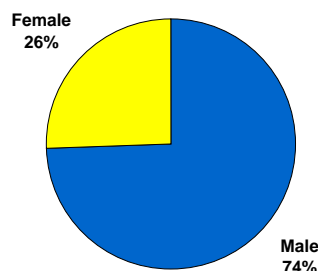
## Gender distribution

- Males were overrepresented accounting for 58% of unintentional injury deaths (n=699) and 74% of intentional injury deaths (n=315) in Victoria in 2006. (Figures 9 & 10)

**Figure 9: Unintentional injury deaths by gender, Victoria 2006 (n=1,203)**



**Figure 10: Intentional injury deaths by gender, Victoria 2006 (n=423)**



- The overall rates of both unintentional and intentional injury deaths were also higher for males than females (27.8 & 12.5/100,000 vs. 19.6 & 4.2/100,000). (Table 2)

**Table 2. Frequency and rate of injury deaths by intent and gender, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
<b>Male</b>	699	27.8	315	12.5
<b>Female</b>	504	19.6	108	4.2
<b>All</b>	<b>1,203</b>	<b>23.6</b>	<b>423</b>	<b>8.3</b>

## Age distribution

- Persons aged 65 years and older had the highest rates of unintentional injury death (87.2/100,000) and children (0-14 years) had the lowest (3.0/100,000).
- Adults (aged 25-64 years) had the highest intentional injury death rates (11.5/100,000) and children (0-14 years) had the lowest (0.2/100,000).

**Table 3. Frequency and rate of injury deaths by intent and age group, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
<b>0-14</b>	29	3.0	2	0.2
<b>15-24</b>	103	14.5	55	7.8
<b>25-64</b>	479	17.6	315	11.5
<b>65+</b>	592	87.2	51	7.5
<b>All</b>	<b>1,203</b>	<b>23.6</b>	<b>423</b>	<b>8.3</b>

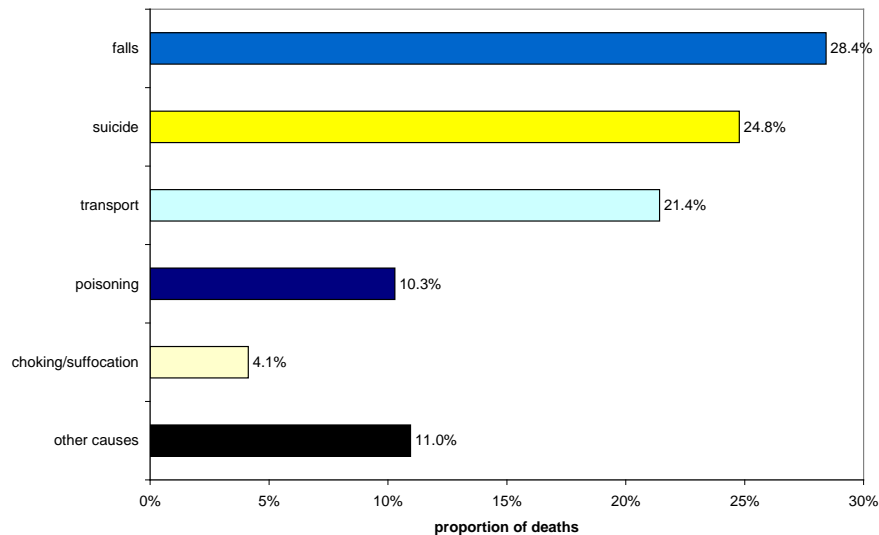
## Place of injury occurrence

A problem with the place of occurrence variable in the ABS-DURF file supplied by the Australian Bureau of Statistics precluded the analysis of place of injury occurrence data for the 2006 year. This section will be updated and figures 12 & 13 will be provided when the appropriate data has been made available by the ABS.

## Leading causes of injury

- Figure 11 shows the 5 major causes of injury death. Falls (28%, n=475), suicide (25%, n=414) and transport (21%, n=358) accounted for almost three-quarters of all injury deaths. Other common causes of death were poisoning (10%, n=172) and choking/suffocation (4%, n=69).

Figure 11: Injury deaths by major cause (all intents), Victoria 2006 (n= 1,671)



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

## Major causes in more detail

Table 4: Falls deaths, Victoria 2006

DETAILED CAUSE	n	%
At same level from slipping, tripping, stumbling	104	21.9
Other fall on same level	12	2.5
From, out of or through building or structure	11	2.3
Involving bed	10	2.1
On and from ladder	10	2.1
On and from stairs and steps	9	1.9
Involving chair	8	1.7
Other fall from one level to another	6	1.3
Involving other furniture	5	1.1
Fall fracture unspecified, reclassified from X59	55	11.6
Other specified fall	7	1.4
Unspecified fall	238	50.1
<b>All falls</b>	<b>475</b>	<b>100.0</b>

Table 5: Suicide deaths, Victoria 2006

DETAILED CAUSE	n	%
Hanging, strangulation & suffocation	200	48.3
Poisoning: other substances	60	14.5
Poisoning: pharmaceuticals	44	10.6
Firearms	34	8.2
Jumping or lying b/f moving object	27	6.5
Jumping from a high place	14	3.4
Drowning & submersion	10	2.4
Sharp object	9	2.2
Smoke, fire & flames	4	1.0
Other specified means	12	2.9
<b>All suicide</b>	<b>414</b>	<b>100.0</b>

Table 6: Transport deaths, Victoria 2006

DETAILED CAUSE	n	%
Car occupant injured in transport accident	166	46.4
Pedestrian injured in transport accident	67	18.7
Motorcyclist injured in transport accident	53	14.8
Other land transport accident	25	7.0
Pedal cyclist injured in transport accident	14	3.9
Occupant of pick-up truck or van	12	3.4
Occupant of heavy transport vehicle	9	2.5
Bus occupant injured in transport accident	5	1.4
Air transport accident	4	1.1
Other specified transport accident	3	0.9
<b>All transport</b>	<b>358</b>	<b>100.0</b>

Table 7: Poisoning deaths, Victoria 2006

DETAILED CAUSE	n	%
Other & unspecified drugs, medicaments & biological substances	88	51.2
Narcotics & psychodysleptics (hallucinogens) not elsewhere classified	35	20.3
Alcohol	17	9.9
Antiepileptics, sedative-hypnotics, antiparkinsons & psychotropics not elsewhere classified	15	8.7
Other gases & vapours	13	7.6
Other & unspecified chemicals & noxious substances	4	2.3
<b>All poisoning</b>	<b>172</b>	<b>100.0</b>

**Table 8 Ranking of causes of injury deaths (all ages), Victoria 2006**

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
0-14 years	1	transport	13	41.9
	2	drowning	5	16.1
	3	choking/suffocate	4	12.9
	4	poisoning	3	9.7
	5	suicide	2	6.5
	9	other unintentional	4	12.8
		<b>ALL</b>	<b>31</b>	<b>100.0</b>
15-24 years	1	transport	72	45.6
	2	suicide	53	33.5
	3	poisoning	16	10.1
	4	choking/suffocate	3	1.9
	5	hit/struck/crush	3	1.9
	6	cutting/piercing	3	1.9
	7	other unintentional	8	5.1
		<b>ALL</b>	<b>158</b>	<b>100.0</b>
25-64 years	1	suicide	308	38.8
	2	transport	209	26.3
	3	poisoning	133	16.8
	4	fall	33	4.2
	5	choking/suffocate	27	3.4
	6	cutting/piercing	20	2.5
	7	hit/struck/crush	19	2.4
	8	other unintentional	10	1.3
	9	fires/burns/scalds	9	1.1
	10	explosions/firearms	7	0.9
	11	homicide	7	0.9
	12	drowning	5	0.5
	13	machinery	4	0.5
	14	natural/environmental/animals	3	0.4
		<b>ALL</b>	<b>784</b>	<b>100.0</b>
65+ years	1	fall	440	68.4
	2	transport	64	10.0
	3	suicide	51	7.9
	4	choking/suffocate	35	5.4
	5	poisoning	20	3.1
	6	other unintentional	15	2.3
	7	natural/environmental/animals	7	1.1
	8	fires/burns/scalds	5	0.8
	10	drowning	3	0.5
	11	other unintentional	3	0.5
			<b>ALL</b>	<b>643</b>

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

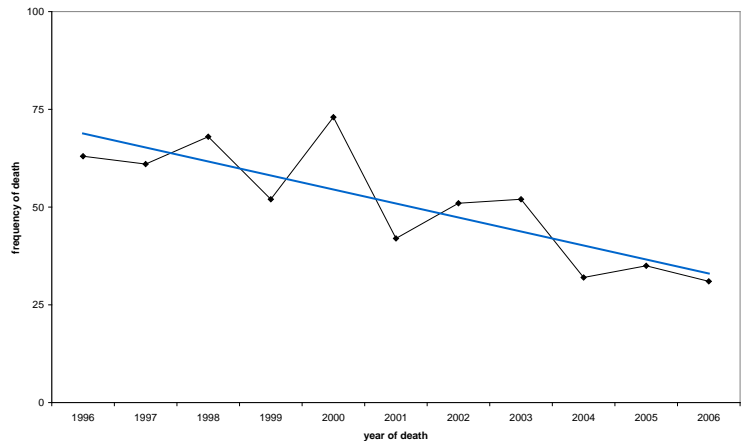
## Children (0-14 years)

In 2006, 31 Victorian children died as a result of injury. Ninety-four percent of these deaths were unintentional ("accidental", n=29), while the remaining 6% were intentional (suicide and homicide, n=2). No cases were recorded as other or undetermined intent. There were 4 fewer child injury deaths in 2006 than 2005, a decrease of 11%.

