

INJURY AND SAFETY MONITOR

E D I T O R I A L

Sandra Marais

In this edition of the *Injury and Safety Monitor* we would like to highlight some issues relating to health in general and injuries in particular in the rural Western Cape. We will be referring to the findings of two studies. The first study is a cross sectional hospital-based survey on trauma cases in three rural towns, the causes of these injuries as well as information on perpetrators of injuries caused by violence. The second study is an exploratory study on the documentation of injury data by trained health workers on a sample of fruit farms for a one-year period.

In our studies on the epidemiology of injuries, the Crime, Violence and Injury Lead Programme has concentrated more on injury data at hospitals in urban areas. Issues that are unique to rural areas are the lack of information on occupational and other injuries on farms, difficulty of access to health care (especially of people working on farms) and general lack of data on injury profiles. Farm dwellers are also vulnerable to organophosphate poisonings and suicides by organophosphates. (London *et al.*, 1994)

Previous studies have shown that, for the Western Cape, injury profiles for rural and urban areas are basically similar, and that the same rank order for injuries apply for both rural and urban areas. These studies found that violence was by far the major contributor in both regions, and even higher in the rural areas. Alcohol played a significant role in both the rural and urban settings, but the influence was even more profound in the rural areas. Injuries related to traffic, sport and occupation showed more or less the same profile for rural and for urban settings (Strydom, 1994).

The articles in this edition will highlight the following issues:

- The hospital-based survey in three rural towns included questions on detail of perpetrators. With violence-related injuries being the biggest single contributor to injury epidemiology, it is crucial that we study the circumstances of the violent act in more detail if any planned action is envisaged for the future in rural as well as in urban areas. Some studies have been done on intimate partner violence in the farming context in an attempt to understand the interplay between alcohol, violence and the position of women on farms (Pareeze & Smythe, 2003; Sunde & Kleinbooi, 1999). The article on perpetrators in this edition adds to the little knowledge that is available on perpetrators of violence as it relates to injuries.
- In the analysis of hospital-based data on injuries sustained on farms it was found that the incidence of violence-related injuries were higher on farms than for the rural area in general. Both hospital-based and mortuary data were analysed.

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IN THIS ISSUE

- Editorial Page 1
- Injuries on farms – the role of the community-based health worker in documenting data Page 2
- Violence – some information on perpetrators Page 6
- Farm injuries in the Western Cape – findings from a hospital-based study Page 8
- Ongoing research projects involving rural communities Page 10
- An overview of the Rural Injury Surveillance Study (RISS II) Page 11

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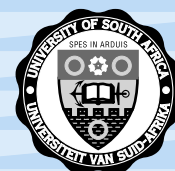
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- The third article elaborates on the contribution of trained farm workers (usually women) to document information on injuries occurring on farms. The training of specifically designated women to perform specialised tasks to prevent illness and to document data is not new to South Africa. Results from a recent randomised control trial showed that through the contribution of health workers on farms trained in TB screening and treatment activities within a primary health care approach, the treatment completion rates improved significantly (M. Clarke, personal communication, 2004). The utilization of lay health workers to supplement the formal health system is an untapped source that needs to be developed, especially for the rural areas. Access to health facilities is becoming increasingly more difficult. Due to health budget cuts, mobile clinic visiting points were reduced dramatically in rural areas in South Africa since 1997. Rural areas are becoming more complex as the operational borders between rural and urban are increasingly connected (Rabinovitch, 1999). These linkages manifest in terms of demography, investments and infrastructure, services delivery and the flow of information and technology. People's lives are influenced and transformed

by the urbanisation process, irrespective of whether they live in rural or urban areas. Future intervention issues in rural areas will have to view rural and urban areas as a continuum rather than a dichotomy (Mutizwa-Mangiswa, 1999).

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INJURIES ON FARMS – THE ROLE OF THE COMMUNITY BASED HEALTH WORKER IN DOCUMENTING DATA

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Introduction

Lay persons acting as community health workers have shown that they can effect major changes in mortality and other indices of health status. In some communities they can satisfy health needs that cannot be realistically met by the formal health system (Kironde & Klaasen, 2002). Community based health workers (CBHW) include a variety of health auxiliaries who are selected, trained and work in the communities in which they live.

CBHWs perform a wide variety of functions and have been incorporated in programmes dealing with TB control, HIV/Aids counseling, and interventions regarding general issues related to health care delivery and welfare. CBHW's are usually trained in some way in the context of the intervention, but usually have no formal professional certification (Friedman, 2002). Mostly, CBHW's are not paid for their services and work as volunteers driven by their willingness to provide a community service.

The issue of whether non-payment in poor communities is a fair practice and whether it should be encouraged has been a point of debate for a long time (Friedman, 2002). Historically, the concept of CBHW's in one form or another can be associated with the World Health Organisation's Alma Ata Declaration in 1978 to establish the Primary Health Care paradigm in which community participation and intersectoral cooperation are emphasized. In many developing countries formal health services do not reach poor, and especially rural poor segments of the population. It is in this situation that CBHW's can make a huge difference.

In this article the usefulness of CBHW's in the collection and documentation of information on injuries on farms in the Western Cape, South Africa, will be discussed

Injuries on farms

Agricultural employment is among the most hazardous occupations. Injury and disease associated with physical, chemical and biological hazards occur disproportionately among agricultural workers and their families (Current Trends, MMWR, 1991). The most widely recognized hazards of farm work are pesticides and agricultural machinery, but farm workers are also exposed to severe climatic conditions, physical fatigue and stress, parasites and infectious diseases (Demers & Rosenstock, 1991). In South Africa agriculture is one of the major sectors contributing to high fatality rates – in 1994 agriculture contributed 16% of fatal occupational injuries, second only to the transport sector (Jeebhay & Jacobs, 1999).

There is a global paucity of data on farm injuries. Some national systems on injuries in the agricultural field exist in high income countries, for example the Canadian Agricultural Injury Surveillance Program based on data on fatalities, hospitalisations and emergency outpatient care (Hartling et al, 1998). However, in most of the low-income countries no such systems exist. Hospital data will give some profile of the most severe cases, but injuries not reaching the hospital and the less serious cases, are missed. In fact, what is really needed to prevent occupational (and other) injuries on farms, is detail on the mechanisms of, and reasons for the injury episode. The difficulty and cost of collecting data on an ongoing basis on farms due to large distances is a major reason for the lack of detailed information on farm-related injuries. To improve the work environment on farms and create safer work conditions, it is crucial to have ongoing monitoring of the type, the location and causes of injuries. A complicating factor to the surveillance of injuries on farms is the unique nature of the farm - it is a work environment, while simultaneously being a place of residence and recreation. Ideally both work-related and all other injuries should be documented for purposes of prevention interventions.

