

National fatal injury profile

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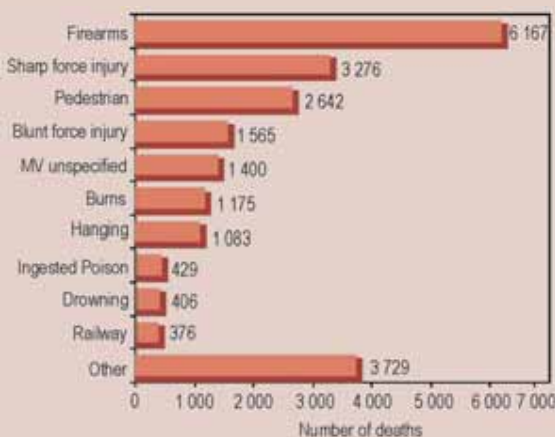
In the 2003 calendar year a total of 31 921 deaths presented to participating mortuaries, including 5812 (18.2%) deaths due to natural causes, 1509 (4.7%) that were either viewed or stored at the mortuaries and another 2352 (7.4%) where the cause of death was undetermined. Total injury deaths were estimated at 68 930 in 2000¹, although there have been indications that the annual number of non-natural deaths has been declining since 1996², so the 24 600 non-natural deaths recorded in the 2003 NIMSS data set represents at least 36%³ of all injury deaths. Unless otherwise stated, the analysis that follows is restricted to the 22 248 non-natural deaths due to violence, suicide, transport collisions and other unintentional injuries.

2.1 EXTERNAL CAUSE OF DEATH

The cause of death was unknown in 166 (0.7%) of the 22 248 cases. Of the remaining deaths, the leading external cause was firearms (27.9%), followed by sharp force injuries (14.8%), pedestrian fatalities (12.0%) and blunt force injuries (7.1%).

Figure 1

Leading external causes of death (N = 22 248)

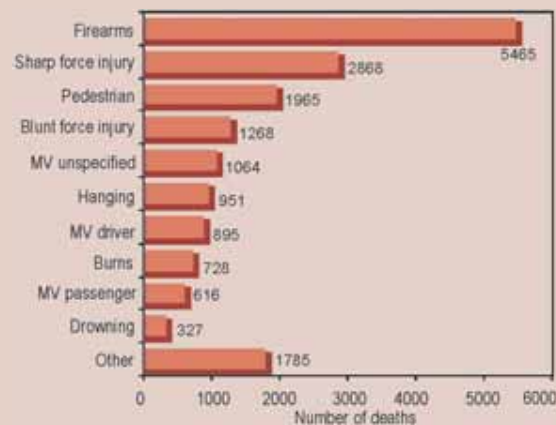


2.1.1 External causes of death, by sex

There were 4.4 male deaths from violence and injury for every female death. Among males, the cause of death was unknown in 111 (0.6%) of the 17 932 cases. Of the remaining deaths, the leading external cause was firearms (30.7%), followed by sharp force injuries (16.1%), pedestrian fatalities (11.0%) and blunt force injuries (7.1%).

Figure 2

Leading external causes of death among males (N = 17 932)

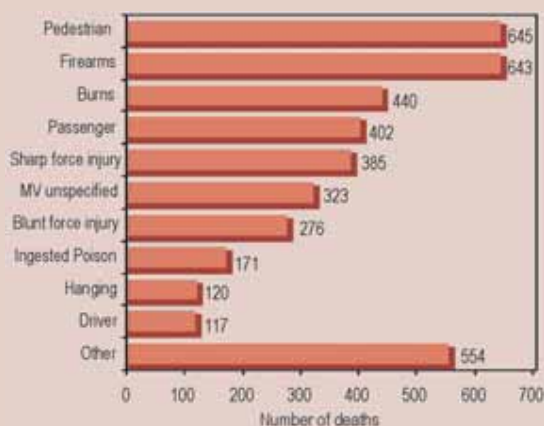


Among females, the cause of death was unknown in 47 (1.2%) of the 4076 cases. Of the remaining deaths, the leading external cause was pedestrian fatalities (16.0%) and firearms (16.0%), followed by burns (10.9%) and passenger fatalities (10.0%).

