

SENTINEL SURVEILLANCE OF SUBSTANCE ABUSE AND TRAUMA AT ADDINGTON HOSPITAL

1999-2000

FINAL REPORT

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A DACST Innovation Fund Project



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1. INTRODUCTION

According to Tim Ryan (1999), the international doors opened in South Africa in 1994, bringing with this many opportunities for growth and prosperity but also the 'ugly face' of the illegal drugs trade. Consequently, in 1997 we began monitoring the incidence and prevalence of both alcohol and illicit drugs among trauma patients in order to assess and identify emerging trends which will drive prevention programmes (Peden & Sidzumo, 1997).

In 1997, a pilot study was conducted at Groote Schuur Hospital (GSH) to monitor substance abuse among trauma patients. The results confirmed that alcohol was still the most commonly misused substance among trauma patients but that almost one-third of the patients had smoked cannabis prior to their injury. Other street drugs such as cocaine and opiates did not appear to be a problem among Cape Town trauma patients but a high incidence of 'white pipe' smoking was found, almost exclusively among victims of violence (Peden, van der Spuy, Smith, et al., 2000).

After the pilot study in 1997, a trauma and drug study was conducted at Addington in 1999 with a view to conducting these studies annually. The results of the 1999 study indicated that almost half of the patients were alcohol-positive on breath analysis and nearly 40% of patients tested positive for at least one drug (Peden, Sukhai & Harris, 1999).

This report presents data from the follow up study conducted at Addington Hospital in 2000 and makes comparisons with the results obtained from the 1999 study. Annual studies such as these will provide trend data which will drive decision-making processes and assist with the development of prevention and training programmes. This study forms part of the National Violence and Injury Surveillance Initiative currently being undertaken by a consortium of research partners including the MRC, UNISA and the CSIR.

2. AIM OF THE STUDY

The aim of the project was to monitor substance abuse and establish trends among trauma patients by:

- assessing the proportion of patients with fresh trauma who were alcohol-positive at the time of their injury;

- assessing the proportion of patients with fresh trauma who had used an illicit drug prior to their injury; and
- assessing, by means of the CAGE questionnaire, what proportion of trauma patients were chronic alcoholics.

Two of the major **objectives** of this study were:

- to monitor substance abuse and trauma trends in a number of cities in South Africa, viz. Durban, Cape Town, Port Elizabeth and Umtata; and
- to include the results in the South African Community Epidemiology Network on Alcohol, Tobacco and Other Drug Use study (SACENDU) which monitors substance abuse trends (in general) at sentinel sites in South Africa.

3. METHODS

3.1 Study Design

The study is essentially an annual cross-sectional, descriptive study of the incidence of alcohol (and alcohol dependence) and illicit substance abuse among patients presenting with fresh trauma to the Addington Hospital trauma unit.

3.2 Sampling

3.2.1 Study Population

Patients who attended the Addington Hospital trauma unit with fresh trauma during a specified period of time in 2000.

3.2.2 Sampling Framework

The concept of an 'ideal week' was used at the trauma unit. Each day was divided into four six-hour shifts and one shift was randomly selected per day, i.e. over four weeks the 24-hour period for each day was covered. All patients with fresh trauma attending during these times were included provided they gave written consent and met the inclusion criteria.

3.2.3 Inclusion/Exclusion Criteria

The following inclusion and exclusion criteria applied to patients.

- Only patients with fresh physical trauma were included, i.e. reattenders were excluded.
- The injury-to-presentation time was set at a maximum of six hours.
- Referrals were included provided they did not obtain significant treatment at the first facility they attended and that their presentation to the study facility was within six hours.
- All patients had to give written, informed consent prior to inclusion in the study. Those patients who refused were excluded but the reason for their refusal was documented. For those less than 18 years of age, permission was requested from a parent or guardian.
- All types of poisoning and non-traumatic attempted suicide (e.g. drug overdose), as well as paediatrics (12 years and below) were excluded.

3.2.4 Sample Size

A total of 179 patients were included in the study for the period 18 June to 15 July 2000.

3.3 Instrumentation

- Each patient was interviewed by a field worker using a specially constructed interview sheet
- Alcohol usage was assessed using self-report, a breath alcohol test and the CAGE questionnaire. 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 unco-operative patients. Breath alcohol was assessed using the Lion Alcolmeter SD2 - the use of which has previously been validated in a study in Cape Town (Peden, 1997). The CAGE questionnaire was included to assess chronic alcohol usage (Ewing, 1984).

- Self-report was also used to assess drug usage among patients. A urine specimen was also taken from the patient, a portion of which was used to screen for five drugs namely amphetamine, cannabis (THC), morphine, cocaine and methamphetamine, using a Multidrug kit (Peden, 2000). Formal chemical analysis (to test for dagga and methaqualone [Mandrax]) was conducted on the rest of the urine specimen by the Department of Pharmacology, UCT.

3.4 Field Workers

The principal investigator (PI) was Margie Peden, Senior Specialist Scientist in Trauma Research at the Medical Research Council (MRC). She was assisted by a Chief and Senior Research Technologist from the MRC in Durban.