Methods that have been used to collect data on farm injuries are regular telephone calls to farmers to report on *ex post facto* injury cases, examining of official data sources eg. compensation records (known to be insensitive to the total extent of occupational conditions), pesticide related claims (notoriously inaccurate and underreported not only in developing countries but worldwide) and the like (Demers & Rosenstock, 1991; Tattersall, 2003). As indicated, many of these sources are not reliable.

This article explores the possibility of the utilisation of farm based CHW's to collect and document detail of injuries occurring on farms.

Methodology

A sample of 48 farms was selected in three areas in the Western Cape winelands and deciduous fruit areas, using a purposive non-probability sampling method. This method is suitable for exploratory studies where selection has a specific purpose. Farms that were included in the study already had trained lay health workers (a type of CBHW). These lay health workers (LHW) were trained by the Rural Foundation, a private sector initiative, that operated in the eighties and early nineties, and/or by the Capespan Women's Forum, still operating in the area.

The LHW's, usually women, were/are still trained in the principles of first aid and have a general knowledge of a range of health issues. They can treat elementary conditions like headaches, sprains, and minor injuries and ailments and can alert an appropriate person in case of a serious condition or injury. Some LHW's keep records of these incidents.

Because of their background and training, they could easily be trained to complete questionnaires for the research project. Another very important reason for selecting these farms were that the "fieldworker" lived on the farm, need not travel great distances to do fieldwork, and therefore could also record injuries occurring outside working hours and over weekends.

Farms included in the study can be regarded as the more progressive and successful farms in the study area forming part of a drive to provide opportunities for farm workers to attend on-the-job training courses and skills development programmes on an ongoing basis since the eighties.

All injuries that occurred on the farm, both within as well as outside working hours, needing some form of treatment, were documented for a one-year period to allow for seasonal variations regarding vulnerability to and type of injury. Injuries were documented by the LHW using a questionnaire that captured demographic data of the injured as well as the circumstances of the injury episode. The questionnaire was a one-page, tick-option instrument, with one open question where the circumstances surrounding the injury had to be written down (attached).

Consent was obtained from the farm owner/manager. The aims of the project was subsequently explained to the LHWs on the selected farms who in turn explained the purposes of the study to the farm workers. The LHWs received training in the use of the questionnaire.

Initially forms were checked once a month, but were subsequently collected every 4 to 6 weeks at a group training and report back session. Regular feedback and training sessions where LHWs from an area met and exchanged information was found to be very important in obtaining the correct information as well as fostering a good spirit and motivation. After four months, data were analysed and the findings discussed with the LHWs and some of the farmers to familiarise them with the eventual outputs of the project.

Findings in brief

A total of 500 injuries were recorded for a period of twelve months on the 48 selected farms. Although farms varied in size, number of workers on farms and frequency of injuries per farm, an average of 10.4 injuries occurred per farm for the year, or 0.9 injuries per farm per month for the one-year period. Two deaths were recorded for this period.

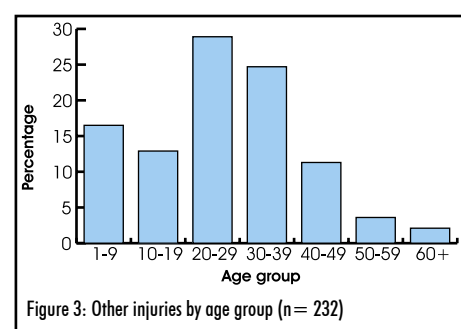
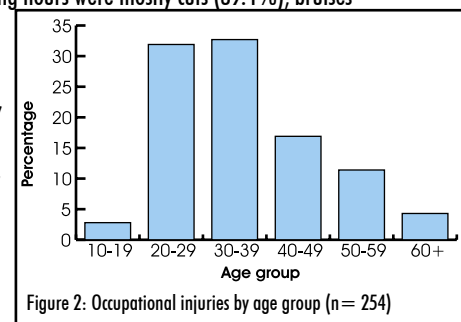
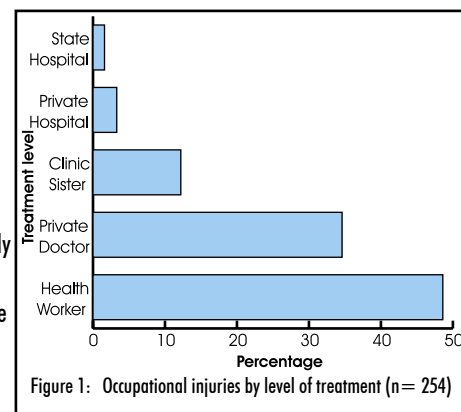
Half of these injuries (52.3%) were work-related. The rest of the injuries included injuries to children, visitors, pensioners, non-working spouses and injuries to workers in their leisure time.

Nearly two-thirds of the work-related injuries were not serious enough to warrant a compensation claim. These injuries were mostly treated by the LHWs or nursing sisters on the farms (60.2%). The more serious injuries were treated by private practitioners or private and state hospitals in the nearest town (Fig. 1).

Workers between the ages of 20 to 39 were mostly at risk for injuries in the workplace (64.6%). As can be expected, not many work-related injuries occurred in the older age group (15.7% > 50 yrs). (Fig. 2).

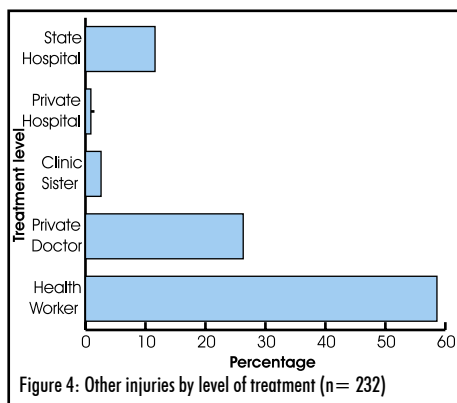
The type of injury sustained during working hours were mostly cuts (39.4%), bruises (13.8%), abrasions (10.2%) and sprains (8.7%). Body parts mostly hurt in these injuries were—in order of frequency—fingers, eyes, hands and feet. A small percentage of injuries were caused by motor vehicles (5.5%), which included tractors. A few poisonings (three in total) were also documented which were most probably caused during spraying by organophosphates. Work-related injuries occurred mostly in the orchards (65.7%) and in and around the barn (25.1%). Most of these injuries did not result in any time taken off work. In 42.6% of the cases workers could go back to work after their injury was treated. A further 39.1% of the injured workers took one or two days off work. Only the more serious cases needed longer than a week to recuperate.