1. Bradshaw D, Groenewald P, Laubscher R, Nannan N, Nojilana B, Norman R, Pieterse D, Schneider M. Initial Burden of Disease Estimates for South Africa, 2000. Cape Town: South African Medical Research Council, 2003. ISBN: 1-919809-64-3.
2. Bah S. Unnoticed decline in the number of unnatural deaths in South Africa. South African Medical Journal 2004; 94(6): 442-443.
3. 95% confidence interval: 35.33%; 36.05%

Figure 3

Leading external causes of death among females (N = 4076)

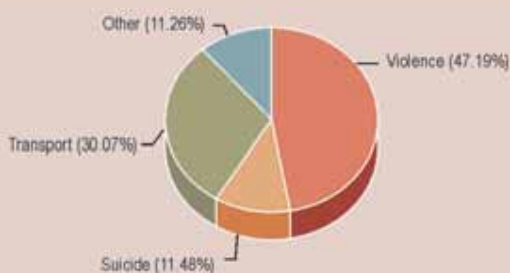


2.2. APPARENT MANNER OF DEATH

The most common apparent manner of non-natural death was violence (48% of injury deaths) followed by transport (30%).

Figure 4

Overall apparent manner of death (N = 22 248)



Age standardised mortality rate estimates for Cape Town, Durban, Johannesburg and Pretoria/Tshwane are shown in Table I. Cape Town had the highest age standardised injury mortality rate of 138 deaths per 100 000 population, due largely to the high rate of fatal violence (66 per 100 000). Johannesburg had the second highest mortality rate of 134 deaths per 100 000 population and, together with Durban, had the highest rate of fatal firearm violence (35 per 100 000). However, these data do not reflect the 30% decrease in fatal violence in Johannesburg since 1996.

Suicide rates were highest in Johannesburg (15 per 100 000 population), followed by Durban and Pretoria/Tshwane (14/100 000). Durban had the highest rate of suicide by hanging (7/100 000), which was the preferred method for suicide in both Durban and Cape Town. Pretoria/Tshwane had the highest rate of firearm suicides (6/100 000) and was the only city where firearms were the preferred method of suicide.

Johannesburg had the highest transport mortality rate (37/100 000 population) as well as the highest road traffic mortality rate (36 per 100 000). Cape Town and Durban had the highest pedestrian mortality rate (17 per 100 000) whereas Johannesburg and Pretoria/Tshwane had the highest driver mortality rate (5 per 100 000 population, each). The highest railway mortality rate was in Cape Town (4 per 100 000 population).

Cape Town and Johannesburg had the highest rate for unintentional injuries (15 per 100 000 population), largely due to the high rates of fatal burn injuries in these two cities.

Table I

Age standardised* injury mortality rates for four South African cities, 2003

| | Cape Town pop. 2 981 898 | | Durban pop. 3 158 908 | | Johannesburg pop. 3 303 520 | | Pretoria/Tshwane pop. 2 033 824 | |
|------------------------|-----------------------------|----------------------------|--------------------------|----------------------------|--------------------------------|----------------------------|------------------------------------|----------------------------|
| | Total deaths | Deaths/ 100 000 pop. | Total deaths | Deaths/ 100 000 pop. | Total deaths | Deaths/ 100 000 pop. | Total deaths | Deaths/ 100 000 pop. |
| Violence | 2166 | 66 | 2071 | 61 | 2024 | 52 | 548 | 24 |
| — firearm homicide | 933 | 28 | 1193 | 35 | 1384 | 35 | 319 | 14 |
| Suicide | 322 | 11 | 444 | 14 | 530 | 15 | 293 | 14 |
| — firearm suicide | 83 | 3 | 121 | 4 | 159 | 5 | 122 | 6 |
| — hanging | 146 | 4 | 223 | 7 | 203 | 5 | 89 | 4 |
| Transport | 996 | 33 | 64 | 34 | 1236 | 37 | 693 | 34 |
| — road traffic deaths | 862 | 28 | 999 | 32 | 1189 | 36 | 656 | 32 |
| pedestrian | 522 | 17 | 530 | 17 | 520 | 16 | 231 | 12 |
| driver | 116 | 4 | 114 | 4 | 160 | 5 | 117 | 5 |
| — railway deaths | 131 | 4 | 63 | 2 | 46 | 1 | 37 | 2 |
| Unintentional injuries | 442 | 15 | 265 | 9 | 474 | 15 | 212 | 11 |
| — burns | 245 | 8 | 68 | 2 | 180 | 6 | 71 | 4 |
| — drowning | 69 | 2 | 61 | 2 | 59 | 2 | 30 | 2 |
| ALL INJURY DEATHS** | 4305 | 138 | 4225 | 131 | 4751 | 134 | 2016 | 97 |

* WHO World Standard Population Distribution.