### Trend in frequency of child injury deaths

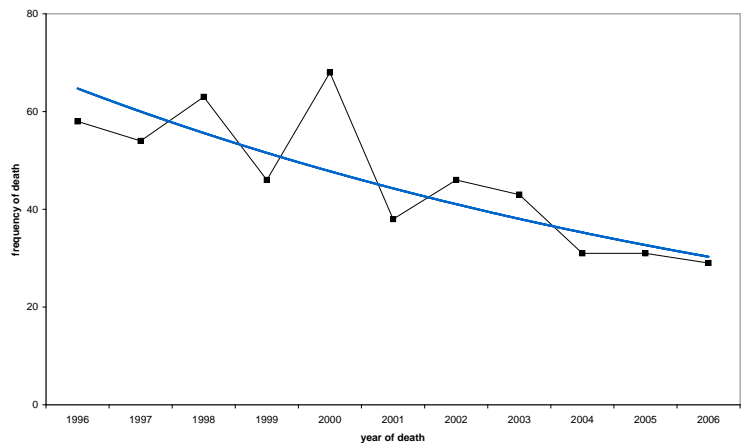
The frequency of ALL CHILD injury deaths decreased significantly over the eleven year period from 63 deaths in 1996 to 31 deaths in 2006, representing an estimated annual reduction of 6.9% (95% confidence interval -11.0% to -3.2%) and an overall decrease of 54% (-72% to -30%) based on the trend line.

**Figure 14: Trend in frequency of all child injury deaths, Victoria 1996-2006**



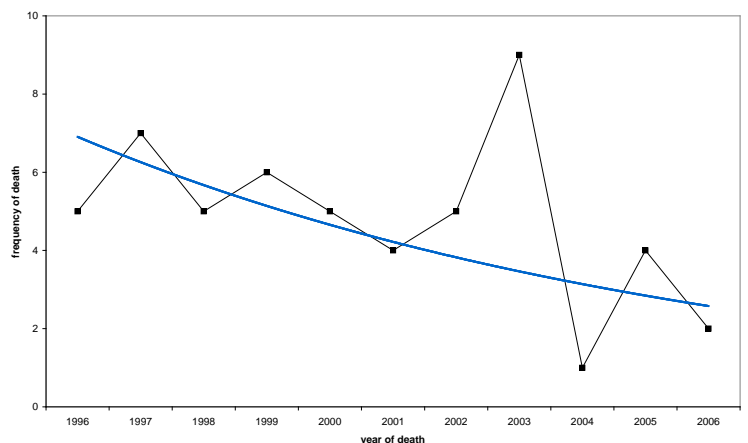
The frequency of CHILD UNINTENTIONAL injury deaths decreased significantly over the eleven year period from 58 deaths in 1996 to 29 deaths in 2006, representing an estimated annual reduction of 6.9% (95% confidence interval -11.1% to -3.3%) and an overall decrease of 55% (-73% to -31%) based on the trend line.

**Figure 15: Trend in frequency of unintentional child injury deaths, Victoria 1996-2006**



The frequency of CHILD INTENTIONAL injury deaths decreased over the eleven year period from 5 in 1996 to 2 in 2006, representing an estimated annual reduction of 6.1% (95% confidence interval -16.2% to 3.6%) and an overall decrease of 50% (-86% to 48%) based on the trend line. This decrease was not statistically significant (mainly due to the higher than usual number of deaths in 2003).

**Figure 16: Trend in frequency of intentional child injury deaths, Victoria 1996-2006**

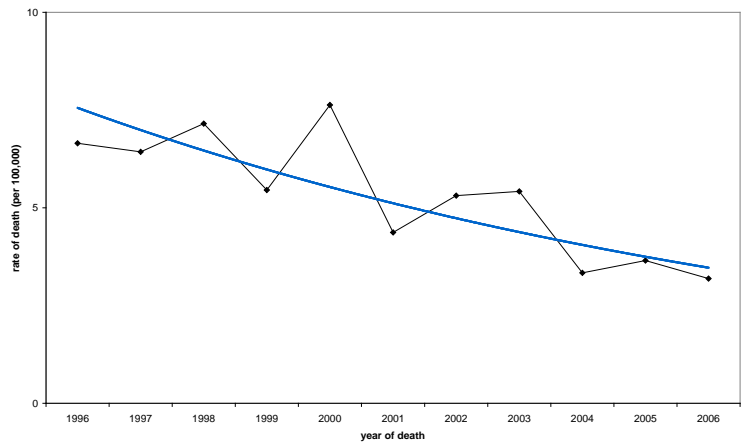




## Trend in rate of child injury deaths

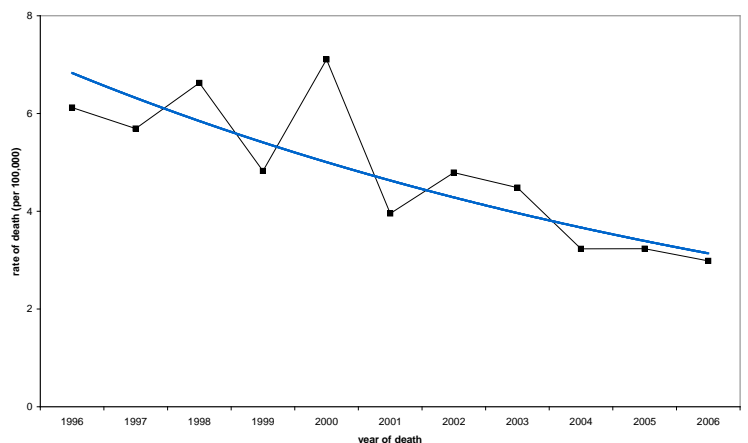
ALL CHILD injury death rates decreased significantly over the eleven year period from 6.7/100,000 in 1996 to 3.2/100,000 in 2006, representing an estimated annual reduction of 7.1% (-11.2% to -3.4%) and an overall decrease of 55% (-73% to -32%) based on the trend line.

**Figure 17: Trend in all child injury death rates per 100,000 population, Victoria 1996-2006**



CHILD UNINTENTIONAL injury death rates decreased significantly over the eleven year period from 6.1/100,000 in 1996 to 3.0/100,000 in 2006, representing an estimated annual reduction of 7.1% (-11.3% to -3.5%) and an overall decrease of 55% (-73% to -32%) based on the trend line.

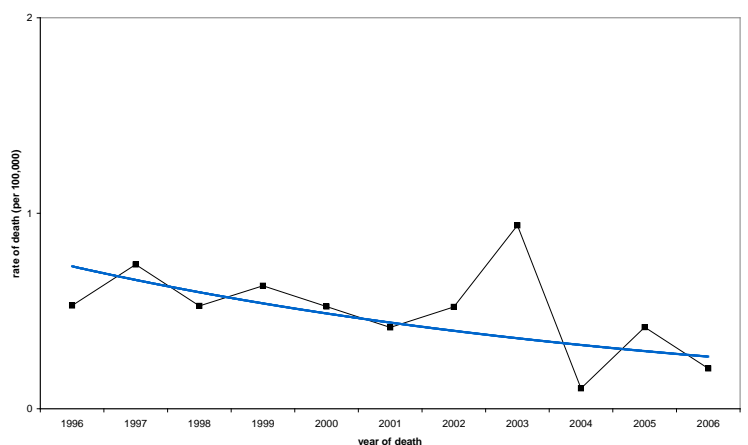
**Figure 18: Trend in unintentional child injury death rates per 100,000 population, Victoria 1996-2006**



CHILD INTENTIONAL injury death rates decreased over the eleven year period from 0.5/100,000 in 1996 to 0.2/100,000 in 2006, representing an estimated annual reduction of 6.1% (-16.2% to 3.6%) and an overall decrease of 45% (-86% to 48%) based on the trend line.

This decrease was not statistically significant (mainly due to the higher than usual number of deaths in 2003).

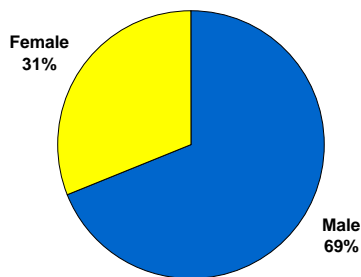
**Figure 19: Trend in intentional child injury death rates per 100,000 population, Victoria 1996-2006**



## Gender distribution

- Males were overrepresented accounting for 69% of unintentional child injury deaths (n=21) and 100% of intentional injury deaths (n=2) in Victoria in 2006. (Figures 20 & 21)

**Figure 20: Child unintentional injury deaths by gender, Victoria 2006 (n=29)**



**Figure 21: Child intentional injury deaths by gender, Victoria 2006 (n=2)**



- The overall child unintentional and intentional injury death rates were also higher for males than females (4.0 & 0.4/100,000 respectively vs. 1.9 & 0.0/100,000 respectively). (Table 9)

**Table 9. Frequency and rate of child injury deaths by intent and gender, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	20	4.0	2	0.4
Female	9	1.9	0	0.0
All	29	3.0	2	0.2

## Age distribution

- Children aged 10-14 years accounted for one-third of unintentional child injury deaths in 2006 (n=11). The two intentional child injury deaths were in this age group (n=2).
- Unintentional and intentional injury death rates are highest in 10-14 year olds (Table 10).