3.5 Ethics

- Ethical approval for the study was obtained from the University of Natal Ethics committee. Permission was also obtained from the Medical Superintendent of Addington Hospital and the head of the Trauma Unit.
- The data was anonymous but linked to demographic/self-report data. All data was kept in the strictest confidence by the primary researcher. No alcohol or drug results were documented in the patient's hospital folder. There was no way of cross-referencing research results to actual patient records.
- Informed, written consent was taken from the patients.

3.6 Analysis

The data was checked and coded by the research team and cleaned before entering into Epi Info version 6.02 (Shareware, Center for Disease Control, 1994). Epi Info was used to do the basic statistical analysis presented in this report.

4. RESULTS FOR ADDINGTON

4.1 An Overview

During 2000, a total of 406 patients were seen at Addington Trauma Unit over the idealised week of which 179 were included in the study.

**Number of patients seen over an idealised week
N = 406**

Included (n = 179)	Excluded (n = 227)
Mean Age	
32.4 ± 13.9 years	30.7 ± 19.5 years
Gender	
68.7% males	56.8% males
Cause of Injury	
Violence = 50.8%	Violence = 27.8%
Traffic = 28.5%	Traffic = 10.6%
Non-traffic 'Accident' = 20.7%	Non-traffic 'Accident' = 52.4%
	Unknown = 9.2%
Reason for Exclusion	
	> 6 hours = 62.1%
	Paediatric = 17.6%
	Refused = 10.1%
	Repeat = 9.3%
	Transferred = 0.9%

In 2000, half of the included group were injured violently while half of the excluded group were injured in non-traffic 'accidents'. There was no significant difference in mean age for both categories ($t=0.94$, $p=0.34$). The two main reasons for excluding patients were that their injury had occurred more than six hours prior to their hospital presentation or they were too young to be included in the study .

4.2 Details of Injury

4.2.1 Overall cause of Injury

In 2000, violence out-numbered traffic as the leading cause of injury, accounting for half of all injuries. Nearly 30% of the cases were due to traffic collisions while non-traffic 'accidents' (which included falls, burns, sports and other mishaps) contributed to a further one-fifth of the cases (Table I).

**Table I : Overall Cause of Injury
1999 versus 2000**

	1999 n (%)	2000 n (%)
Violence	107 (52.2)	91 (50.8)
Traffic	41 (20.0)	51 (28.5)
Non-traffic 'Accidents'	57 (27.8)	37 (20.7)

In comparison to the 1999 study, the 2000 study showed that:

- the proportion of patients injured violently has remained fairly stable; and
- the proportion of patients with injuries due to traffic 'accidents' has increased marginally with a concomitant decrease in non-traffic 'accidents'.

4.2.1.1 Violence-related Injury

Of the 91 patients injured as a result of violence, more than half were injured with a sharp object while blunt objects accounted for a further one-fifth of cases. Firearms accounted for nearly one-tenth of violent injuries (Table II).

Table II shows that in 2000 there were small decreases in violent injuries from sharp and blunt objects, however, injuries from fist/feet have increased. Although the number of firearm injuries doubled in number, this was not statistically significant (Chisq=2.21, p=0.14).

**Table II : Violence-related Injury
1999 versus 2000**

	1999 n (%)	2000 n (%)
Sharp Object	59 (55.1)	49 (53.8)
Blunt Object	25 (23.4)	19 (20.9)
Fist/Feet	8 (7.5)	10 (11.0)
Firearm	4 (3.7)	8 (8.8)
Other	11 (10.3)	5 (5.5)

**Table III: Traffic-related Injury
1999 versus 2000**

	1999 n (%)	2000 n (%)
Passenger	23 (56.1)	26 (51.0)
Pedestrian	11 (26.8)	22 (43.1)
Driver	7 (17.1)	3 (5.9)

4.2.1.2 Traffic-related Injury

In 2000, half of the traffic-related injuries involved passengers. This was largely due to the many minibus taxi cases that were treated during the study period. A further 43% of cases were injured as pedestrians and drivers accounted for only 6% of traffic cases. Cars and minibus taxis were involved in 88% of the collisions.

Table III shows that in 2000 :

- the number of pedestrian injuries doubled but this was not significant (Chisq=2.63, p=0.11);
- passenger cases decreased slightly but still accounted for more than half of the traffic cases; and
- although the figures for driver deaths were small, the proportion of cases decreased almost threefold but this was also not statistically significant (Chisq=2.94, p=0.09)

4.2.1.3 Non-traffic ‘Accidents’

In 2000, falls accounted for nearly two-thirds of the non-traffic ‘accidents’. A further one-third of the cases were the result of non-specified ‘accidents’ (Table IV).

In comparison to the 1999 study, the 2000 study showed that while the proportion of falls increased by 8.8%, sport injuries decreased threefold and burns by 3.4% but these numbers were too small to make any significant deduction.