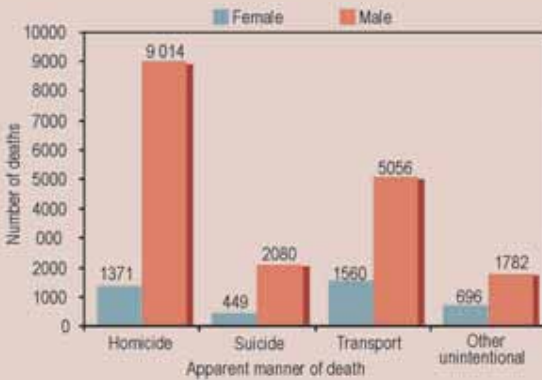
** Includes apparent manner of death undetermined.

2.2.1 Apparent manner of death, by sex

The leading cause of death among males was violence, accounting for 50.3% of male deaths, followed by transport (28.2%). The leading cause of death among females was transport (38.3%), followed by violence (33.6%). There were 6.6 male deaths for every female death due to violence. The ratios for suicide, transport and other unintentional injuries were 4.6, 3.2 and 2.6 respectively.

Figure 5

Apparent manner of death, by sex (N = 22 008)



2.2.2 Apparent manner of death, by age

The average age at death was 32.6 (± 14.7) years. The leading apparent manners of death among the various age groups were as follows:

- 0-14 years — transport (42.9%);
- 15-24 years — violence (57.9%);
- 25-34 years — violence (56.3%);
- 35-44 years — violence (48.9%);
- 45-54 years — violence (38.0%) followed by transport (36.5%);
- 55-64 years — transport (36.6%); and
- 65+ years — transport (37.4%).

Figure 6.1

Violence-related deaths by age (N = 9222)

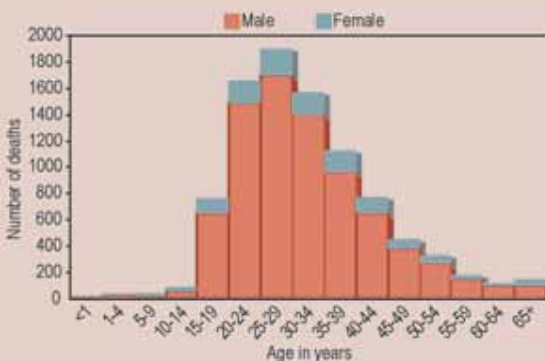


Figure 6.2

Suicide by age (N = 2205)

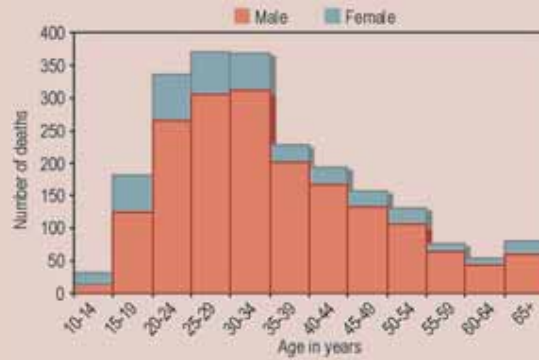


Figure 6.3

Transport-related deaths by age (N = 5469)

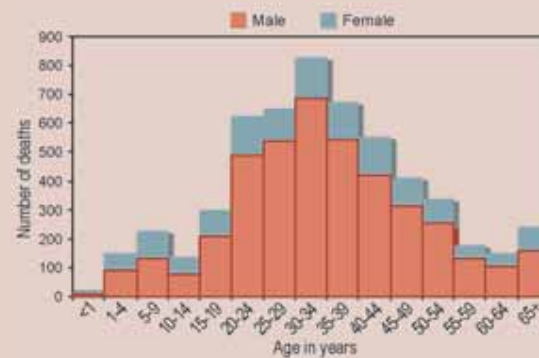
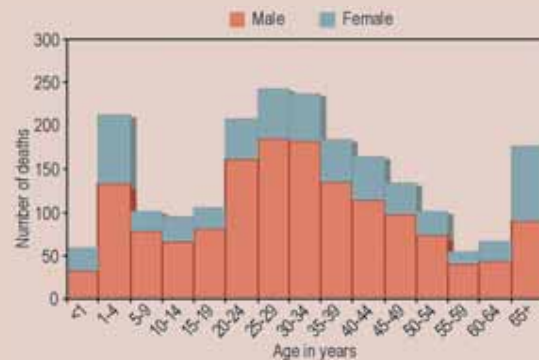


Figure 6.4

Deaths from other unintentional injuries by age (N = 2140)