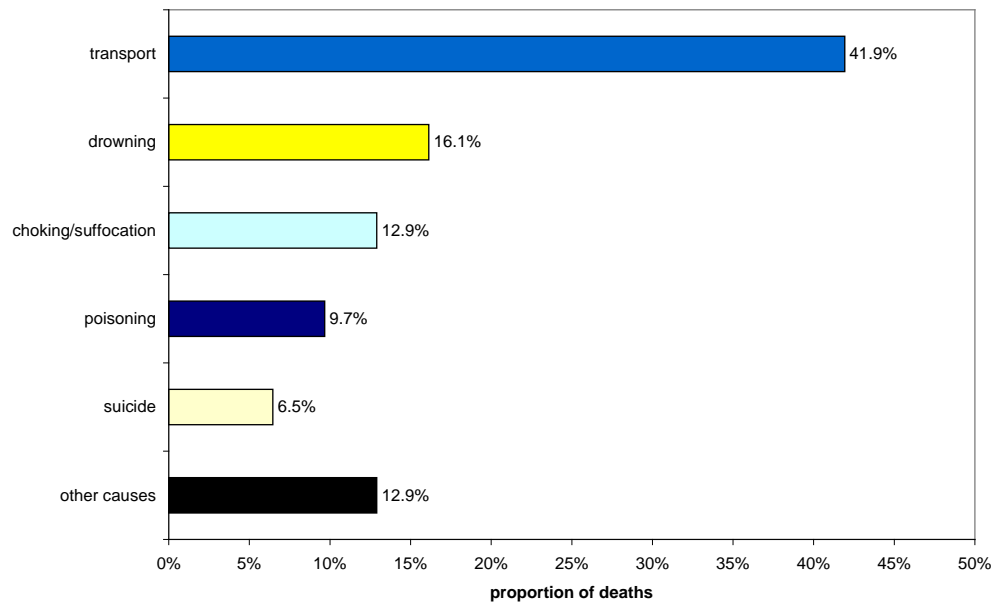
**Table 10. Frequency and rate of child injury deaths by intent and age group, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
0-4 years	10	3.2	0	0.0
5-9 years	8	2.5	0	0.0
10-14 years	11	3.3	2	0.6
All	29	3.0	2	0.2

## Leading causes of injury

- Figure 22 shows the 5 major causes of child injury death. Transport accounts for 42% of injury deaths (n=13), followed by drowning (16%, n=5) and choking/suffocation (13%, n=4).
- Transport deaths were mostly to car occupants (n=4) and pedestrians (n=3). Drowning deaths commonly occurred in swimming pools (n=2).

**Figure 22: Child injury deaths by major cause, Victoria 2006 (n=31)**



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

**Table 11 Ranking of causes for injury death among children aged 0-14 years, Victoria 2006**

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
0-4 years	1	transport	3	30.0
	2	drowning	3	30.0
	3	Other unintentional	4	40.0
		ALL	10	100
5-9 years	1	transport	4	50.0
	2	drowning	2	25.0
	3	other unintentional	2	25.0
		ALL	8	100
10-14 years	1	transport	6	46.2
	2	choking/suffocate	2	15.4
	3	suicide	2	15.4
	4	other unintentional	3	23.0
		ALL	13	100

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

## Place of injury occurrence

- A problem with the place of occurrence variable in the ABS-DURF file supplied by the Australian Bureau of Statistics precluded the analysis of place of injury occurrence data for the 2006 year. This section will be updated when the appropriate data has been made available by the ABS.

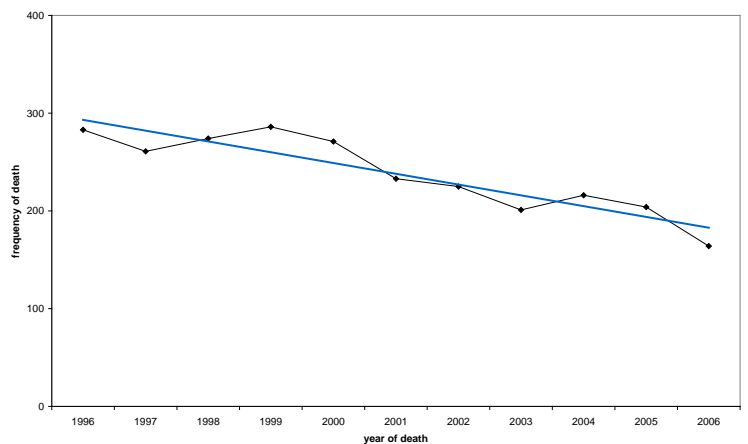
## Adolescents and young adults (15-24 years)

In 2006, 164 Victorian adolescents and young adults died as a result of injury. Almost two-thirds of these deaths were unintentional ("accidents", n=103), 34% were intentional (suicide and homicide, n=55) and the remaining 4% were classified as other or undetermined intent (n=6). There were 40 fewer adolescent and young adult injury deaths in 2006 than 2005, a decrease of 20%.

### Trend in frequency of adolescent and young adult injury deaths

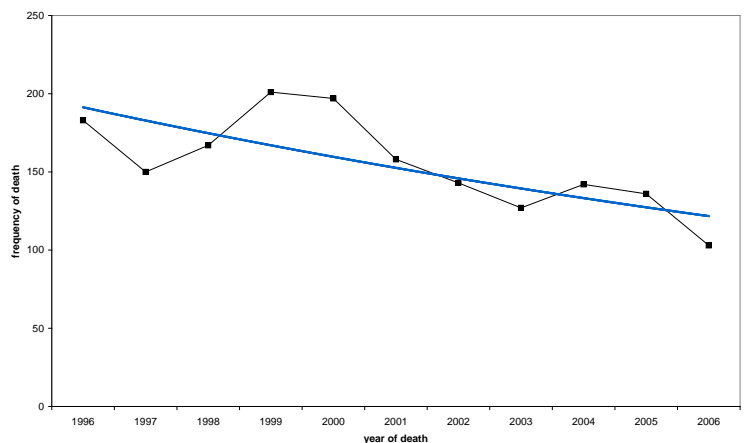
The frequency of ALL ADOLESCENT AND YOUNG ADULT injury deaths decreased significantly over the eleven year period from 283 deaths in 1996 to 164 deaths in 2006, representing an estimated annual reduction of 4.5% (95% confidence interval -21.2% to -11.9%) and an overall decrease of 40% (-93% to -243%) based on the trend line.

**Figure 23: Trend in frequency of all adolescent and young adult injury deaths, Victoria 1996-2006**



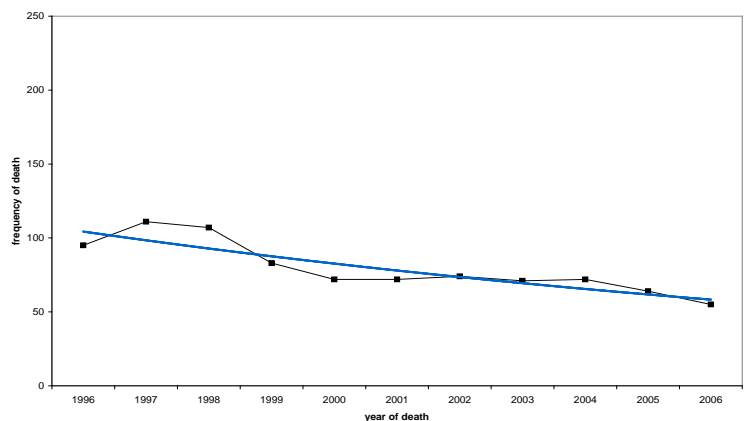
The frequency of ADOLESCENT AND YOUNG ADULT UNINTENTIONAL injury deaths decreased significantly over the eleven year period from 183 deaths in 1996 to 103 deaths in 2006, representing an estimated annual reduction of 4.2% (95% confidence interval -7.3% to -1.3%) and an overall decrease of 38% (-57% to -13%) based on the trend line.

**Figure 24: Trend in frequency of adolescent and young adult unintentional injury deaths, Victoria 1996-2006**



The frequency of ADOLESCENT AND YOUNG ADULT INTENTIONAL injury deaths decreased significantly over the eleven year period from 95 in 1996 to 55 in 2006, representing an estimated annual reduction of 5.7% (95% confidence interval -8.2% to -3.7%) and an overall decrease of 48% (-61% to -34%) based on the trend line.

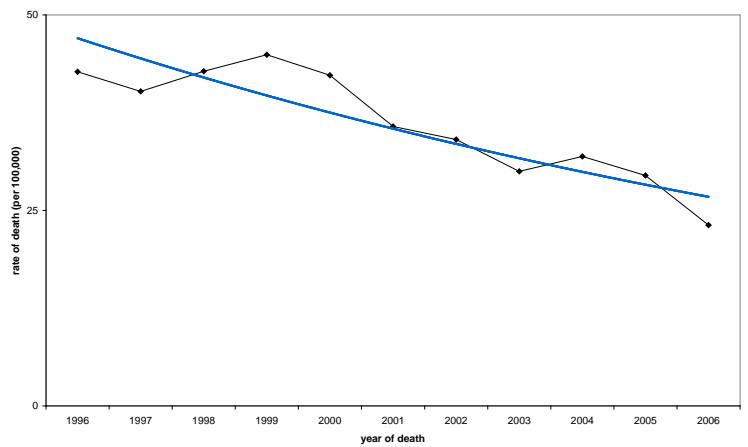
**Figure 25: Trend in frequency of adolescent and young adult intentional injury deaths, Victoria 1996-2006**



## Trend in rate of adolescent and young adult injury deaths

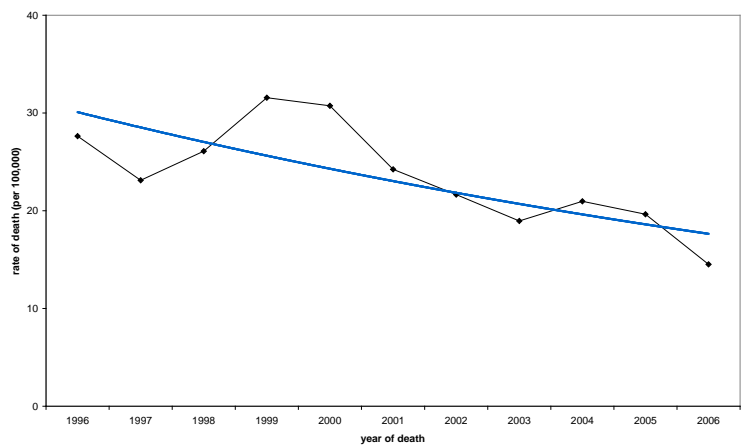
The ALL ADOLESCENT AND YOUNG ADULT injury death rates decreased significantly over the eleven year period from 42.7/100,000 in 1996 to 23.1/100,000 in 2006, representing an estimated annual reduction of -5.2% (-7.4% to -3.3%) and an overall decrease of 45% (-57 to -31%) based on the trend line.