Almost half of the injuries documented were not work-related (46.4%). Over 70% of these injuries affected males. Nearly thirty percent of these injuries that were not work-related were sustained by children and youth under the age of 20 (17.2% were injuries to young children under the age of ten). More than 50% of the non work-related injuries were sustained by people between the ages of 20 and 39 years (Fig. 3).



A disturbing 40.9% of injuries that were not work-related were due to violence (for the age category 20 to 39 years, 61.7% of injuries were due to violence). Most of these violent assaults were male on male incidents, but in 29.8 % of the cases, women were the victims. In 50% of all cases of injuries outside working hours, it was indicated that alcohol played a role, while in 10% of cases the victims reported using drugs prior to their injury. In 89.9% of cases where injuries were due to violence, alcohol played a role. As can be expected, most of these injuries occurred over weekends and in and around the home (62.1%).

The level of health care was again mostly on the primary care level in the majority of instances and could therefore be treated by the LHW on the farm (in 58.6% of cases) (Fig. 4).



The research process: reactions from the LHW's

The LHWs were all female, with an average age of 28. All of the women were literate except one who was helped by a family member to fill in the forms. Most of the women had other jobs in addition to being a LHW on the farm.

Completeness and correctness of the information

Information on the forms were checked throughout the research period by two persons appointed specifically for this task. It took time to establish a system where the necessity for complete information was realised. Once this process was institutionalised, the forms were filled in correctly and information proved to be reliable. Supervision and checking were therefore crucial in the first few months.

Views and experiences of the LHWs

The research process and the filling in of forms were initially experienced as a new concept, but overall the work was seen as a challenge. Some of the LHWs were very anxious in the beginning, but as soon as they were more familiar with the work, they were much more relaxed and enjoyed the work. To be part of a research project gave them tremendous self-confidence, a pride in their work, and a sense of dignity and responsibility. They indicated that they would like to continue with the work, but need further training especially in first aid.

Advantages of using LHWs on farms

- LHWs, especially if they are selected by the farm workers, have a good knowledge about the activities and living conditions on the farm, because they work and live there. More often than not, they are in a position to give detailed information on the circumstances that led to an injury. Because they initially

treat the patient or refer the patient to a doctor or hospital, chances are good that the injury information will be filled in correctly.

- Very importantly, LHWs act as a temporary substitute and link between the patient and the formal health care system. Rural areas are under-resourced as far as health care is concerned and the importance of trained LHWs on farms cannot be overemphasized. They fill an important gap.
- Evidence for the value and cost-effectiveness of LHWs has been documented for a range of tasks (Friedman, 2002). If trained properly, they are a huge saving to the farm management. A large percentage of injured persons can be cared for by the LHW. Her proximity to the farm makes it possible for her to contact the relevant people if the injury is serious.

Recommendations for future action

Widespread agreement exists that CBHWs in whatever form have a role to play in improving the health of communities and to fill the gap in areas where the existing formal health care cannot reach (Friedman, 2002). A first important step would be the acknowledgement and recognition of this category of worker as an essential part of the district health team from the health authorities. Much has been done already in KwaZulu Natal (Friedman, 2002). In the Western Cape, positive results from a DOTS randomised control trail where lay health workers on farms were involved are being negotiated at the moment with the local district health authorities (Clarke, verbal communication, 2004).

The inclusion of CBHWs in the provision of services should provide for adequate supervision, training, and resources, and should include ongoing monitoring of programmes and evaluation of results.

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PROJECT: INJURIES ON FARMS

Farm:

Patient :		Gender : <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; text-align: center;">M</td><td style="width: 20px; text-align: center;">F</td></tr></table>		M	F	Age:			
M	F								
Date of injury: 19			Time of injury:ampm						
Injured:	Perm. worker 1	Contract worker 2	Casual worker 3	Other: 4	Unknown 9				
	Cause: Violence		1	WCA		1			
	Vehicle accident		2	Work, not WCA		2			
	Other accident		3	Not work		0			
	Poisoning		4	Unknown		9			
Unknown		9							
Treated by:	Health worker	1	Days off-	Hospital	[]				
	Sister at clinic	2		Home	[]				
	Private doctor	3		Total	[]				
	State hospital	4	Alcohol related	yes	1	No	0	Unknown	9
	Private hospital	5		yes	1	No	0	Unknown	9
Unknown	9	Drug related	yes	1	No	0	Unknown	9	

What part of the body was hurt?

What was the cause?

Explain what happened.

In your opinion, how could it have been avoided?

Rekord Nr :

Violence: Some information on perpetrators

Hilton Donson and Sandra Marais Crime Violence and Injury Lead Programme

Introduction

The World Health Organisation reports that more than a million people lose their lives annually and many more suffer non-fatal injury as a result of various types of violence (Krug et al, 2002). While information regarding criminal violence involves mostly victims, very few studies have examined the traits of perpetrators. Criminal justice studies suggest that the demographic characteristics of perpetrators are usually similar to those of their victims (Criminal victimisation in the US, 1994; Bachman & Saltzman, 1995), and that victims often become involved as perpetrators at some point (Songer et al, 2002). Studies have also shown that perpetrators are in most cases known to the victim and that many assaults take place in the home of the victim or perpetrator (Jackson, 1997). Scientific studies of perpetrators that include demographics, though, are infrequent. Studies of perpetrators are complicated by the fact that incomplete information is kept on record. Hospital-based studies show that records on, for instance, domestic violence, are inadequately kept and that critical information on perpetrators are often missing (Tata institute of social sciences, 1999).

Currently South Africa is characterised by high levels of violent crimes. South Africa has been referred to as a society which endorses and accepts violence as an acceptable and legitimate means to resolve problems and achieve goals (Vogelman & Simpson, 1990). Statistics seem to support the view that South Africa is an extremely violent country. A 1996 study indicated that over a period of five years, almost 70 per cent of the urban population in South Africa were victimised at least once (Van Dijk, 1996).

This article reports on findings from a hospital-based survey, conducted in three rural towns in the Western Cape (Hermanus, Vredenburg and Worcester) in 1999/2000. Questions on perpetrators were included in the questionnaire.

Methodology

A rural injury surveillance study was conducted in 1999/2000 for a two-month period (a summer month and a winter month) at state and private hospitals in three rural towns in the Western Cape viz. Worcester, Hermanus and Vredenburg.

The major objective of the study was to monitor trauma trends in the rural Western Cape. The study was a cross-sectional, descriptive study of the incidence of trauma. Included were all patients who attended the trauma units of private and state medical institutions during the two-month study period, as well as all deaths recorded at the mortuaries of these towns over a nine-month period.