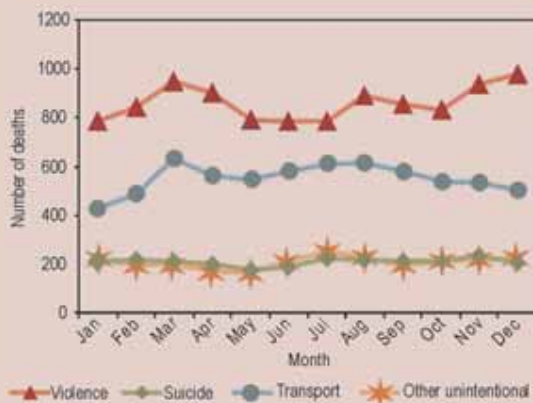
2.2.3 Apparent manner of death by month

The most common months for:

- **violence** was December (9.4%), followed by March (9.2%);
- **suicide** was November (9.5%), followed by July (8.9%);
- **transport-related deaths** was March (9.6%), followed by August (9.3%); and
- **deaths from other unintentional injuries** was July (10.9%), followed by August (9.1%).

Figure 7

Apparent manner of death by month (N = 21 915)



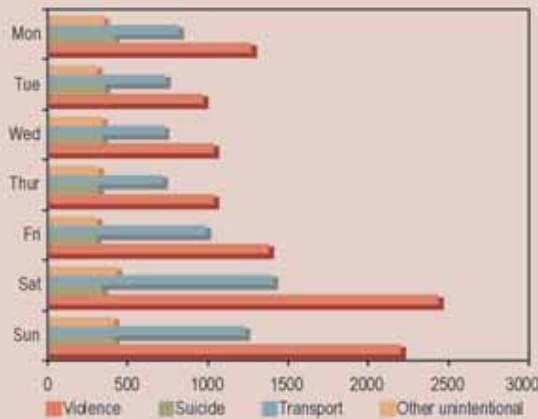
2.2.4 Apparent manner of death by day of the week

The most common days for death from:

- **violence** was Saturday (23.6%) followed by Sunday (21.3%);
- **suicide** was Sunday (16.8%) followed by Monday (16.7%);
- **transport-related deaths** was Saturday (21.2%) followed by Sunday (18.6%); and
- **other unintentional injuries** was Saturday (17.5%) followed by Sunday (16.7%).

Figure 8

Day of death (N = 21 907)



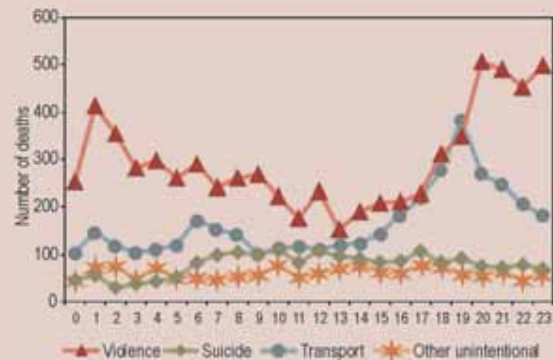
2.2.5 Apparent manner of death by time of day

The peak time(s) for death from:

- violence was 20h00 – 23h00 (27.2%) followed by 01h00 – 02h00 (10.7%);
- suicide was 07h00 – 10h00 (22.0%), followed by 12h00 – 14h00 (15.6%);
- transport-related deaths was 18h00 – 21h00 (31.3%), followed by 06h00 – 08h00 (11.5%); and
- other unintentional injuries was 14h00 – 18h00 (24.2%), followed by 01h00 – 04h00 (18.3%).

Figure 9

Apparent manner of death by time of day (N = 14 571)



2.2.6 Apparent manner of death by blood alcohol concentration

Blood alcohol concentration (BAC) was obtained in 11 390 (46.8%) of the 22 248 cases. The average BAC for those who tested positive was 0.18 (± 0.1) g/100ml.

Figure 10

Blood alcohol levels (N = 11 390)



Table II

Blood alcohol levels (g/100 ml) by apparent manner of death

| Apparent manner of death | BAC analysis N (%) | BAC positive N (%) | Mean BAC | Std Dev. |
|----------------------------|-----------------------|-----------------------|-------------|-------------|
| Violence (10 499) | 6099 (58.1) | 3101 (50.8) | 0.17 | 0.09 |
| Suicide (2555) | 1469 (57.4) | 515 (35.1) | 0.15 | 0.11 |
| Transport (6689) | 084 (46.1) | 1643 (53.3) | 0.20 | 0.10 |
| Other unintentional (2505) | 738 (29.5) | 311 (42.1) | 0.18 | 0.11 |
| Total (22 248) | 11 390 | 5570 | 0.18 | 0.1 |