**Figure 26: Trend in all adolescent and young adult injury death rates per 100,000 population, Victoria 1996-2006**



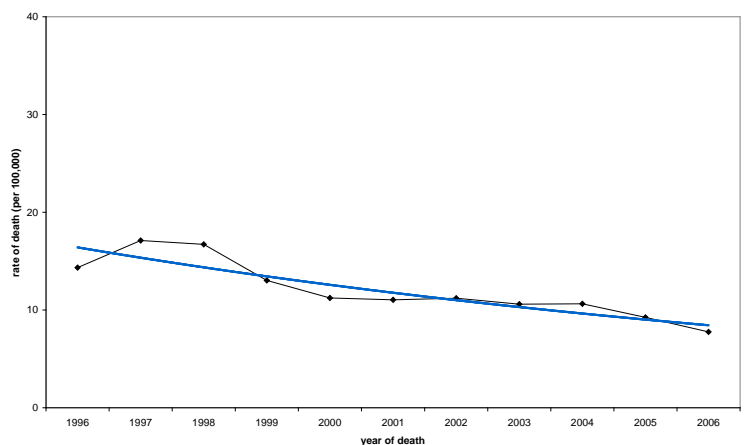
The ADOLESCENT AND YOUNG ADULT UNINTENTIONAL injury death rates decreased significantly over the eleven year period from 27.6/100,000 in 1996 to 14.5/100,000 in 2006, representing an estimated annual reduction of -4.9% (-8.4% to -1.6%) and an overall decrease of 42% (-62 to -17%) based on the trend line.

**Figure 27: Trend in unintentional adolescent and young adult injury death rates per 100,000 population, Victoria 1996-2006**



The ADOLESCENT AND YOUNG ADULT INTENTIONAL injury death rates decreased significantly over the eleven year period from 14.3/100,000 in 1996 to 7.8/100,000 in 2006, representing an estimated annual reduction of 6.4% (-8.9% to -4.3%) and an overall decrease of 52% (-64% to -38%) based on the trend line.

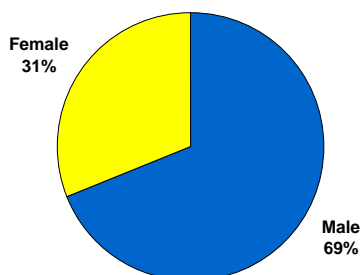
**Figure 28: Trend in intentional adolescent and young adult injury death rates per 100,000 population, Victoria 1996-2006**



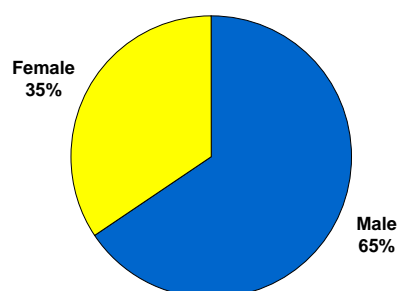
## Gender distribution

- Males were overrepresented, accounting for 69% of unintentional adolescent and young adult injury deaths (n=71) and 65% of intentional injury deaths (n=36) in Victoria in 2006. (Figures 29 & 30)

**Figure 29: Adolescent and young adult unintentional injury deaths by gender, Victoria 2006 (n=103)**



**Figure 30: Adolescent and young adult intentional injury deaths by gender, Victoria 2006 (n=55)**



- The adolescent and young adult unintentional and intentional injury death rates were also higher for males than females (19.7 & 10.0/100,000 respectively vs. 9.2 & 5.5/100,000 respectively). (Table 12)

**Table 12. Frequency and rate of injury deaths in adolescent and young adults by intent and gender, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	71	19.7	36	10.0
Female	32	9.2	19	5.5
All	103	14.5	55	7.8

## Age distribution

- The unintentional and intentional injury death rates were higher among persons aged 20-24 years than persons aged 15-19 years (16.5 & 10.2/100,000 respectively vs. 12.4 & 5.2/100,000 respectively). (Table 13)

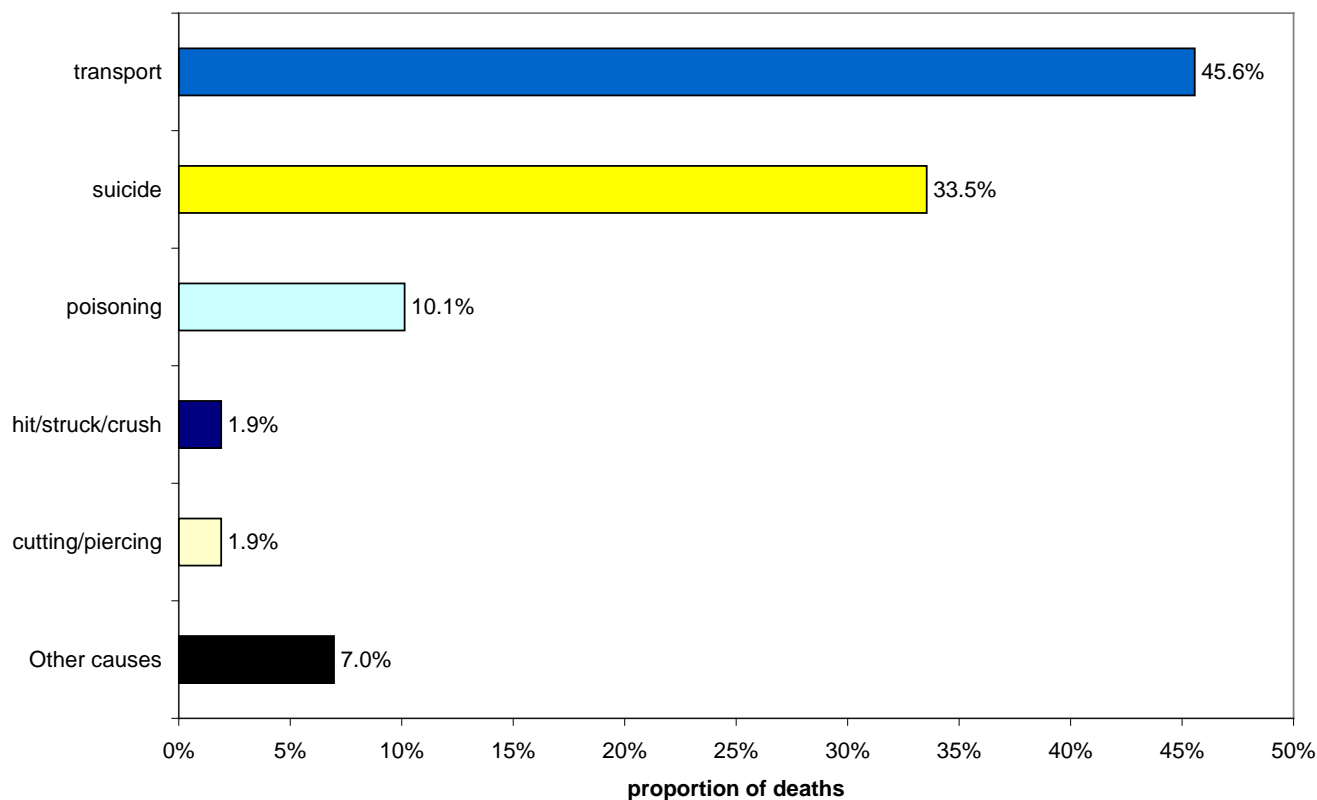
**Table 13. Frequency and rate of injury death in adolescents and young adults by intent and age group, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
15-19 years	43	12.4	18	5.2
20-24 years	60	16.5	37	10.2
All	103	14.5	55	7.8

## Leading causes of injury

- Figure 31 shows the 5 major causes of adolescent and young adult injury death. Transport incidents accounted for almost half of the injury deaths (n=46%, n=72), followed by suicide (34%, n=53) and unintentional poisoning (10%, n=16).
- Transport deaths mostly involved car occupants (n=50). The mechanism of two-thirds of suicides was hanging (n=35).

**Figure 31: Adolescent and young adult injury deaths by major cause, Victoria 2006 (n=161)**



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=50), motorcycle riders (n=7) and pedestrians (n=7).
- Hanging was clearly the most common method of suicide (n=35), followed by poisoning with non-pharmaceutical substances (n=7) (Tables 14 & 15)

**Table 14: Adolescent and young adult transport deaths, Victoria 2006**

DETAILED CAUSE	n	%
- car occupant in transport incident	50	69.4
- motorcycle rider in transport incident	7	9.7
- pedestrian injured in transport incident	7	9.7
- other land transport incident	4	5.6
- other transport	4	5.6
<b>ALL</b>	<b>72</b>	<b>100</b>

**Table 15: Adolescent and young adult suicide deaths, Victoria 2006**

DETAILED CAUSE	n	%
- hanging, strangulation & suffocation	35	66.0
- poisoning- other substances	7	13.2
- jumping from a high place	3	5.7
- jumping or lying before moving object	3	5.7
- other suicide	5	9.5
<b>ALL</b>	<b>53</b>	<b>100</b>

**Table 16 Ranking of causes of injury deaths among adolescents and young adults, Victoria 2006**

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
15-19 years	1	transport	35	58.3
	2	suicide	18	30.0
	3	poisoning	3	5.0
	4	other unintentional	4	6.1
		<b>ALL</b>	<b>60</b>	<b>100</b>
20-24 years	1	transport	37	36.6
	2	suicide	35	34.7
	3	poisoning	13	12.9
	4	other or undetermined intent	4	4.0
	5	choking/suffocate	3	3.0
	6	cutting/piercing	2	2.0
	7	homicide	2	2.0
	8	other unintentional	5	5.0
	<b>ALL</b>	<b>101</b>	<b>100</b>	

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

### Place of injury occurrence

- A problem with the place of occurrence variable in the ABS-DURF file supplied by the Australian Bureau of Statistics precluded the analysis of place of injury occurrence data for the 2006 year. This section will be updated and figures 32 & 33 will be provided when the appropriate data has been made available by the ABS.