Only patients who attended the hospital for the first time with the particular injury were included. Patients were included even though their injury may have occurred a few days earlier. Drownings and poisonings (including attempted suicide by drugs/chemicals, etc.) were included in this project. Patients that were referred to the participating hospital from other centres if their major care was undertaken at the participating hospital, were included.

Patients excluded from the study were those referred only for radiological tests (X-rays), all medical cases; (except poisonings, drug overdoses and drowning); those attending the hospital for follow-up treatment of an injury, insect and snake bites;

those who absconded before any treatment was started; and patients referred to the participating hospital after the major medical care has been given at another hospital. Those who were certified dead on arrival (DOA's) at hospital were not included.

Each patient was interviewed by a trained nurse using a specially constructed interview questionnaire. Alcohol usage was assessed using self-report. Self-report was conducted by either asking the patient whether he/she had consumed alcohol prior to their injury or by using clinical judgement in unconscious or uncooperative patients. Self-report was also used to assess drug usage among patients. For the completion of the questionnaire, informed consent was obtained from the patient. It was therefore necessary to obtain permission by briefly explaining the purpose of the interview to the patient. The patient was assured that all the information would be handled confidentially.

Results

In the study period of two months, 2709 injuries were recorded at the state hospitals of the three towns. If the data are extrapolated, it can be assumed that they see an expected annual total of 16 254 trauma cases. Violence accounted for 9396 (57.8%) of all injuries.

In more than 70% of cases, violence victims were either injured with a sharp or blunt object or a combination of the two, i.e. sharp and blunt. A further 8% were kicked or punched.

Rape accounted for about one per cent of all violent episodes, but this figure could be higher due to under-reporting of such cases. Furthermore, this study only registered rape cases who had significant physical injuries and were treated at these hospitals (Fig 1).

Perpetrator of violence

The perpetrator of violence was not reported in 1920 (20%) of the cases. Of the remaining 7476 cases, 40% was either a friend or neighbour while in more than one-quarter of cases it was a stranger. In more than 10% of the cases the perpetrator was a spouse or intimate partner. It is suspected that this variable was under-reported since some victims (largely women) were accompanied by their abusers or were hesitant to implicate their partners (Fig 2). In 87% of cases the perpetrator of violence was male.

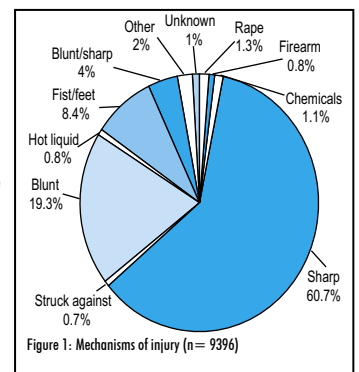


Figure 1: Mechanisms of injury (n = 9396)

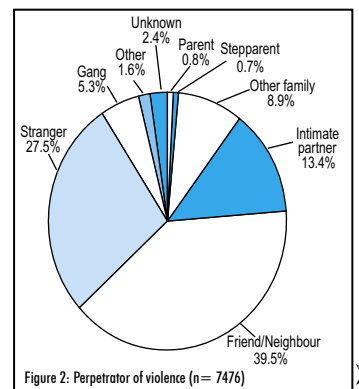


Figure 2: Perpetrator of violence (n = 7476)

Table 1: Victim gender by perpetrator gender
Table 1 shows that injuries sustained were largely due to male-on-male violence followed by male-on-female violence.

Victim gender	Perpetrator gender		Total
	Male	Female	
Male	(n=4740) 62.7%	(n=528) 7.0%	(n=5268) 69.7%
Female	(n=1824) 24.1%	(n=462) 6.1%	(n=2286) 30.3%
			(N=7554) 100%

Male-on-male violence

Figure 3 shows that more than 50% of perpetrators were known to the victim. This category included friends, neighbours, parents and other family members. In one third of cases the perpetrator was a stranger.

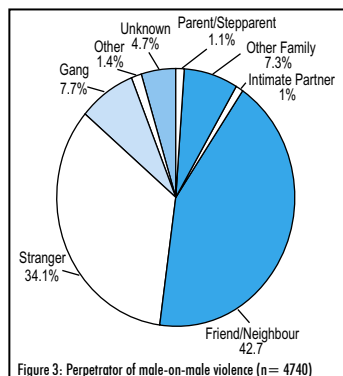
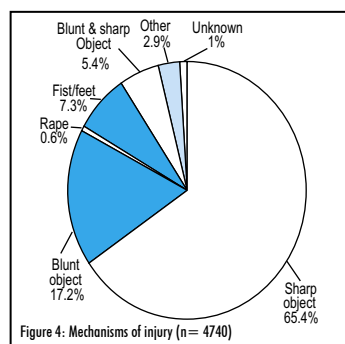


Figure 4 shows that two-thirds of injuries were due to sharp objects and that nearly 20% were due to blunt objects. Thirty cases of rape were predicted for a one year period. Most injuries occurred on the road and in and around the house.

Male-on-female violence

A high percentage of male-on-female assaults were caused by people known to the victim (73.9%), i.e. intimate partners, family, friends and neighbours. This evidence confirms findings of other studies locally and internationally. In about 20% of cases the perpetrator was not known to the victim. (Fig. 5)

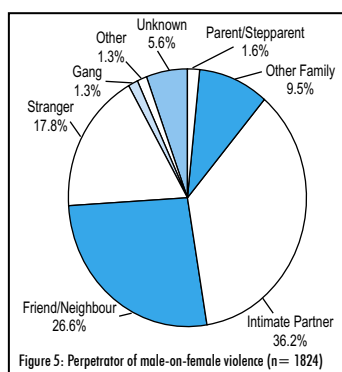
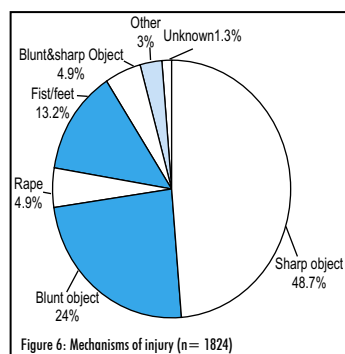


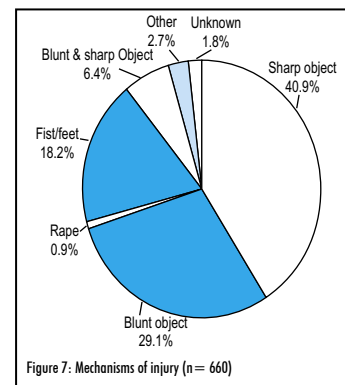
Figure 6 shows that injuries were mostly inflicted using a sharp object. Ninety cases (4.9%) were the victims of rape. Nearly 50% of these injuries occurred inside the house.