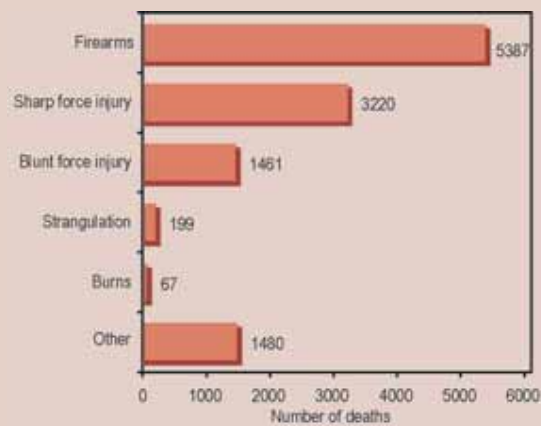
More fatalities tested alcohol-positive among the violence-related (50.8%) and transport deaths (53.3%). Among the positive cases, those who died from transport and other unintentional injuries had the highest mean BAC.

2.3 VIOLENCE

The cause of death was unknown in 70 (0.7%) of the 10 499 violence-related deaths. Of the remaining deaths, the leading external cause was firearms (51.7%), followed by sharp force injuries (30.9%), blunt force injuries (14.0%) and strangulation (1.9%).

Figure 11

Leading external causes of violence-related deaths (N = 10 499)

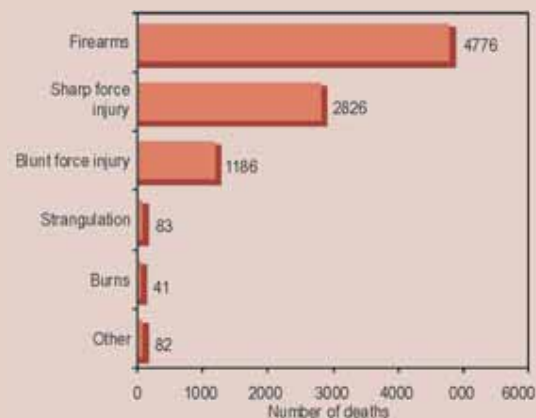


2.3.1 External cause of violent death, by sex

There were 6.5 male deaths as a result of violence for every female death. Sex was unknown in 114 of the 10 499 cases. Among males the cause of death was unknown in 42 (0.5%) of the 9014 cases. Of the remaining deaths, the leading external cause was firearms (53.2%) followed by sharp force injuries (31.5%), blunt force injuries (13.2%) and strangulation (0.9%).

Figure 12

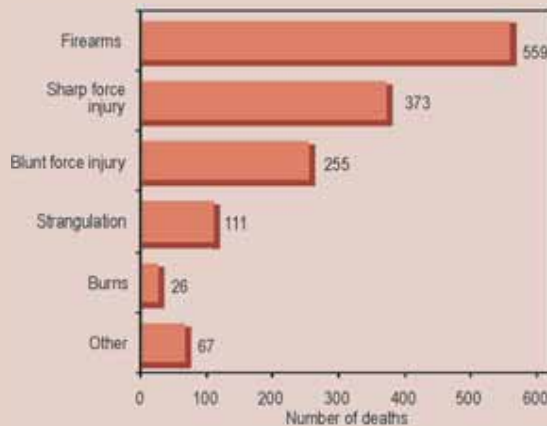
Leading external causes of violence-related deaths among males (N = 9014)



Among females the cause of death was unknown in 22 (1.6%) of the 1371 cases. Of the remaining deaths, the leading external cause was firearms (41.1%), followed by sharp force injuries (27.7%), blunt force injuries (18.9%) and strangulation (8.2%).

Figure 13

Leading external causes of violence-related death among females (N = 1371)



2.3.2 External cause of violent death, by age

Age was unknown in 1214 (11.6%) of the 10 499 cases. Of the remaining cases, the average age at death was 31 (\pm 11.9) years. Leading external causes of violence-related deaths were as follows in the various age groups:

- **0-14 years** — firearms (31.2%) followed by blunt force injury (20.0%);
- **15-24 years** — firearms (51.1%) followed by sharp force injury (35.5%);
- **25-34 years** — firearms (54.3%) followed by sharp force injury (31.8%);
- **35-44 years** — firearms (49.1%) followed by sharp force injury (31.1%);
- **45-54 years** — firearms (49.0%) followed by sharp force injury (30.1%);
- **55-64 years** — firearms (51.3%) followed by sharp force injury (24.3%); and
- **65+ years** — firearms (35.1%) followed by sharp force injury (27.9%).