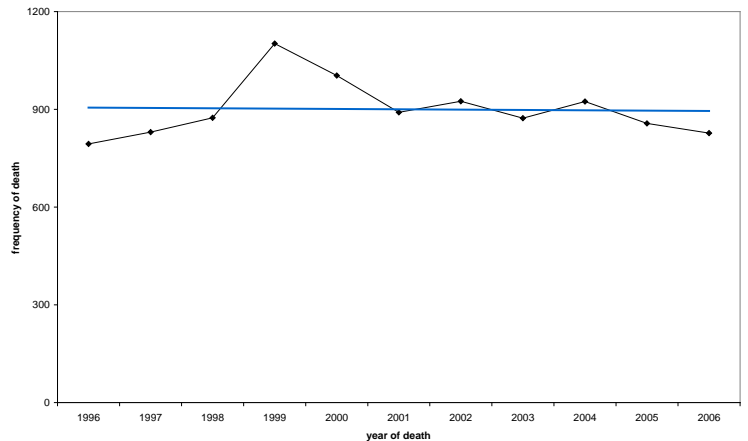
## Adults (25-64 years)

In 2006, 827 Victorian adults died as a result of injury. Fifty-eight percent of these deaths were unintentional (“accidents”, n=479), 38% intentional (suicide and homicide, n=315) and the remaining 4% were classified as of other or undetermined intent (n=33). There were 30 fewer adult injury deaths in 2006 than 2005, a 4% decrease.

### Trend in frequency of adult injury deaths

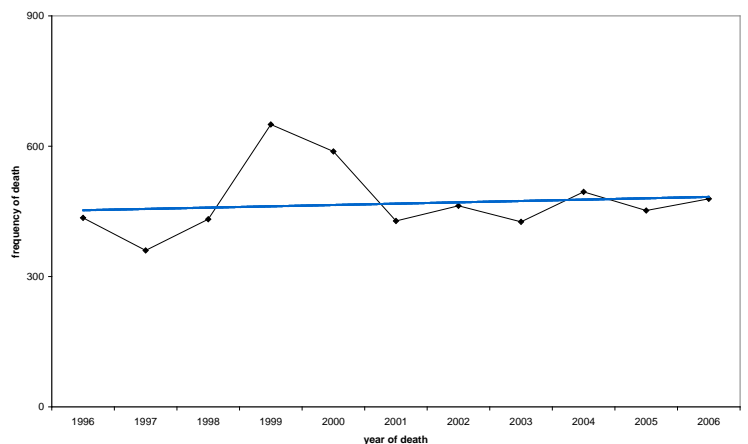
The frequency of ALL ADULT injury deaths increased slightly over the eleven year period from 794 deaths in 1996 to 827 deaths in 2006, representing an estimated annual change of 0.1% (95% confidence interval -2.3% to 2.1%). However, this represented a non-significant overall decrease of only 1.0% (-23% to 25%) based on the trend line.

**Figure 34: Trend in frequency of all adult injury deaths, Victoria 1996-2006**



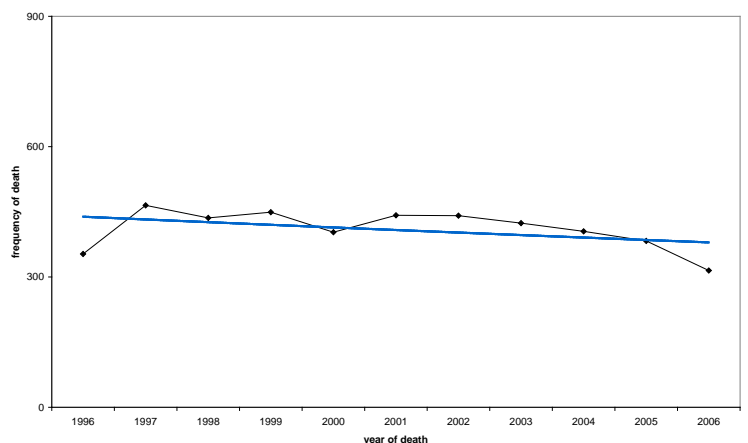
The frequency of ADULT UNINTENTIONAL injury deaths increased slightly over the eleven year period from 435 deaths in 1996 to 479 deaths in 2006, representing an estimated annual change of 0.4% (95% confidence interval -3.4% to 4%). This represented a non-significant overall increase of 4% (-32% to 573%) based on the trend line.

**Figure 35: Trend in frequency of unintentional adult injury deaths, Victoria 1996-2006**



The frequency of ADULT INTENTIONAL injury deaths decreased over the eleven year period from 353 in 1996 to 315 in 2006, representing an estimated annual decrease of 1.4% (95% confidence interval -3.7% to 0.9%), this represented an overall non-significant decrease of 14% (-34% to 11%) based on the trend line.

**Figure 36: Trend in frequency of intentional adult injury deaths, Victoria 1996-2006**

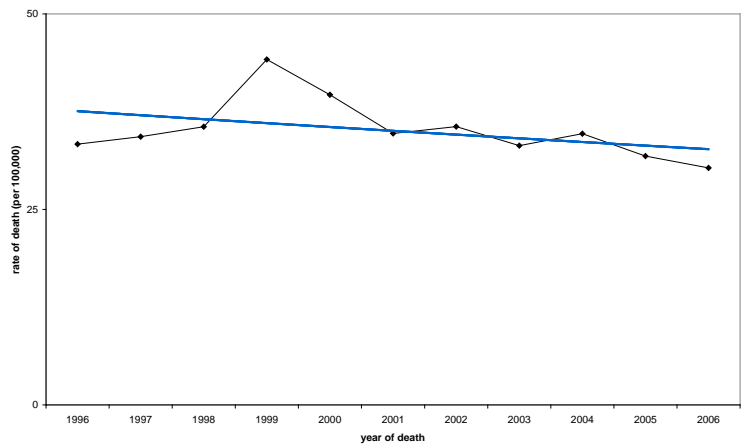


## Trend in rate of adult injury deaths

The ALL ADULT injury death rates decreased over the eleven year period from 33.3/100,000 in 1996 to 30.3/100,000 in 2006, representing an estimated annual decrease of 1.4% (-3.6% to 0.8%) and an overall decrease of 14% (-33% to 9%) based on the trend line.

This decrease was not statistically significant.

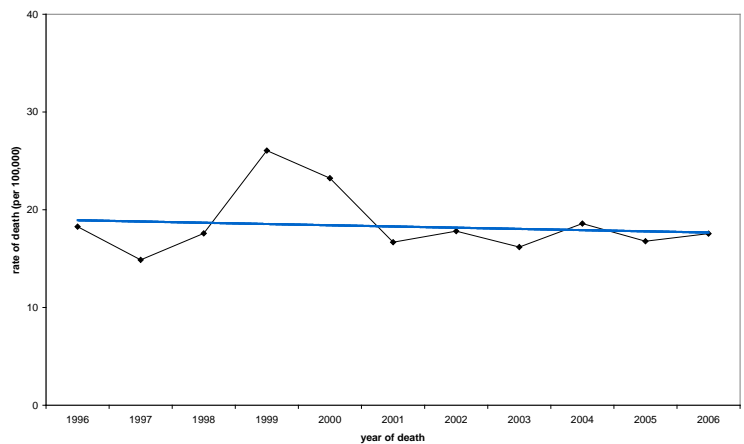
**Figure 37: Trend in all adult injury death rates per 100,000 population, Victoria 1996-2006**



The ADULT UNINTENTIONAL injury death rates decreased over the eleven year period from 18.3/100,000 in 1996 to 17.6/100,000 in 2006, representing an estimated annual change of 0.9% (-4.7% to 2.9%) and an overall decrease of 9% (-41% to 37%) based on the trend line.

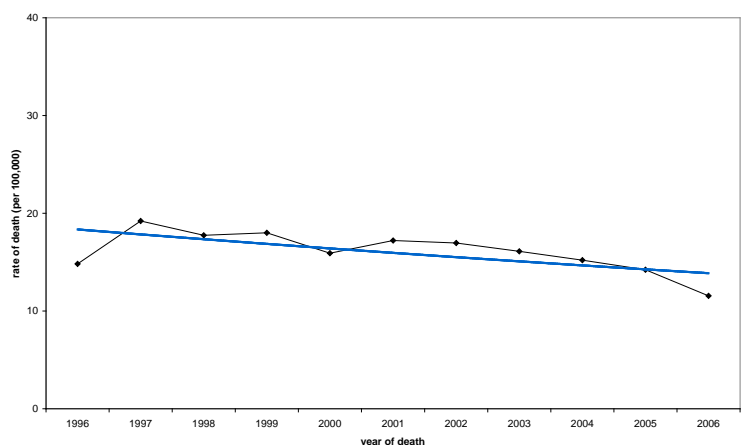
This decrease was not statistically significant.

**Figure 38: Trend in unintentional adult injury death rates per 100,000 population, Victoria 1996-2006**



The ADULT INTENTIONAL injury death rates decreased significantly over the eleven year period from 14.8/100,000 in 1996 to 11.5/100,000 in 2006, representing an estimated annual decrease of 2.6% (-5.0% to -0.53) and an overall decrease of 25% (-43% to -3%) based on the trend line.