Intimate partner (male-on-female) violence

Results of intimate partner i.e. male on female violence show that:

- intimate partners accounted for 36.2% of male-on-female violence;
- injuries were largely inflicted by a sharp object (40.9%) followed by blunt force (29.1%) or the victim being kicked or punched (18.2%); and

- violent assaults by male-on-female intimate partners highlight that the home is not a safe place for women because almost 70% of assaults occurred inside the house (Fig 7).



Summary

In summary, results revealed that:

- perpetrators of violence were mostly male;
- in male-on-male violence the perpetrator was in most cases known to the victim;
- in male-on-female violence the perpetrator was in most cases the intimate partner;
- sharp objects were used in most cases of violence;
- overall, two-thirds of cases were indicated to be alcohol-related;
- three-quarters of injuries of male-on-male violence, were indicated to be alcohol-related;
- seventy per cent of injuries of intimate partner violence were indicated to be alcohol-related; and
- two-thirds of injuries of male-on-female violence were indicated to be alcohol-related.

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Farm Injuries in the Western Cape – Findings from a hospital-based study

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Introduction

As is the case with data on non-fatal injuries nationally, there is a dearth of information surrounding injuries that occur in rural areas and particularly on farms.

The Rural Injury Surveillance Study (RISS) aimed to extend the Crime, Violence and Injury Programme's database to include accurate rural trauma data. RISS was conducted in 1999/2000 for a two-month period (one month in summer and one in winter), which included three rural areas namely Hermanus, Vredenburg and Worcester. Information from state as well as private hospitals was included. In addition, mortality data from the mortuaries in these three areas were also collected over the nine-month study period between 1 November 1999 and 31 July 2000.

The methodology that was followed is discussed in detail in another article in this edition (see article on p. 6).

Injury on farms

Table 1 shows the breakdown of fatal and non-fatal injuries by town. Most of the farm injuries (fatal and non-fatal) were recorded at Worcester mortuary and state hospital respectively.

	Hermanus		Vredenburg		Worcester		Total
	State	Private	State	Private	State	Private	
Non-fatal injuries	60	18	36	12	510	12	648
Fatal injuries	4		4		43		51

Morbidity Results

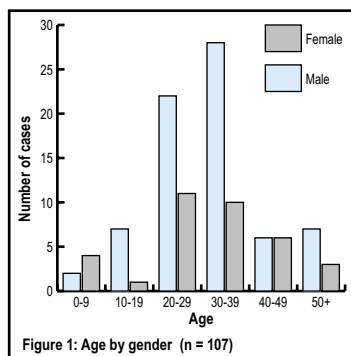
Of the 2997 patients included in RISS, 108 (3.6%) were injured on farms.

Demographics of the injured

(Please Note: Caution should be taken when interpreting the results because of the small sub-categories)

Of the cases studied on farms over the two-month period, two-thirds were male and one-third were female.

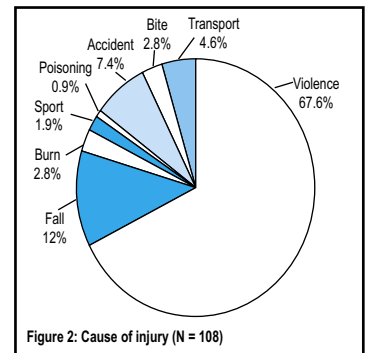
Injuries among men clustered between the ages 30 to 39 years while injuries among females clustered between the ages 20-39 years. This pattern is consistent with findings in national and international literature. The mean age for both genders was around 31 (\pm 13) years (Figure 1).



General cause of injury

Over two-thirds of all injuries were due to violence while only 12% and 7% were due to either falls or unintentional injuries (Figure 2).

Only four farm injuries were recorded as work-related injuries for the two-month period. This translates into 24 injuries annually (one due to an electrical burn and another three causes not recorded).

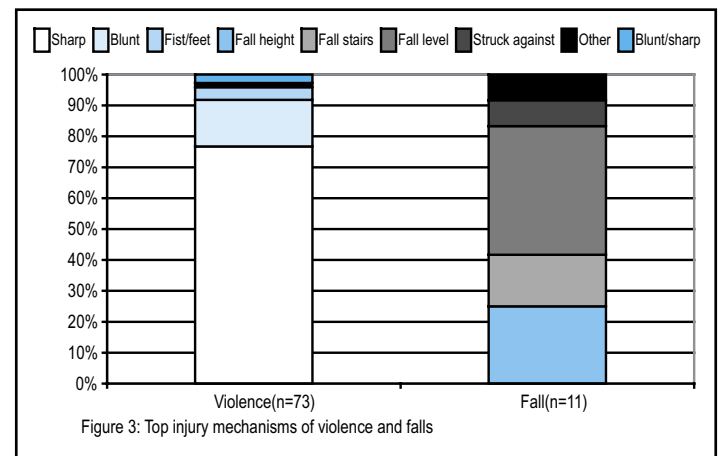


Mechanism of injury by general cause

Figure 3 outlines the specific causes for violence and fall-related injuries.

An overwhelming three-quarters of the violence-related injuries were inflicted with a sharp object such as a knife, followed by injuries due to blunt force (15%). Falls combined - in particular falls on a level - accounted for one-quarter of the unintentional injuries.

Only five transport injuries were recorded on farms during the study period.



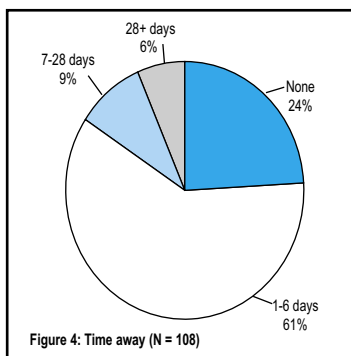
Alcohol-relatedness of injuries

Alcohol relatedness was assessed using self-report. Self-report was conducted by asking the patient whether he/she had consumed alcohol prior to the injury. Clinical judgment was used for unconscious or uncooperative patients.

Nearly 60% of all injuries on farms were alcohol-related. This proportion is higher than the one-third alcohol-relatedness of cases in the whole RISS study. Ninety per cent of violence cases were alcohol related. Only one of the five patients injured in transport collisions were alcohol positive.

Injury severity and time away

Nearly all (97.5%) of farm injuries were of relatively minor nature i.e. having an injury severity score (ISS) of less than 9 ($x=4.1$; $\pm SD = 4.2$; Median = 4.0). However, three-quarters of patients were either incapacitated or were off work (Figure 4).



