

# CONCLUDING STATEMENT

The third annual report of the NIMSS has identified fatal injuries, especially as a consequence of violence and motor vehicle collisions, as a top South African public health priority. The majority of the annual injury deaths occurred among African and Coloured males in the economically active age range of 15-44 years. The leading manner of non-natural death for males was homicide, and for females, unintentional injury. More than half of all homicides were inflicted by firearms and a further third by sharp instruments. Most of these deaths occurred in private homes.

Most prominent external causes of death among the other age groups include burns for infants and children younger than 5 years, pedestrian injuries to children between 5 and 14 years of age, and then firearm injuries from 15 years onwards. Blood alcohol levels were particularly elevated in firearm and sharp instrument homicides, and among the pedestrians and drivers who died in motor vehicle crashes.

The NIMSS data can be used in the formulation of injury prevention policy and interventions. The data assist in the identification of potential victim groups, hazardous locations, times and instruments, and selected high-risk behaviours such as alcohol consumption.

We hope that the report will serve to raise more questions than answers about the underlying causes and risk factors that drive the patterns of fatal violence and injury among the different age, sex and racial groups by which the data have been analysed. For, if these questions can stimulate research to answer them, then the possibility of violence and injury prevention will be greater than ever before.

The Crime, Violence and Injury Lead Programme, which is co-directed by the MRC and UNISA, is committed to facilitating the use of NIMSS data by a wide range of stakeholder groups, but especially the forensic medico-legal services; the national crime prevention strategy; and violence and injury prevention agencies at local, provincial and national level.

The NIMSS could provide additional information, including for example suburb-level indicators of where injuries occurred and, of course, many cross-tabular analyses that could not be accommodated in this report. Agencies wishing to access this more detailed level of information are invited to send their requests for customised reports to the surveillance consortium.

# APPENDIX I. INTER-CITY AND REGIONAL COMPARISONS

*Compiled by Anesh Sukhai and Richard Matzopoulos*

Mortality rates were calculated for the five cities where the NIMSS provided full coverage:

- Cape Town (Tygerberg and Salt River mortuaries)
- Durban (Gale Street, Phoenix and Chatsworth)
- East London/King Williamstown/Bisho (Woodbrook and Mdantsane)
- Port Elizabeth (Mount Rd, New Brighton and Gelvandale) and
- Pretoria (Bronkhorstspuit, Medunsa and Pretoria).

We also calculated provincial rate estimates for Mpumalanga as 14 of the province's 18 mortuaries were included in the NIMSS and we were able to adjust the data for the 4 missing mortuaries. The Mpumalanga adjustment was done as follows. In 2001, there were 1135 deaths that were recorded at the four missing mortuaries (Ermelo, Kamatipoort, Middelburg and Secunda).<sup>10</sup> We assumed that these mortuaries recorded the same percentage of non-natural deaths as the 14 Mpumalanga mortuaries included in the NIMSS (i.e. 42.4%), and hence we added 481 deaths to our total caseload for Mpumalanga. We also assumed that these missing cases followed the same distribution as the others with respect to the manner and cause of death.

As 2001 Census data were not available at the time of writing this report, population estimates for the five cities were calculated by adjusting city-specific estimates from the 1996 Census by provincial population growth estimates. The 1996 Census data were obtained from the South African Municipal Demarcation Board<sup>11</sup> and adjusted to the actual catchment areas of the respective mortuaries. City-specific growth rates were unavailable and hence we used provincial growth estimates calculated using 2001 projected figures from the Actuarial Society of South Africa (ASSA).<sup>12</sup> The provincial population growth estimates from 1996 to 2001 are summarised in Table XVIII below. The estimated city-specific and provincial populations are summarised in Table XIX.

*Table XVIII. Provincial population growth estimates - 1996 to 2001.*

	1996 Census	2001 Actuarial	% Growth
Eastern Cape	6 302 525	7 019 725	11.38
Gauteng	7 348 423	8 927 110	21.48
KwaZulu Natal	8 417 021	9 348 732	11.07
Mpumalanga	2 800 712	3 096 053	10.55
Western Cape	3 956 875	4 478 733	13.19

*Table XIX. Estimated city-specific and provincial populations.*

	Province	Estimated growth	1996	2001
Cape Town	Western Cape	13.19	2 453 900	2 777 536
Durban	KwaZulu Natal	11.07	2 519 995	2 798 943
East London	Eastern Cape	11.38	682 015	759 625
Mpumalanga		10.55	2 800 712	3 096 053
Port Elizabeth	Eastern Cape	11.38	969 438	1 079 755
Pretoria	Gauteng	21.48	1 682 124	2 043 500

The preliminary 13 non-natural mortality rate estimates for the five cities and Mpumalanga are shown in Table XX. The East London/King Williams Town/Bisho area of the Eastern Cape had the highest overall injury mortality rate of 203 deaths per 100 000 population, due largely to the high rates of intentional injury deaths in the area (suicide and homicide). Cape Town had the second highest injury mortality rate of 170 deaths per 100 000 population, as well as the second highest homicide rate. Durban had the third highest overall injury mortality and homicide rates, but the highest firearm homicide rate of all five cities.

Suicide rates were highest in East London (19/100 000 population), followed by Pretoria (17/100 000 population) and Port Elizabeth (15/100 000 population). Hanging accounted for more than half the suicides in East London (10/100 000 population), while firearm suicide was the preferred method in Pretoria (7/100 000 population).

Pretoria had the highest transport mortality rate (44/100 000 population), although there was less variation in the transport rates than for the other categories (27-44/100 000 population). The higher pedestrian mortality rate in Cape Town is mainly due to the lower percentage of 'unspecified' motor-vehicle fatalities.