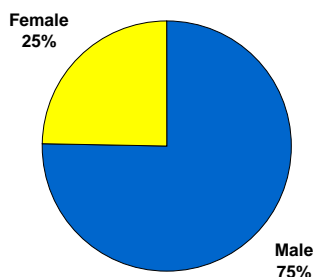
**Figure 39: Trend in intentional adult injury death rates per 100,000 population, Victoria 1996-2006**



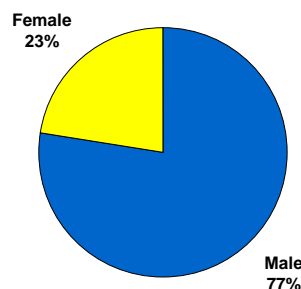
## Gender distribution

- Males were grossly overrepresented in adult injury deaths, accounting for 75% of unintentional injury deaths (n=360) and 77% of intentional injury deaths (n=244) in Victoria in 2006.

**Figure 40: Adult unintentional injury deaths by gender, Victoria 2006 (n=479)**



**Figure 41: Adult intentional injury deaths by gender, Victoria 2006 (n=315)**



- The unintentional and intentional injury death rates were higher for males compared with females (26.6 & 18.0/100,000 vs. 8.7 & 5.2/100,000). (Table 17)

**Table 17. Frequency and rate of adult injury deaths by intent and gender, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
<b>Male</b>	360	26.6	244	18.0
<b>Female</b>	119	8.7	71	5.2
<b>All</b>	<b>479</b>	<b>17.6</b>	<b>315</b>	<b>11.5</b>

## Age distribution

- Persons aged 30-34 years old had the highest unintentional injury death rates and persons aged 50-54 years old had the highest intentional injury death rates (Table 18).

**Table 18. Frequency and rate of adult injury deaths by intent and age group, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
<b>25-29 years</b>	61	17.3	25	7.1
<b>30-34 years</b>	75	19.7	40	10.5
<b>35-39 years</b>	61	15.9	51	13.3
<b>40-44 years</b>	73	19.2	46	12.1
<b>45-49 years</b>	71	19.5	49	13.5
<b>50-54 years</b>	48	14.6	47	14.3
<b>55-59 years</b>	46	15.1	29	9.5
<b>60-64 years</b>	44	18.7	28	11.9
<b>All</b>	<b>479</b>	<b>17.6</b>	<b>315</b>	<b>11.5</b>

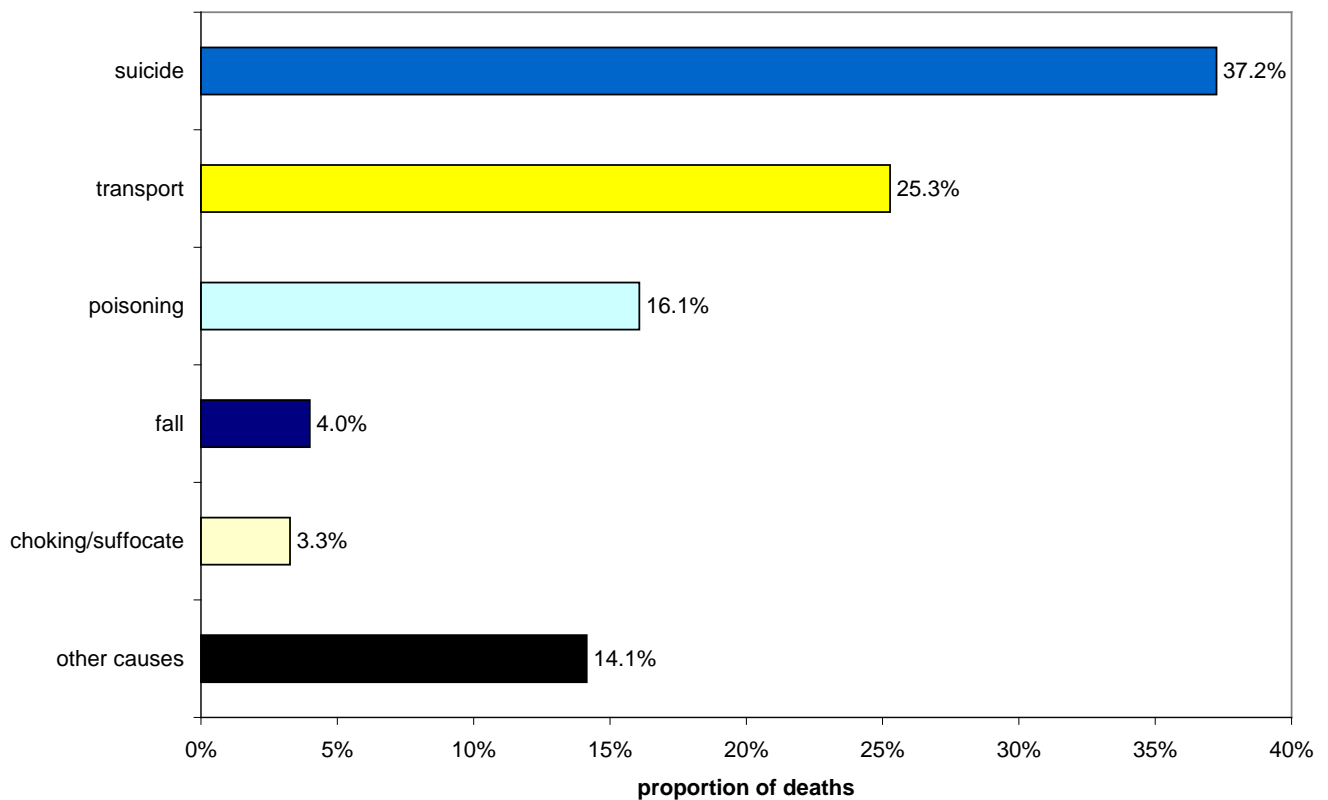
## Place of injury occurrence

- A problem with the place of occurrence variable in the ABS-DURF file supplied by the Australian Bureau of Statistics precluded the analysis of place of injury occurrence data for the 2006 year. This section will be updated and figures 43 & 44 will be provided when the appropriate data has been made available by the ABS.

## Leading causes of injury

- Figure 42 shows the 5 major causes of adult injury death. Suicide accounts for 37% of injury deaths (n=308), followed by transport (25%, n=209), poisoning (16%, n=133), falls (4%, n=333) and choking/suffocation (3%, n=27).
- The major methods of suicide were commonly hanging, strangulation and suffocation (47% of suicides, n=146) and poisoning (27%, n=84). Transport deaths were mostly car occupants (41%, n=85) followed by motorcycle riders 22%, n=45).

Figure 42: Adult injury deaths by cause, Victoria 2006 (n=827)



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

## Major causes in more detail

**Table 19: Adult suicide deaths, Victoria 2006**

DETAILED CAUSE	n	%
- hanging, strangulation & suffocation	146	47.4
- poisoning other substances	47	15.3
- poisoning- pharmaceuticals	37	12.0
- jumping or lying b/f moving object	22	7.1
-firearms	21	6.8
- jumping from a high place	10	3.2
- drowning & submersion	7	2.3
- sharp object	6	1.9
- smoke fire and flames	4	1.3
- other specified means	8	2.5
<b>ALL</b>	<b>308</b>	<b>100.0</b>

**Table 20: Adult transport deaths, Victoria 2006**

DETAILED CAUSE	n	%
- car occupant injured in transport acc	85	40.7
- motorcycle rider injured in transport acc	45	21.5
- pedestrian injured in transport acc	34	16.3
- other land transport acc	15	7.2
- pedal cyclist injured in transport acc	10	4.8
- occupant of pick-up truck or van	9	4.3
- occupant of heavy transport vehicle	5	2.4
- bus occupant injured in transport acc	3	1.4
- air and space transport acc	3	1.4
<b>ALL</b>	<b>209</b>	<b>100.0</b>

**Table 21: Adult poisoning deaths, Victoria 2006**

DETAILED CAUSE	n	%
- other & unspecified drugs, medicaments & biological subs	66	49.7
- narcotics & psychodysleptics {hallucinogens} NEC	31	23.3
- alcohol	14	10.5
- other gases & vapours	11	8.3
- antiepileptic, sedative-hypnotic, antiparkinson & psychotropics NEC	10	7.5
- other and unspecified chemicals and noxious substances	1	0.8
<b>ALL</b>	<b>133</b>	<b>100.0</b>

**Table 22 Ranking of causes for adult injury deaths, Victoria 2006**

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
25-44 years	1	suicide	158	36.6
	2	transport	133	30.8
	3	poisoning	80	18.5
	4	choking/suffocate	14	3.2
	5	cutting/piercing	14	3.2
	6	fall	7	1.6
	7	hit/struck/crush	6	1.4
	8	drowning	4	0.9
	9	fires/burns/scalds	4	0.9
	10	homicide	4	0.9
	11	explosions/firearms	3	0.7
	12	other unintentional	5	1.3
		<b>ALL</b>	<b>432</b>	<b>100</b>
45-64 years	1	suicide	150	41.4
	2	transport	76	21.0
	3	poisoning	53	14.6
	4	fall	26	7.2
	5	choking/suffocate	13	3.6
	6	hit/struck/crush	13	3.6
	7	other unintentional	7	1.9
	8	cutting/piercing	6	1.7
	9	fires/burns/scalds	5	1.4
	10	explosions/firearms	4	1.1
	11	natural/environmental/animals	3	0.8
	12	homicide	3	0.8
	13	other unintentional	3	0.9
		<b>ALL</b>	<b>362</b>	<b>100.0</b>

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

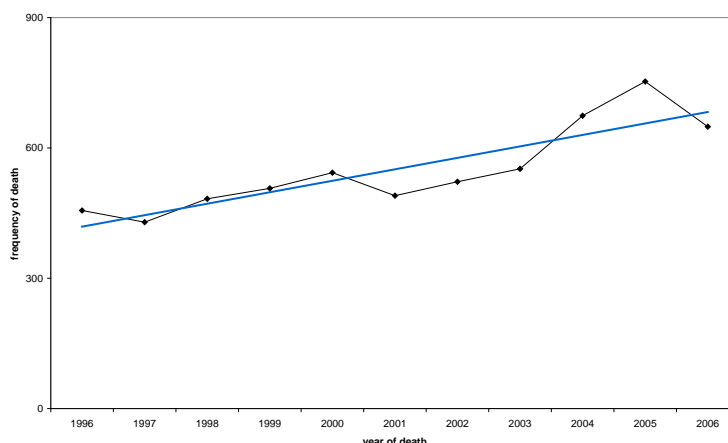
## Older adults (aged 65 years and older)

In 2006, 649 Victorian older adults died as a result of injury. Ninety-one percent of these deaths were unintentional ("accidents", n=592), 8% intentional (suicide and homicide, n=51) and approximately 1% were classified as other or undetermined intent (n=6). There were 104 fewer older adult injury deaths in 2006 than 2005, a 10% decrease.