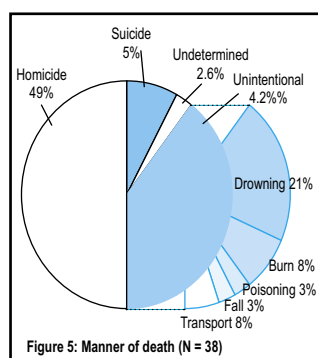
Mortality results

A total of 38 (8.9%) of the 429 deaths occurred on farms and were recorded between 1 November 1999 and 31 July 2000 were obtained from the mortuaries in the three study areas namely Hermanus, Vredenburg and Worcester and entered into the RISS database. Again, caution should be taken when interpreting the results because of small sub categories.

Apparent manner of death

Figure 5 shows that the most common cause of death on farms was homicide, accounting for half of all non-natural deaths while unintentional injuries accounted for 42.1% and suicides for 5.3% of the deaths.

Two suicides were reported on farms during the nine-month study period.



Apparent manner of death by gender

Although male deaths accounted for nearly two-thirds of all non-natural deaths, the proportions of male and female homicides were similar. Unintentional injuries were more common among males than females. (Table II).

Table II: Manner of death by gender (n = 36)

	Homicide	Suicide	Unintentional	Undetermined	Total
Male	13(54.2)	1(4.2)	9(37.5)	1(4.2)	24(100)
Female	6(50.0)	1(8.3)	5(41.7)		12(100)
Ratio	2.2:1	1:1	1.8:1		2:1

Manner of death by age

Age was unknown in 2 (5.2%) of the 38 cases. Of the remaining 36 cases, the average age was 31.1(+ 11.4) years. The highest number of all deaths was seen in the 30-39 year age category. Homicide was the leading manner of death in all but two age categories. Homicides clustered between the ages of 20-39 years while

unintentional injuries, including traffic collisions clustered between the ages of 30-39 years (Table III). Nearly half of the deaths on farms were due to wounds inflicted with a sharp and blunt and sharp object.

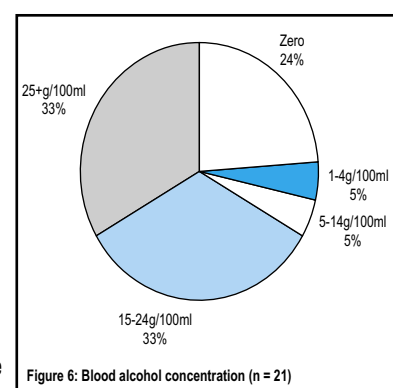
Table III: Manner of death by age (n = 36)

	Homicide	Suicide	Unintentional	Total
0-9			1(100)	1(100)
10-19	3(60.0)		2(40.0)	5(100)
20-29	5(71.4)	1(14.3)	1(14.3)	7(100)
30-39	7(46.7)	1(6.7)	7(46.7)	15(100)
40-49	3(42.9)		4(57.1)	7(100)
50+			1(100)	1(100)
Mean (+SD)	30.0(+ 9.5)	29.5(+10.6)	32.6(+13.9)	31.1(+11.4)

Blood alcohol levels

Blood alcohol concentration (BAC) levels were obtained in 21(55.2%) of the 38 cases.

Twenty- four per cent of these cases had zero BAC levels while 76% tested positive for blood alcohol. Eighty-three per cent of those murdered were alcohol positive. Over 90% of those who tested positive had BAC levels at or above 0.05 g/100ml (Figure 6). The mean BAC level for those who tested positive was 0.24 + 0.09 g/100ml.



In summary, RISS found that:

- most of the non-fatal injuries occurred among young men
- two-thirds of non-fatal injuries were the result of violence
- most of the violence-related non-fatal injuries were inflicted with a sharp object
- nearly all violence-related non-fatal injuries were alcohol-related
- although nearly all injuries were minor of nature, three-quarters of the injured were off work or incapacitated.
- homicide was the most common cause of mortality on farms
- two in three deaths were male
- the proportions of male and female homicides were similar
- most of the deaths were alcohol positive; and
- of those fatal cases who tested positive for alcohol, nearly all were positive at or above the blood alcohol limit for drivers, i.e. their motor skills are affected.

We encourage readers, including organisations, wishing to submit contributions, to contact the Co-coordinating Editors:

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For more information on the Crime, Violence and Injury Lead Programme (CVI) you may go to the following web pages: www.unisa.ac.za/dept/ishs/ and www.mrc.ac.za/crime/crime. We have designed and posted a request for information form onto our webpages for those agencies and individuals wishing to source information from CVI.

Ongoing research projects involving rural communities

I. WHO-Handbook for the documentation of interpersonal violence prevention programmes

The World Health Organisation's World Report on Violence and Health (WRVH) addresses the magnitude of global mortality and morbidity due to interpersonal violence. Global mortality data for 2000 show that, of the approximately 5.8 million people who died from injuries, 1.6 million died as a result of violence, an overall age-adjusted rate of 28.8/100,000 population. The violence death rate in low-to-middle income countries (LMIC) is more than twice that of high-income countries (HIC).

What the WRVH found lacking, especially for LMIC, was systematic information on interpersonal violence prevention programmes. In response to this finding, the World Health Organisation commissioned a handbook with instructions on how to identify and document interpersonal violence prevention programmes in communities and countries around the world, but especially in LMIC. This "Handbook for the Documentation of Interpersonal Violence Prevention Programmes" was compiled by a group of experts in the field of violence prevention, among others, the MRC-Unisa Crime, Violence and Injury Lead Programme. The Handbook will be launched soon and will then be piloted in selected LMIC of which South Africa is one.

It is hoped that by actively identifying and documenting interpersonal violence prevention programmes, a clearer picture of the intervention strategies, target groups and attempts at evaluation on the part of prevention programmes will be developed. Once identified, these practices can be described and collated into easily accessible compendiums for dissemination through documents, scientific networks and data-bases that will allow for multiple search options and the internet.

Purposes of the project:

The first purpose of this project is to provide easy access to existing knowledge and experience from violence prevention programmes in countries and contexts where many such programmes exist, but few are systematically described in writing. Prevention practitioners can learn from the experiences and successes of others and in this way accelerate the development of their own programmes.

The second purpose is therefore to help identify programmes that have been proven to be effective or which have a strong likelihood of being effective for use in policy formulation. It is anticipated that this purpose will be served through the ultimate creation of databases at global, regional, and national level.