**Table IV: Non-traffic ‘Accidents’
1999 versus 2000**

	1999 n (%)	2000 n (%)
Fall	32 (56.1)	24 (64.9)
Non-specified ‘accidents’ or mishaps	9 (15.8)	9 (24.3)
Sport	11 (19.3)	2 (5.4)
Burn	5 (8.8)	2 (5.4)

4.2.2 Demographics

4.2.2.1 Age

	Violence		Traffic		Non-Traffic 'Accidents'		Total	
	1999	2000	1999	2000	1999	2000	1999	2000
13 - 19	15 (62.5)	15(50.0)	1 (4.2)	8 (26.7)	8 (33.3)	7 (23.3)	24	30
20 - 29	54 (56.8)	40 (62.5)	19 (20.0)	12 (18.7)	22 (23.2)	12 (18.7)	95	64
30 - 39	21 (45.6)	27 (62.8)	15 (32.6)	13 (30.2)	10 (21.7)	3 (7.0)	46	43
40 - 49	9 (47.4)	4 (21.0)	3 (15.8)	9 (47.4)	7 (36.8)	6 (31.6)	19	19
50 - 59	3 (27.3)	4 (28.6)	2 (18.2)	7 (50.0)	6 (54.5)	3 (21.4)	11	14
≥60	2 (20.0)	1 (11.1)	1 (10.0)	2 (22.2)	7 (70.0)	6 (66.6)	10	9
Mean Age (±SD)	28.5 (10.9)	28.6 (10.3)	31.3 (9.8)	35.4 (14.3)	34.1 (17.3)	36.5 (18.7)	30.8 (13.1)	32.1 (14.0)

The mean age of patients seen during the 1999 and 2000 studies was similar ($t=1.04$, $p=0.3$). The largest proportion of injuries was seen in the 20-29 year age group and these cases were mainly due to violence (Table V). Among youths (13-19 years), the proportion of traffic cases increased by 22.5% between 1999 and 2000 with a concomitant decrease in non-traffic 'accidents'. From 20 to 39 years, the proportion of violence increased by an average of 11.5%. In the 40-49 year age group, the proportion of violence halved, however, there was a concomitant threefold increase in the proportion of traffic cases. In the older age categories, the sample sizes were very small and hence the results obtained should be viewed with caution.

4.2.2.2 Gender

Of the cases studied at Addington trauma unit over the study period, three-quarters were male and one-quarter were female. Overall, there were no statistically significant differences in gender during the two study periods (Chisq = 0.2, $p=0.66$).

While there was a 16% increase in violence among females, smaller increases were found for traffic as well as violence among males (Table VI).

Table VI : Cause of Injury by Gender

	Violence		Traffic		Non-Traffic 'Accidents'		Total	
	1999	2000	1999	2000	1999	2000	1999	2000
Female	23 (37.7)	21 (36.8)	16 (26.2)	24 (42.1)	22 (36.1)	12 (21.0)	61	57
Male	81 (56.2)	70 (57.4)	25 (17.4)	27 (22.1)	38 (26.4)	25 (20.5)	144	122

4.2.3 When and Where Injuries Occurred

4.2.3.1 Time of Injury

While two-thirds (67.8%) of injuries occurred after hours (17h00-07h59) in 2000, slightly less cases (63.2%) occurred during the same period in 1999 (Figure 1).

In 2000, injuries peaked earlier (17h00-19h59) compared to 1999 when injuries peaked at 20h00-22h59.

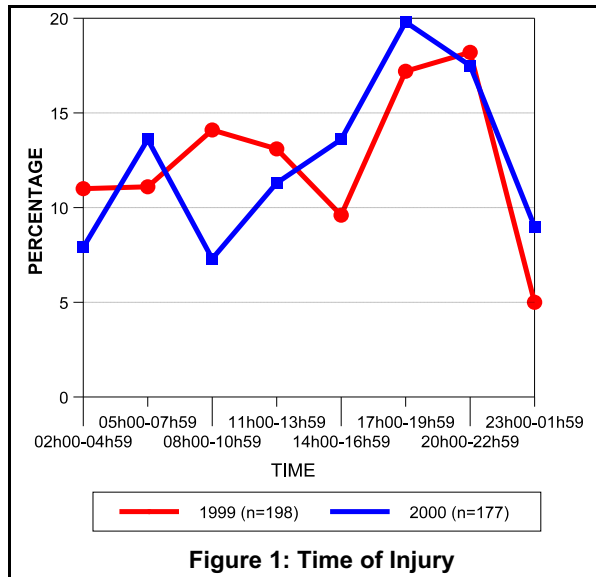


Figure 1: Time of Injury

4.3.4.2 Day of Injury

As expected, more than half (57.5%) of the patients presenting to the trauma unit had sustained their injury over the weekend, i.e. from Friday to Sunday. This trend was similar for both study years (Figure 2).