### Trend in frequency of older adult injury deaths

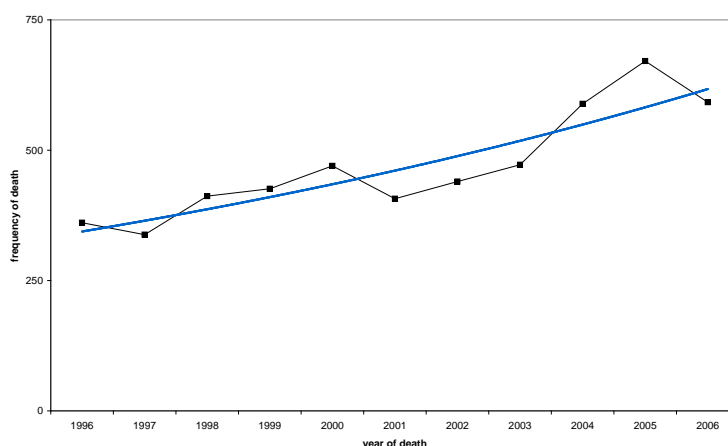
The frequency of ALL OLDER ADULT L injury deaths increased significantly over the eleven year period from 456 deaths in 1996 to 649 deaths in 2006, representing an estimated annual change of 4.9% (95% confidence interval 2.9% to 6.7%) and an overall increase of 70% (37% to 104%) based on the trend line.

**Figure 45: Trend in frequency of all older adult injury deaths, Victoria 1996-2006**



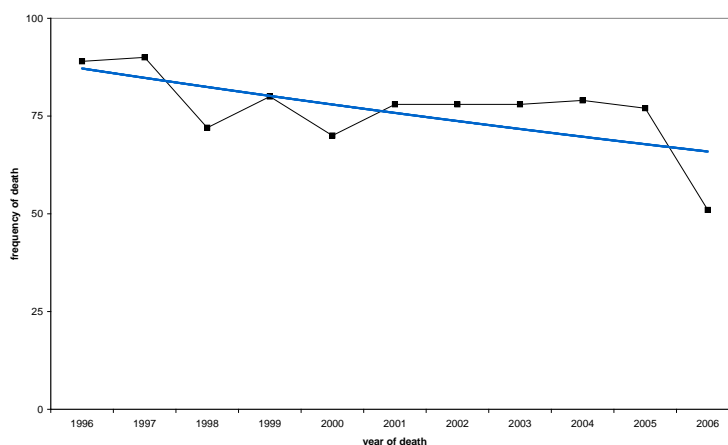
The frequency of OLDER ADULT UNINTENTIONAL injury deaths increased significantly over the eleven year period from 361 deaths in 1996 to 592 deaths in 2006, representing an estimated annual change of 6.2% (95% confidence interval 3.9% to 8.1%) and an overall increase of 93% (52% to 136%) based on the trend line.

**Figure 46: Trend in frequency of unintentional older adult injury deaths, Victoria 1996-2006**



The frequency of OLDER ADULT INTENTIONAL injury deaths decreased significantly over the eleven year period from 89 in 1996 to 51 in 2006, representing an estimated annual reduction of 2.5% (95% confidence interval -5.1% to 0.0%) and an overall decrease of 25% (-44% to -1%) based on the trend line.

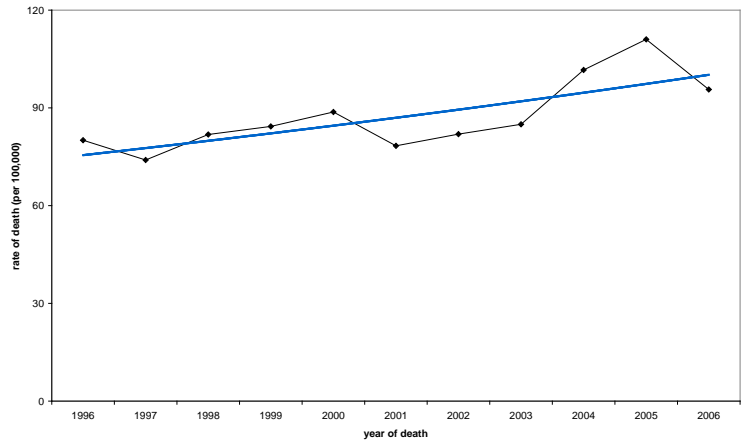
**Figure 47: Trend in frequency of intentional older adult injury deaths, Victoria 1996-2006**



## Trend in rate of older adult injury deaths

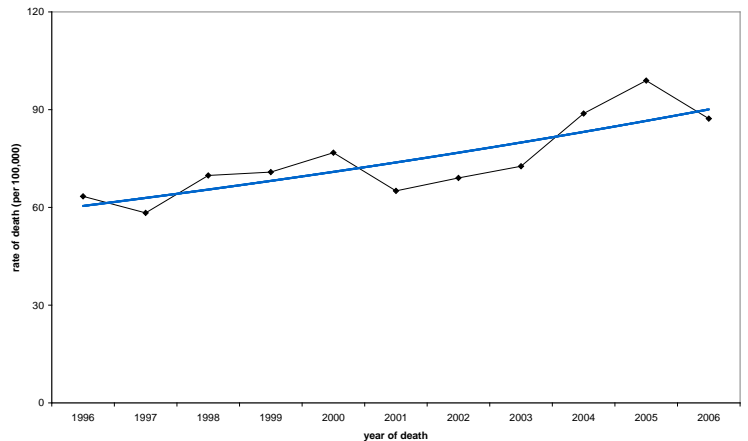
The ALL OLDER ADULT injury death rates increased significantly over the eleven year period from 80.1/100,000 in 1996 to 95.6/100,000 in 2006, representing an estimated annual change of 3.0% (1.1% to 4.7%) and an overall increase of 38% (13% to 66%) based on the trend line.

**Figure 48: Trend in all older adult injury death rate per 100,000 population, Victoria 1996-2006**



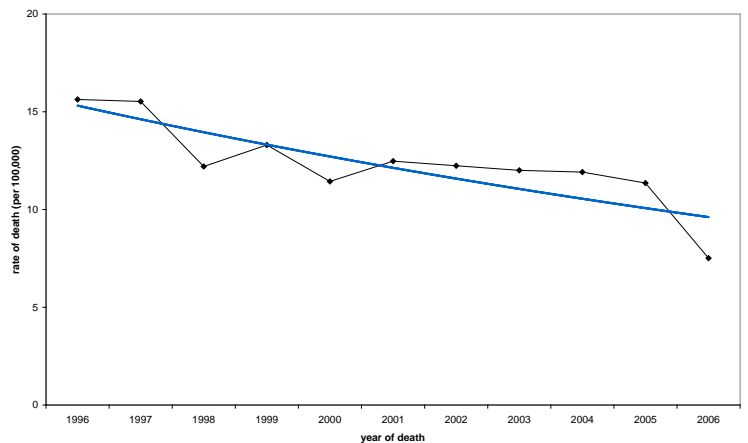
The OLDER ADULT UNINTENTIONAL injury death rates increased significantly over the eleven year period from 63.4/100,000 in 1996 to 87.2/100,000 in 2006, representing an estimated annual change of 4.2% (2.0% to 6.1%) and an overall increase of 57% (25% to 93%) based on the trend line.

**Figure 49: Trend in unintentional older adult injury death rate per 100,000 population, Victoria 1996-2006**



The OLDER ADULT INTENTIONAL injury death rates decreased significantly over the eleven year period from 15.6/100,000 in 1996 to 7.5/100,000 in 2006, representing an estimated annual reduction of 4.3% (-6.8% to -2.0%) and an overall decrease of 39% (-54% to -20%) based on the trend line.

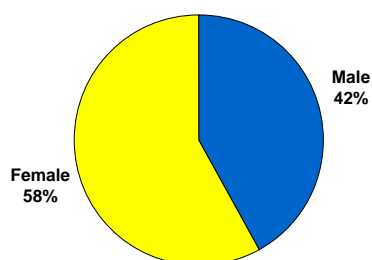
**Figure 50: Trend in intentional older adult injury death rate per 100,000 population, Victoria 1996-2006**



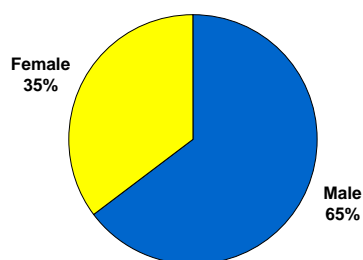
## Gender distribution

- Females were overrepresented in unintentional injury deaths (58%, n=344) and males were overrepresented in intentional injury deaths (65%, n=33).