The third purpose is to provide programme managers with some guidelines and criteria against which they can evaluate their own interventions. Many of the programmes for violence prevention that show evidence of effectiveness are from HIC. There is a lack of data about programmes, both with and without evidence of effectiveness, from LMIC, and consequently a need to develop this database from diverse socioeconomic, geographical and cultural settings.

II. Home visitation programme for the prevention of childhood injury

In South Africa there is a lack of effective, replicable and contextually congruent childhood injury prevention interventions. Internationally, Home Visitation Programmes (HVPs) have been found effective in childhood injury prevention.

Please note

The MRC-Unisa Crime, Violence and Injury Lead Programme will be contacting NGO's, research institutes, state departments and other relevant organisations known for their involvement in programmes for the prevention of interpersonal violence from May to August this year by e-mail, telephone calls and/or written letters. The aim would be to draw up a list of programmes for the prevention of interpersonal violence that can be documented using the criteria discussed in the Handbook.

We would greatly appreciate your cooperation in our attempt to help create an appropriate database of programmes to assist in the drive towards preventing interpersonal violence worldwide

HVPs are multi-focused interventions that focus on the home, due to the high rates of child injuries within the home sphere. The interventions include multiple strategies, including education, implicit enforcement, product demonstrations and environmental modifications to reduce and control childhood injuries. The Crime, Violence and Injury Lead Programme has been developing a HVP since 2001. In 2003, this intervention and its assessment components were piloted in four sites South Africa. The HVP comprises eight sections, each of which serve the goal of developing a replicable HVP for childhood injury prevention in South Africa. In addition to these components other activities have been conducted, such as mobilisation of community stakeholders and neighbourhood mapping. Some detail of the HVP is presented below.

i. HVP Intervention implementation

Team Preparation: The HVP was piloted in four sites, namely Nomzamo in the Western Cape, and Vlakfontein, Slovo Park and Eldorado Park in Gauteng. This involved the expansion of each of the local safety promotion teams, with volunteer participation expanding across the four sites. The safety teams received training on basic injury prevention, interview skills, and the use of the questionnaire for evaluation of the HVP. The safety teams were also taken on teambuilding programmes to promote team cohesion.

Intervention Implementation: The HVP pilot was implemented over 10 weeks. The first week of the pilot was directed at a first contact and briefing of all participating households. The next two weeks consisted of the baseline data collection, followed by the HVP intervention, which was implemented over five weeks. Each week had a designated injury topic for the home visits and the relevant training, e.g. on burns, falls, poisoning, traffic injury, and an overview of child development.

ii. Injury, household risk and safety attitude assessment

A study sample from each neighbourhood comprised 90 randomly selected households (approximately 10% of the defined community). Half of these households were assigned to the intervention, and half to a control group. The pre- and post-assessment of participating households included a questionnaire administered by the safety teams. The pilot provides an initial indication of the impact of the HVP on childhood unintentional injury, household injury risks and parental safety attitudes and knowledge. The pre-assessment data indicate that risks related to specifically poisons and burns were prevalent in the communities.

It is expected that the post-assessment data will provide some information about the impact of the HVP in terms of burns, falls, and poisoning risks within the communities.

iii. Home visitor attribute assessment

The aim of the home visitor attributes study was to develop and implement an assessment battery that would provide information on various attributes of individuals participating as home visitors in the HVP. The specific attributes measured included demographic characteristics, volunteer membership, safety beliefs, self-esteem, needs and interests, personality characteristics, injury knowledge and safety promotion skills. Initial findings have been useful in identifying the areas where home visitors required additional training prior to the implementation of the HVP. Further analysis and research is required to assess whether or not specific home visitor attributes are related to their performance and commitment to the programme, as this will ultimately impact on the outcome of the HVP.

iv. Process evaluation

The research team in both Cape Town and Johannesburg monitored the implementation of the HVP pilot via a number of mechanisms, e.g. weekly notes on field issues, interviews with trainers, the completion of training evaluation sheets after every sessions, debriefing notes, selected home visits, and a focus group discussion with site coordinators. This data are currently being analysed. Initial indications suggest a generally effective pilot, but with occasional difficulties related to fieldworker coordination, communication, and home-visit monitoring.

v. Neighbourhood social attributes assessment

The objective of this assessment is to identify whether selected social descriptors of neighbourhoods may be associated with positive HVP outcomes, i.e. decreased

childhood injury, injury risk levels, and increased safety awareness of families. There is an increasing consensus that various neighbourhood attributes may play a significant role in preventing injuries. The Neighbourhood Social Attributes Assessment will examine any associations between collective efficacy, social control, social disorder, and HVP outcomes. The instrumentation for this assessment was finalised and was piloted in Nomzamo and Slovo Park.

vi. Systematic photographic assessment

This study is directed at the identification of household structural, environmental and product child injury risks in and around the home. The study involves the systematic visual examination, analysis and documentation of the interior and immediate perimeter of homes in Vlaktfontein, a neighbourhood participating in the HVP. The study specifically investigates unintentional childhood injury risks and will provide one of the indicators to monitor the impact of the HVP.

vii. Costing of the HVP

This component of the HVP aims to discover whether the intervention is effective in relation to its cost. This component will involve three phases: costing of the preparation for the implementation (for example training and team capacitation), costing of the implementation (including travel cost and cost for printing and supplying demonstration materials) and a cost-benefit analysis (which will indicate whether the intervention is effective in relation to its cost and therefore feasible for replication).

As can be seen from the above components, the development of a HVP is complex and labour intensive. However, at the conclusion of the intervention, it is hoped that HVPs will be replicated across South Africa to reduce the burden of injury on children in low-income contexts.

An overview of The Rural Injury Surveillance Study (RISS II)

Hilton Donson, MRC-UNISA Crime Violence & Injury Lead Programme, Cape Town

INTRODUCTION

During 1991 the MRC's National Trauma Research Programme (NTRP) (as the CVI Lead Programme was previously called) completed the Cape Metropolitan Study (CMS). This detailed survey was conducted at both public and private health treatment points and state mortuary services within the Cape Metropole. It developed and tested a questionnaire, sampling procedures and the methodology for processing and analysing trauma data. It was shown that one person in every ten sought treatment for fresh trauma annually (CMS, 1990).

Until then most South African injury studies focused largely on urban areas. Although there is reason to believe that rural injury epidemiology differ from that in urban areas, there is a worldwide dearth of rural injury data. The CMS concept was employed, adapted and extended and in 1992 the Rural Injury Surveillance Study (RISS I) (Western Cape) was launched to survey rural areas.

Results from RISS I showed that the rural injury profile was largely similar to the urban area in Cape Town. Violence accounted for the majority (54.5%) of injuries. These were mostly sustained through assault and were also largely alcohol-related. 'Domestic' injuries (i.e. injuries sustained in the home) accounted for one-quarter of all cases and were largely due to falls. Traffic cases accounted for 10% of cases and work-related injuries accounted for 3.3% (De Wet et. al., 1994).