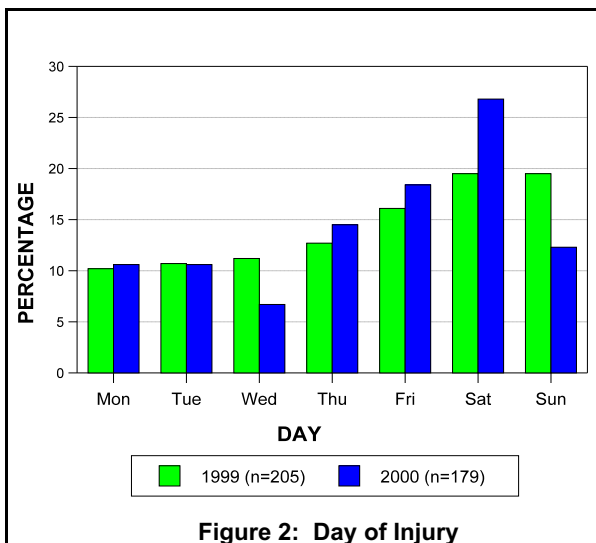


Figure 2: Day of Injury

4.2.3.3 Suburb of Injury

	Violence		Traffic		Non-Traffic 'Accidents'		Total	
	1999	2000	1999	2000	1999	2000	1999	2000
Durban Central	67 (55.8)	71 (55.5)	23 (19.2)	32 (25.0)	30 (25.0)	25 (19.5)	120	128
Sydenham	6 (40.0)	3 (27.3)	6 (40.0)	6 (54.5)	3 (20.0)	2 (18.2)	15	11
Durban North	2 (16.6)	4 (44.4)	5 (41.7)	2 (22.2)	5 (41.7)	3 (33.3)	12	9
Bluff/Wentworth	4 (40.0)	3 (50.0)	2 (20.0)	2 (33.3)	4 (40.0)	1 (16.6)	10	6

The cells show the number of injuries followed by the percentages (in brackets) by suburb and cause of injury

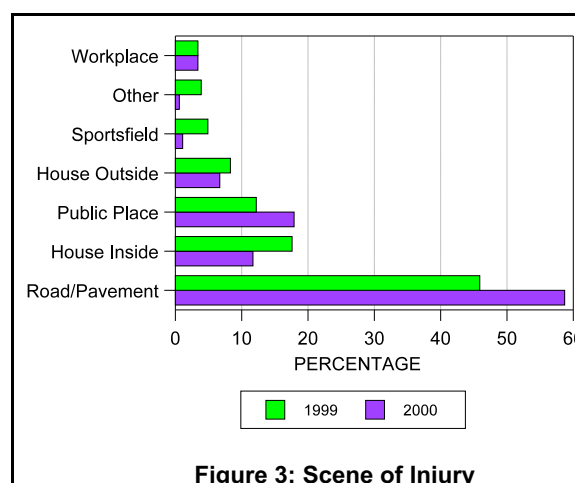
Over the two study periods, more than 80% of patients were injured in the four suburbs indicated in Table VII. Durban central had the bulk of the injuries for both study periods, however, its proportion to the total cases increased by 11% in 2000. This was due to slight increases in the violence and traffic categories. The above trend was also seen in Bluff/Wentworth where the proportions of both violence and traffic cases increased.

In Durban North, the proportion of violence trebled in 2000 but the numbers were very small and thus should be viewed with caution.

In Sydenham, there was a 15% increase in traffic cases in 2000 with a resultant drop in the violence category.

4.2.3.4 Scene of Injury

In 2000, significantly more patients were injured on the road/pavement (Chisq=6.28, p=0.01) possibly related to the increase in



traffic-related collisions. There was also a slight increase in the number of injuries occurring in a public place but fewer in and around the house (Figure 3).

4.2.4 Location and Severity of Injury

4.2.4.1 Body Region Injured

In 2000, there was a larger proportion of injuries to the head and both extremities while in 1999, more injuries occurred to the face and chest (Figure 4).

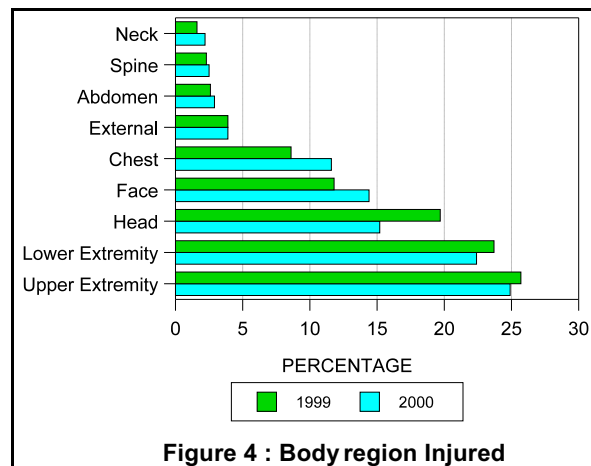


Figure 4 : Body region Injured

4.2.4.2 Injury Severity

Most of the patients sustained minor injuries (ISS < 9) while 16.7% had ISS ratings of nine or more in 2000 compared to 10.8% in 1999 (Figure 5).

Furthermore, by comparison with the 1999 study, the 2000 study showed that:

- the proportion of patients with mild injuries was 7.7% lower;
- the proportion of patients with moderate injuries increased by 6.9%;
- there was a slight decrease in proportion of severe cases but there were very few cases in both years;
- the median ISS for injuries sustained in both 1999 and 2000 was 4;
- no fatalities were recorded for both sampling periods.