**Figure 51: Older adult unintentional injury deaths by gender, Victoria 2006 (n=592)**



**Figure 52: Older adult intentional injury deaths by gender, Victoria 2006 (n=51)**



- The overall unintentional injury death rate was very similar for males and females (82.2 and 10.9/100,000 respectively). Males have a higher overall intentional injury death rate 10.9/100,000 v 4.8/100,000. (Table 23)

**Table 23. Frequency and rate of older adult injury deaths by intent and gender, Victoria 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
Male	248	82.2	33	10.9
Female	344	91.3	18	4.8
All	592	87.2	51	7.5

## Age distribution

- Unintentional injury death rates increased as age increased with the highest rates are in persons aged 85 years and older (375.7/100,000). Intentional injury death rates are more consistent with 75-79 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 2006.**

	Unintentional		Intentional	
	Frequency	Rate	Frequency	Rate
65-69 years	24	12.5	7	3.6
70-74 years	49	30.6	13	8.1
75-79 years	74	52.1	13	9.1
80-84 years	141	136.3	11	10.6
85+ years	304	375.7	7	8.7
All	592	87.2	51	7.5

## Place of injury occurrence

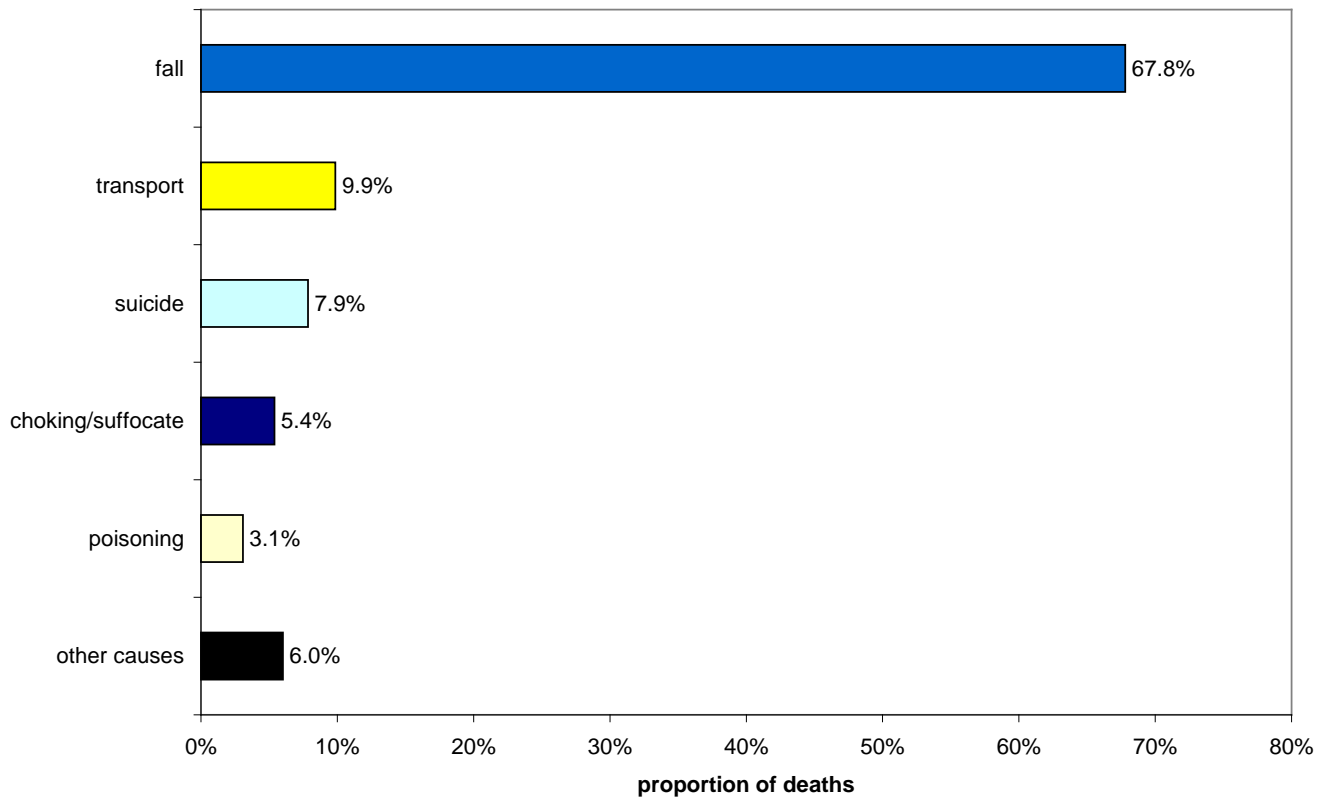
- A problem with the place of occurrence variable in the ABS-DURF file supplied by the Australian Bureau of Statistics precluded the analysis of place of injury occurrence data for the 2006 year. This section will be updated and figures 54 & 55 will be provided when the appropriate data has been made available by the ABS.



## Leading causes of injury

- Figure 53 shows the 5 major causes of older adult injury deaths. Falls account over two-thirds of injury deaths (68%, n=440), followed by transport incidents (10%, n=64), suicide (8%, n=51), choking/suffocation (5%, n=35), and poisoning (3%, n=20)
- The cause of fall death is mostly unspecified (64% of fall deaths, n=282). Of specified cases, 22% (n=298) were slips, trips and stumbles.

**Figure 53: Older adult injury deaths by major cause, Victoria 2006 (n=649)**



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

**Table 25 Ranking of causes for injury deaths among persons aged 65 years and older, Victoria 2006**

AGE GROUP	RANK	ALL INTENTS		
		CAUSE	FREQ	%
<b>65-74 years</b>	1	fall	31	33.3
	2	transport	24	25.8
	3	suicide	20	21.5
	4	choking/suffocate	7	7.5
	5	poisoning	6	6.5
	6	drowning	3	3.2
	7	other unintentional	2	2.2
			<b>ALL</b>	<b>93</b>
<b>75-84 years</b>	1	fall	148	61.9
	2	transport	29	12.1
	3	suicide	24	10.0
	4	choking/suffocate	14	5.9
	5	poisoning	8	3.3
	6	other unintentional	8	3.3
	7	natural/environmental/animals	5	2.1
	8	fires/burns/scalds	3	1.3
		<b>ALL</b>	<b>239</b>	<b>100</b>
<b>85+ years</b>	1	fall	261	83.9
	2	choking/suffocate	14	4.5
	3	other unintentional	12	3.8
	4	transport	11	3.5
	5	suicide	7	2.3
	6	poisoning	6	1.9
			<b>ALL</b>	<b>311</b>

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

## Appendix 1: VISU definitions, data sources and case selection

### DEFINITIONS

**'Injury':** Injury is commonly defined as: 'any unintentional or intentional damage to the body ... caused by acute exposure to physical agents such as mechanical energy, heat, electricity, chemicals, and ionizing radiation interacting with the body in amounts or at rates that exceed the threshold of human tolerance'.

**'Unintentional injury':** Injuries that are unintended, often described as 'accidents'. We try to avoid using the term 'accidents' as it implies that injuries are unavoidable.

**'Intentional injury':** Injuries that are the result of intended acts by people i.e., harm of one person by another (assault, homicide, neglect) or self-harm.

An injury **'death'** is defined as an injury or poisoning by an external cause (transport crash, fall, suicide, drowning etc.) that results in a person dying either in or out of hospital. All deaths by external causes must be reported to the Victorian Coroner.

### DATA SOURCE AND CASE SELECTION

#### Source: Australian Bureau of Statistics (ABS) Death Unit Record File (ABS-DURF)

Victorian injury death records are supplied to VISU by the ABS from their mortality unit record data collection and loaded onto the VISU-held ABS-DURF (Injury Deaths) dataset. The ABS sources their death data from deaths registrations administered by the various state and territory Registrars of Births, Deaths and Marriages. It is a legal requirement of each state and territory that all deaths are registered.

As part of the registration process, information on the cause of death is either supplied by the medical practitioner certifying the death on a *Medical Certificate of Cause of Death*, or supplied as a result of a coronial investigation. Data in the Causes of Death collection include demographic items, as well as Causes of Death information, that are coded according to the WHO International Classification of Diseases (ICD): Ninth Revision (ICD-9) from 1979 to 1996 or Tenth Revision (ICD-10) from 1997. The external causes chapters of ICD 9 and ICD 10 describe the causes of injury, poisoning and adverse events (complications of medical and surgical care). Deaths due to adverse events are usually not included in VISU reports.

Causes of Death data are published annually by the ABS and released within 15 months of the end of the reference period. For example, 2006 Causes of Death data were released on 14 March 2008 (VISU may receive the unit record file of injury and poisoning deaths 3-6 months later than the release date due to delays in preparing requested unit record file).

VISU currently holds unit record data on injury deaths (deaths due to external causes) for 1970, 1975, 1980, 1985, 1990-2006.

#### Inclusions (for this report)

- Main section: Victorian deaths recorded on the ABS-DURF occurring between January 1<sup>st</sup> 2006 and December 31<sup>st</sup> 2006, coded according to the ICD-10
- Trends section: Victorian deaths recorded on the ABS-DURF occurring between January 1<sup>st</sup> 1996 and December 31<sup>st</sup> 2006, coded according to the ICD- 9 (for 1996 deaths) or ICD-10 (for 1997-2006 deaths)
- Deaths must have an ICD9 cause of death code in the range 800–928, 930–958, 960–968, 970–978, 990–998 OR an ICD10 cause of death code in the range V00–Y84.

#### Exclusions (for this report)

- Deaths resulting from medical causes (adverse events and medical misadventure) were then excluded for final analysis (an ICD9 external cause code in the range 870–879 or an ICD10 code in the range Y40–Y84).