East London also had the highest rates for unintentional injuries (27/100 000 population), followed by Cape Town (17/100 000 population), largely due to the large number of deaths due to burns in these two cities.

Based on these data it is clear that urban mortality rates are much greater in the five cities than in Mpumalanga, a rural province. However, this but might be explained by a lower percentage of non-natural deaths reporting to mortuaries in rural areas.

Table XX. Estimated crude mortality rates.

	Cape town		Durban		East London		Mpumalanga		Port Elizabeth		Pretoria	
	pop. 2 777 536		pop. 2 798 943		pop. 759 625		pop. 3 096 053		pop. 1 079 755		pop. 2 043 500	
	Total deaths	Deaths/100 000 pop.	Total deaths	Deaths/100 000 pop.	Total deaths	Deaths/100 000 pop.	Total deaths	Deaths/100 000 pop.	Total deaths	Deaths/100 000 pop.	Total deaths	Deaths/100 000 pop.
Homicide	2436	88	2231	80	759	100	518	17	765	71	833	41
- firearm homicide	1122	40	1345	48	219	29	296	10	171	16	519	25
Suicide	314	11	341	12	143	19	280	9	165	15	350	17
- firearm suicide	83	3	65	2	28	4	74	2	35	3	140	7
- hanging	135	5	202	7	79	10	136	4	72	7	103	5
Transport deaths	1157	42	1144	41	306	40	831	27	353	33	905	44
- road traffic deaths	1010	36	1080	39	296	39	1146	37	344	32	867	42
pedestrian	619	22	423	15	98	13	198	6	146	14	294	14
driver	116	4	95	3	40	5	136	4	44	4	139	7
- railway deaths	147	5	62	2	10	1	8	0.3	9	1	31	2
Unintentional injury deaths	469	17	320	11	207	27	194	6	104	10	315	15
- burns	240	9	63	2	96	13	29	1	42	4	70	3
- drowning	82	3	64	2	39	5	63	2	15	1	51	2
Undetermined deaths	341	12	448	16	128	17	154	5	304	28	370	19
<b>ALL INJURY DEATHS</b>	<b>4717</b>	<b>170</b>	<b>4484</b>	<b>160</b>	<b>1543</b>	<b>203</b>	<b>1977</b>	<b>64</b>	<b>1691</b>	<b>157</b>	<b>2773</b>	<b>136</b>

# APPENDIX II: NIMSS DATA COLLECTION FORM

### NIMSS DATA COLLECTION FORM

Mortuary \_\_\_\_\_ Police No. \_\_\_\_\_ Officer collecting body (Surname) \_\_\_\_\_

PM no. \_\_\_\_\_ PM Date         Pathologist (Surname) \_\_\_\_\_

Date & Time of Injury         Race       Sex

Date & Time of Death         Age

Medical treatment of injury prior to death (check only ONE)  1 None  2 Emergency care at scene  3 Hospital care

Province of injury (may differ to province of death) \_\_\_\_\_ Scene of injury (may differ to scene of death) \_\_\_\_\_

1 Dairling	7 Mpumalanga	1 Private house & yard (inc. pool)	9 Medical service area
2 W. Cape	8 Northern Province	2 Residential institute	10 Industrial & construction area, mine
3 K.Z. Natal	9 North West	10 Informal settlement/squatter camp	11 Farm, primary production area
4 E. Cape	10 Unknown	3 Bar, shebeen, N.C.UB, disco	12 Sea, lake, river, dam
5 N. Cape	11 Other (specify) _____	4 Amusement park, sports area	13 Open land, beach
6 Free State		5 Road/street/highway	14 Countryside
		6 Railway track, station	15 In custody, prison
		7 Shop, bank, retail area	16 Place unknown
		8 School, educational area	17 Other (specify) _____

Town of injury \_\_\_\_\_  
Suburb or District \_\_\_\_\_

#### External Cause or Circumstance of Injury

1 Poison (Ingestion)	8 Fall/quit/jump from height	17 Motor vehicle Driver	24 Abandoned baby
2 Sharp Object	10 Other fall/quit/jump	18 Motor vehicle Unspecified	25 Electrocution
3 Blunt Object	11 Cruising	19 Railway casualty	26 Explosive blast
4 Strangulation, suffocation, asphyxia	12 Drowning, aspiration	20 Bicycle, motor cycle	27 Natural cause
5 Hanging	13 Drowning, immersion	21 Aviation casualty	28 Unknown
6 Poisoning, ingestion	14 Lightning	22 Medical Procedure	29 Other Specific Cause
7 Poisoning, gassing	15 Motor vehicle Pedestrian	23 Sudden Infant Death	
8 Burn	16 Motor vehicle Passenger	24 Abortion, still birth	

#### Apparent Manner of Death

1 Homicide  2 Suicide  3 Accident  4 Natural  5 Undetermined

#### Samples Taken (check all)

1 None  2 Blood  3 Tissue  4 Other fluid

#### Alcohol and Other Substances (for completion by surveillance consortium staff)

Blood Alcohol Level     Eye Fluid Alcohol     Other Substances (Specify) \_\_\_\_\_

For completion following court investigation: homicides and suicides only

Type of Intentional Violence		Perpetrator - Victim Relationship	
1 Intra-personal	6 Rape, Sexual	1 Spouse, Partner	5 Friend
2 Self Directed	7 Child Abuse	2 Parent	6 Official/Legal Authority
3 Legal intervention	8 Unknown	3 Other relative	7 Stranger
4 Gang, Syndicate	9 Other (specify) _____	4 Unrelated Caregiver	8 Acquaintance
5 Verbal Intimidation			9 Unknown
			10 Other Specified Person(s)

Context of Violent Attack (Code from court record) \_\_\_\_\_