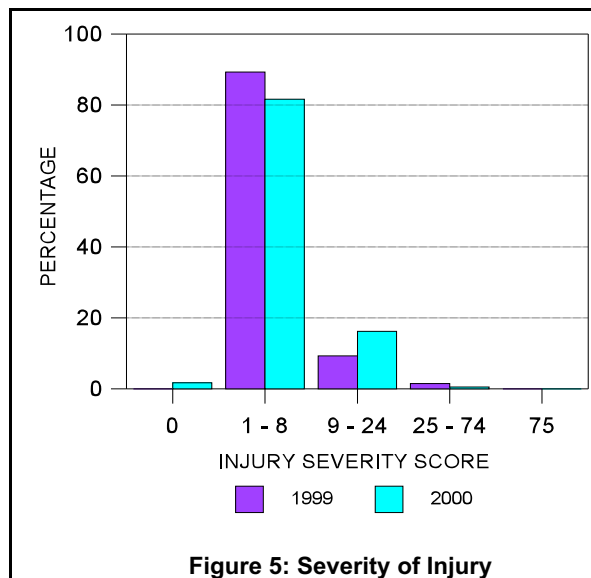


Figure 5: Severity of Injury

4.2.5 Care and Placement of Patients

4.2.5.1 Level of Care Required

Although the majority of patients sustained minor injuries, the research team judged that 19% of patients could have been adequately managed by a nursing sister compared to 13% in 1999.

Furthermore, in 2000, slightly less patients required the services of a medical officer or a specialist doctor (Figure 6).

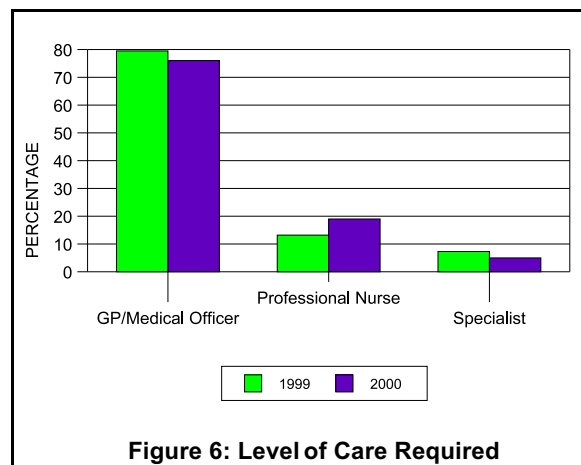


Figure 6: Level of Care Required

4.2.5.2 Facility Required

In 2000, the research team judged that the attendance at Addington's trauma unit was inappropriate in three-quarter of cases and that these patients could have been treated adequately at a smaller hospital or clinic/consulting room (Figure 7).

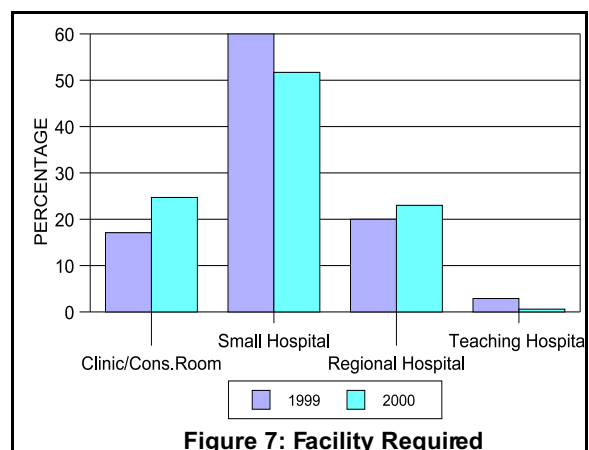


Figure 7: Facility Required

4.2.5.3 Placement after Initial Assessment

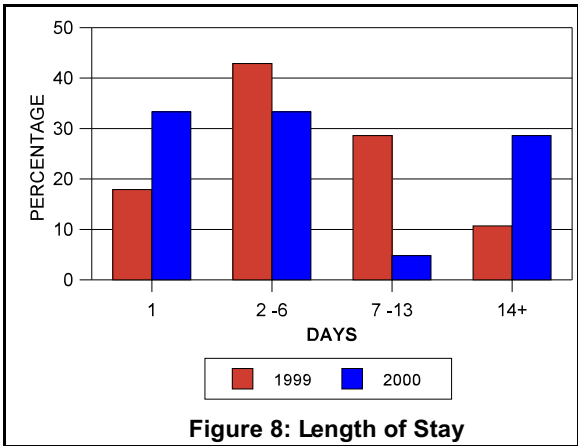
Over the two study periods the proportion of patients who were discharged, admitted, absconded or transferred was very similar (Table VIII).

Table VIII: Placement after Initial Assessment 1999 versus 2000

	1999 n (%)	2000 n (%)
Discharged	172 (83.9)	154 (86.0)
Admit : Ward	29 (14.1)	22 (12.3)
ICU	0	1 (0.6)
Absconded	2 (1.0)	2 (1.1)
Transferred	2 (1.0)	0

4.2.5.4 Length of Stay

In 2000, 15% more patients were discharged after 24 hours and 17.9% more patients were hospitalized for more than two weeks. For 1999, the ‘in-between’ ranges dominated with 10% more cases requiring a stay of 2 to 6 days and 18% more cases requiring a stay of 7 to 13 days (Figure 8).