In 2000 the second phase of the Rural Injury Surveillance Study (RISS II) was

deployed. A selected three towns (Hermanus, Vredenburg and Worcester) were surveyed. However, during this study state as well as private hospitals, general practitioners and mortality data were included. Further additions to the questionnaire were descriptive detail about the perpetrators of violence and mortality data. (RISS II Report, 2004 unpublished).

METHODS

The study population included all patients (2997 cases) who attended the trauma units of the private and state medical institutions in Hermanus, Vredenburg and Worcester during 8 November – 6 December 1999; as well as from 5 June – 4 July 2000. All fatal cases (429 cases) recorded over a nine-month period (1 November 1999 – 31 July 2000) were included. Data were also collected from general practitioners (GPs) but the investigators failed to get overall co-operation. For the purpose of this article no results from GPs are included. All figures in this article reflect projected annual figures.

For non-fatal cases each patient was interviewed by:

- A field worker using a specially constructed interview questionnaire;
- Alcohol usage was assessed using self-report (patient was asked whether he/she had consumed alcohol prior to their injury or by using clinical judgement in unconscious or uncooperative patients); and
- Drug usage was assessed by self-report.

For fatal cases

- A field worker retrieved data from mortuary dockets using a modified interview questionnaire.

RESULTS

State hospitals

An expected annual total of 16254 patients are seen at the trauma units of the three state hospitals (Hermanus N = 3678; Vredenburg N = 3486; Worcester N = 9090). Nearly 60% of the patients who attended the state hospital trauma units were injured due to violence.

In summary;

- patients were predominantly young coloured¹ males;
- most of the injuries occurred due to violence;
- 60% of violence-related injuries were caused by sharp objects;
- the most common scenes of injury were the road and in and around the house;
- half of traffic-related injuries involved passengers while nearly one-third involved pedestrians;
- cars were involved in two-thirds and minibus taxis in 16.3% of the collisions;
- falls (essentially those that occurred on a level) accounted for most of the other unintentional injuries;
- injuries occurred mostly after hours and on weekends;
- most injuries involved the upper and lower extremities;
- three-quarters of all of the patients could have been treated at a smaller hospital;
- most patients were transported to the trauma units by ambulance or private vehicle;
- patients' injuries were relatively minor in nature - few of them were left with significant long-term disability;
- more than one-third of injuries were alcohol-related; and
- very few respondents reported drug use at the time of injury.

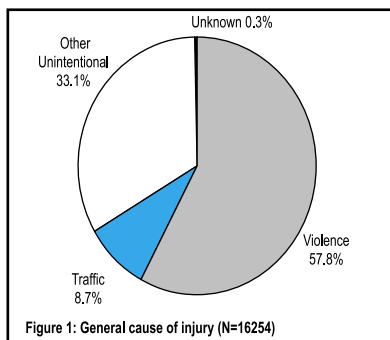


Figure 1: General cause of injury (N=16254)

Private hospitals

An expected annual total of 1728 patients are seen at the trauma units of the three private hospitals (Hermanus N = 486; Vredenburg N = 708; Worcester N = 540). During the study period private hospitals treated more general unintentional injuries than traffic or violence cases combined. Traffic injuries accounted for one-third of cases while violence accounted for 15% of injuries. On average patients were largely white, male and just over the age of 30 years.

To summarise, private hospital results showed that:

- the patients were predominantly young white males;
- most of the injuries occurred due to other unintentional causes (i.e. falls, machinery, chemicals, caught between objects);
- most of the patients who were involved in traffic collisions were passengers and drivers (NB. Motor vehicle collision cases are usually treated at private hospitals);
- injuries occurred mostly after hours and on weekends;

- sixty percent of the patients were transported to this facility by private vehicle while one-third were transported by ambulance;
- most injuries involved the upper and lower extremities;
- more than half of the patients could have gone to a smaller hospital;
- patients' injuries were relatively minor in nature - few of them were left with significant long-term disability;
- more patients were unemployed (35%) than employed (27%);
- of the employed cases nearly 60% of the patients required more than a week or less off work while the rest one-third required less than one-week or no time off; and
- more than one in ten cases were alcohol-related.

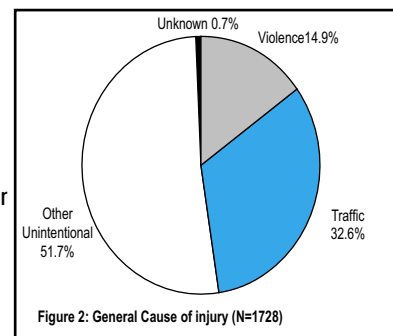


Figure 2: General Cause of injury (N=1728)

Rural Mortuaries

A total of 572 cases were recorded for the three state mortuaries in Hermanus, Vredenburg and Worcester.

To summarise, mortuary results showed that:

- the male-female ratio of victims was 4:1;
- homicide accounted for nearly half of all deaths;
- sharp objects were the major external cause of injury;
- most of the patients who were involved in traffic collisions were pedestrians;
- there were high levels of alcohol among pedestrians and driver fatalities (81.8% of pedestrians and 52.4% of drivers had positive BAC levels);
- injuries occurred mostly after hours and on weekends;
- three-quarters of victims died on the scene;
- there was on under-reporting on perpetrators of violence in the dockets;
- over two-thirds of cases tested positive for alcohol; and
- nine in ten cases were state hospital trauma cases.

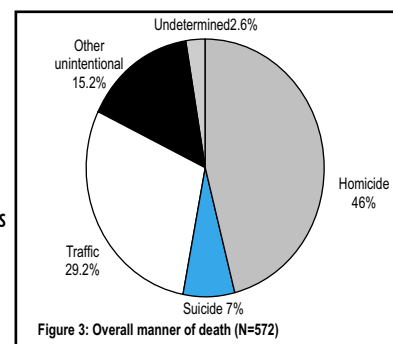


Figure 3: Overall manner of death (N=572)

CONCLUSION

This synopsis showed that there is not much difference between the epidemiology of injuries of urban and rural areas of the Western Cape. This is, however, one isolated study and further investigation is needed to delineate the rural injury burden of South Africa as a whole.

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1. The author wishes to repeat the paragraph from the NIMSS 2001 report (Matzopolous, 2002) regarding the use of terms such as 'African', 'Coloured', 'Asian' and 'White'. The author recognises that 'population group' is a social construction that served particular racist political purposes, prior to 1994.