In 2000, one patient died after one day in ICU and a further patient was transferred to another hospital after 10 days.

In 1999, the patients that were admitted required a median of 3.5 days (IQR 2-9 days) in hospital while in 2000 their median length of stay was 3 days (IQR 1-14 days). This difference was not statistically significant (H=0.05, p=0.8).

4.2.6 Estimated Disability of Patients

Estimated disability was assessed by the research team, by judging what the impact of the injury would have on the patient's quality of life.

4.2.6.1 Severity of Disability

In 2000, 70% of patients were judged to have a mild disability or no disability at all while 30% of them had more severe disabilities. One patient died as a result of his injury (Table IX).

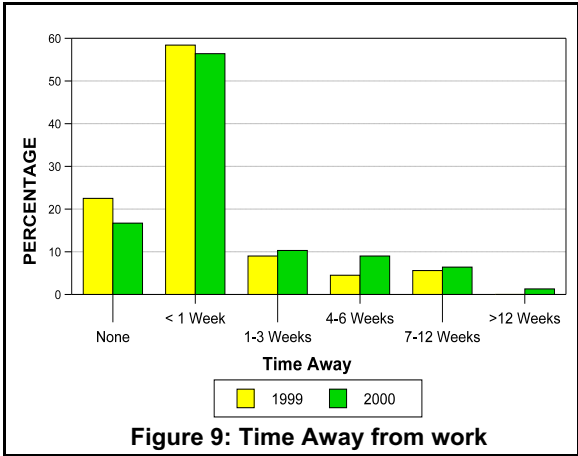
Table IX: Severity of Disability 1999 versus 2000

	1999 n (%)	2000 n (%)
None	26 (12.7)	17 (9.5)
Mild	110 (53.7)	109 (60.9)
Moderate	56 (27.3)	46 (25.7)
Serious	13 (6.3)	6 (3.3)
Dead	0	1(0.6)

4.2.6.2 Time Away from Work

In 2000, 43.6% of patients were employed while 39.7% were unemployed.

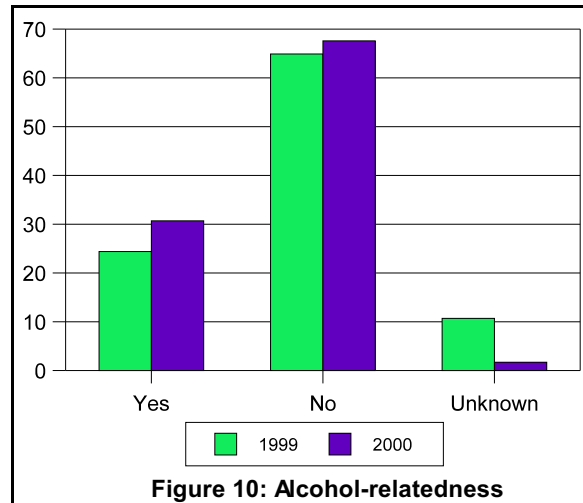
From Figure 9, it can be seen that of those patients employed, nearly 73% required at least a week off work (compared with 81% in 1999). These differences were not statistically significant (Chisq=1.45, p=0.22).



4.3 Alcohol Usage

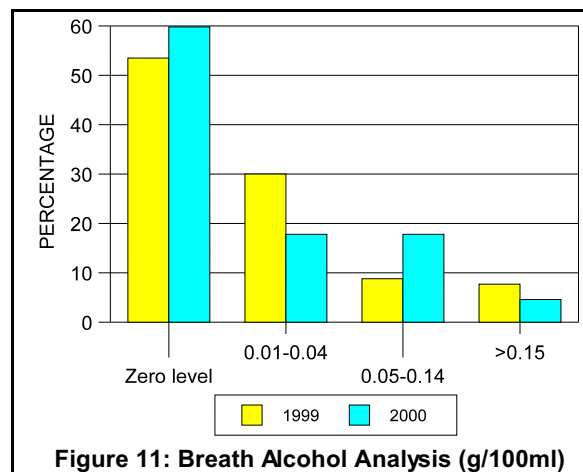
4.3.1 Alcohol-relatedness

This parameter was assessed by either asking the patient whether he/she had used alcohol prior to their injury or by using clinical judgement in unconscious or unco-operative patients. In 2000, nearly 30.7% of patients acknowledged that they had used alcohol prior to their injury which was 6% higher than in 1999 (Figure 10). This difference was not statistically significant (Chisq=0.67, p=0.4)



4.3.2 Breath Alcohol Analysis

The alcohol levels of five patients were unknown. Forty percent of patients had a positive breath alcohol concentration (BrAC) compared to 46.4% in 1999 (Figure 11). Although overall alcohol positivity was higher in 1999, in 2000 the percentage of patients with BrACs at or above the legal driving limit (0.05 g/100ml) was 6% higher than in 1999. The self-reporting reliability was 78.6% which was nearly one-third greater than the 55.6% obtained in 1999. The mean BrAC for those with positive alcohol levels in 2000 (0.07 ± 0.08 g/100ml) was similar to those obtained in 1999 ($t=0.82$, $p=0.41$).



**Table X: Non-zero Breath Alcohol Levels
2000**

	Positive n		%		Mean BrAC (g/100ml) ± Std. Dev.	
	1999	2000	1999	2000	1999	2000
Violence	58	49	58.0	56.3	0.077 (0.09)	0.081 (0.07)
Traffic	16	10	41.0	19.6	0.051 (0.10)	0.044 (0.04)
Non-traffic 'Accidents'	16	11	29.1	30.6	0.031 (0.05)	0.062 (0.09)

Nearly 60% of the patients injured violently were found to be alcohol-positive and this category also had the highest mean BrAC. Twenty percent of patients injured in traffic collisions and 30% of those injured in non-traffic 'accidents' were found to be alcohol-positive (Table X).

In comparison with the study conducted in 1999, the 2000 study showed that:

- the proportion of patients that were injured violently or in non-traffic 'accidents' and that were alcohol-positive was similar to that in 1999, however, the mean BrAC for non-traffic 'accident' cases doubled in 2000. The mean BrAC for violence was similar in both sampling periods, however, this was still disturbingly high; and
- the proportion of traffic cases that were alcohol-positive decreased two-fold and there was also a slight decrease in the mean BrAC. Although there were only 3 drivers tested, 2 were positive for alcohol but neither was over the legal driving limit.

4.3.3 Chronic Alcohol Usage

In 2000, 41% of the patients could not be interviewed because of the severity of their injuries, or because they were unco-operative or too intoxicated to answer the four CAGE questions. This figure was 45% in 1999.

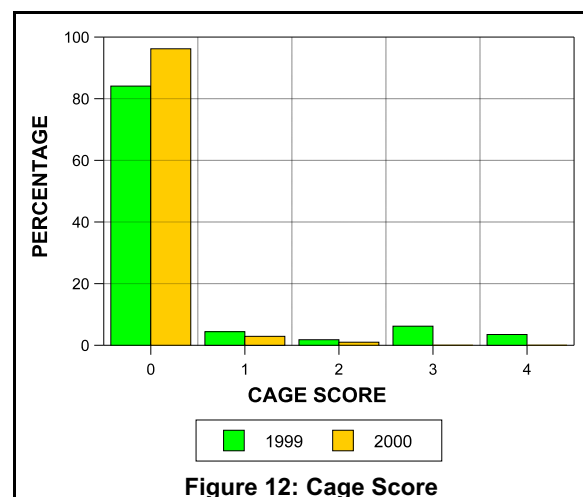


Figure 12: CAGE Score

Of the remaining 105 patients who could be interviewed, 96% had a total CAGE score of zero compared to 84% in 1999 (Figure 12). Only one patient (1.0%) had a total CAGE score of two or more indicating problem drinking or possible alcohol dependence.

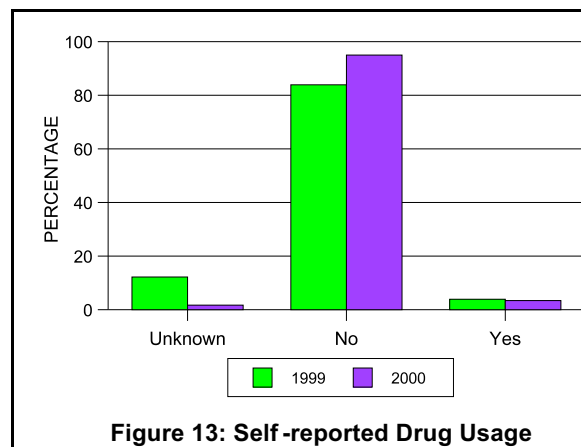
The researchers found the above results to be questionable due to language and cultural barriers and the general lack of co-operation by the patients. The CAGE questionnaire was not found to be a problem in Umtata but it was administered in Xhosa by a fluent Xhosa speaker. Next year, a Zulu-speaking fieldworker will be used in the study and the results that he/she obtains will be compared to those found by the non-Zulu speaking fieldworker to assess whether the problem is a language barrier and not an abnormally low prevalence of chronic alcohol abuse in the city.

4.4 Illicit Drug Usage

Drug usage was assessed by means of self-report, the Multidrug kit and conventional pharmacological methods.

4.4.1 Self-reported Drug Usage

Only 3.4% of patients acknowledged using illicit drugs prior to their injury which was very similar to the 3.9% obtained in 1999 (Figure 13).



4.4.2 Multidrug Screen Results

Drug screen results were obtained in 149 patients in 2000. The Multidrug kit screens for five drugs using a sample of urine. In 1999, 38.2% of patients were positive for at least one drug (some were positive for a combination of drugs). In 2000, very similar results were obtained - 58 (38.9%) of 149 patients were positive for at least one drug.

The self-reporting reliability for 2000 was 10.3% compared to 13.3% in 1999. As can be seen in Table XI, there was a slight increase in the usage of most drugs in 2000 except for methamphetamine which showed similar proportions. No amphetamine users were identified in both study periods.

**Table XI: Multidrug Screen Results
1999 versus 2000**

	1999 n (%)	2000 n (%)
Amphetamine	0 (0.0)	0 (0.0)
THC	48 (30.6)	50 (33.6)
Morphine	7 (4.5)	10 (6.7)
Cocaine	4 (2.5)	6 (4.0)
Methamphetamine	1 (0.6)	1(0.7)

Furthermore, it was found that :

- 81.8% of the cases who tested positive for cannabis were injured violently compared to 76.5% in 1999
- 70% of the cases who tested positive for morphine had been injured as a result of violence (compared to 28.8% in 1999) and the other 30% were injured in falls. The morphine test, is however, sensitive for all opiate derivatives - even small amounts are included in over the counter pain medications. Therefore this result needs to be viewed with caution
- all of the cases who tested positive for cocaine were injured violently which was the same for 1999; and
- one-third of non-traffic 'accidents' were drug-positive in 2000 of which nearly three-quarters were dagga-related. In 1999, 40% were drug-positive and only 30% were dagga-related.

4.4.3 Pharmacological Analysis

Conventional wet analysis was undertaken on 148 samples of urine (1 sample 'went missing'). As can be seen from Table XII, this analysis revealed that one-third of patients had used dagga which was the same for 1999. The proportion of mandrax cases decreased by 4.1% and white pipe smokers (combination of dagga and mandrax) by 2.8% in 2000, however, neither of these were significant.

**Table XII: Pharmacological Analysis
1999 versus 2000**

	Positive Result	
	1999 n (%)	2000 n (%)
Dagga	54 (34.4)	51 (34.5)
Mandrax	18 (11.5)	11 (7.4)
White Pipe	16 (10.2)	11 (7.4)

In addition to white pipe smoking, many other drug combinations were found. From Table XIII, although the figures are small, it can be seen that in 2000 the combinations of white pipe/morphine, white pipe/cocaine and dagga/morphine were more popular than in 1999.

In 2000, it was found that 81.8% of white pipe smokers were injured violently compared to 87.5% in 1999.

**Table XIII : Drug Combinations
1999 versus 2000**

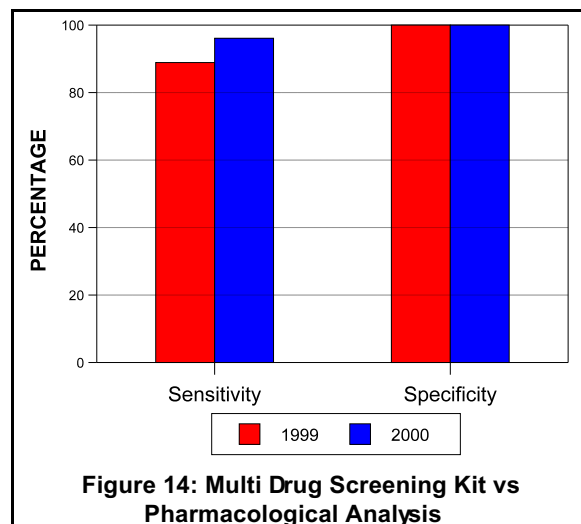
	Number of Cases	
	1999	2000
dagga and mandrax (white pipe)	16 (26.6)	11 (19.0)
white pipe and morphine	1 (1.7)	3 (5.2)
white pipe and cocaine	0	2 (3.4)
dagga and morphine	0	2 (3.4)
dagga and cocaine	2 (3.4)	1 (1.7)
dagga and methamphetamine	1 (1.7)	0
mandrax and morphine	1 (1.7)	0
mandrax and cocaine	1 (1.7)	0
cocaine and morphine	1 (1.7)	0

The table shows the number of cases and percentages (in brackets) - percentages are of the total (58) drug-positive cases

4.4.4 Multidrug Screen Kit versus Pharmacological Analysis

The Multidrug screening kit was found to be valid and accurate.

Comparing the kit to the pharmacological 'gold standard' produced a sensitivity of 88.9% in 1999 and 96.1% in 2000 - the specificity was 100% for both study periods (Figure 14). Consequently, this kit can be reliably used to assess cannabis in the urine of injured patients.



5. SUMMARY

The following summarises the trend data obtained by the Trauma and Drug Study in 1999 and 2000:

- patients were predominantly young males
- most injuries were the result of violence
- most patients who were injured violently abused substances - primarily alcohol and cannabis
- sharp objects are still the major cause of violence, however, the proportion of firearm violence has doubled in 2000, but this was not statistically significant
- most of the patients who were involved in traffic collisions were passengers, however, the proportion of pedestrian cases has almost doubled in 2000, but this was also not statistically significant
- injuries occurred predominantly after hours and on weekends
- there was a larger proportion of injuries to the head and both extremities in 2000 while in 1999, more injuries occurred to the face and chest
- for both sampling periods, three-quarters of the patients attending Addington's trauma unit did so inappropriately - they could have been treated at a smaller hospital
- most patients sustained injuries which were relatively minor and few were left with long-term disabilities
- just under half the patients seen at Addington's trauma unit were alcohol-positive for both study periods, however, the alcohol levels recorded in 2000 were higher
- although most drugs have shown a slight increase in usage, there was a slight decrease in mandrax and white pipe smokers in 2000

6. REFERENCES

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