

### 5.13 Day and Time of Treatment

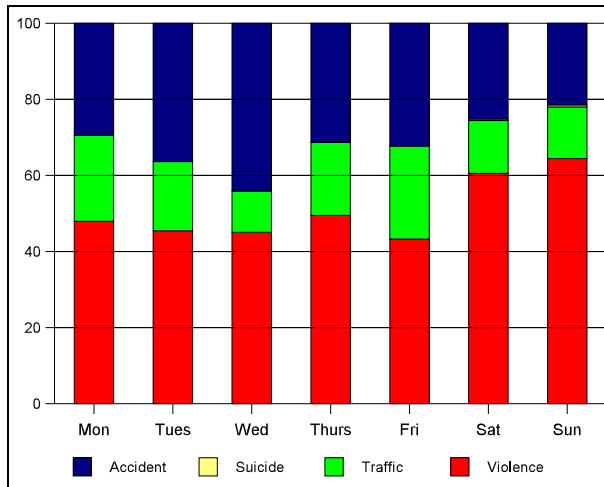


Figure 11 : Treatment Day

As would be expected, the majority of violence cases presented to the hospital on a Saturday and Sunday. Although the day of injury variable was poorly completed by doctors, where this information was available it showed a similar pattern to that seen in Figure 11.

Only 21% of all patients reached hospital within 1 hour (IQR 2 - 11) of their injury and a further approximately 40% arrived within 6 hours.

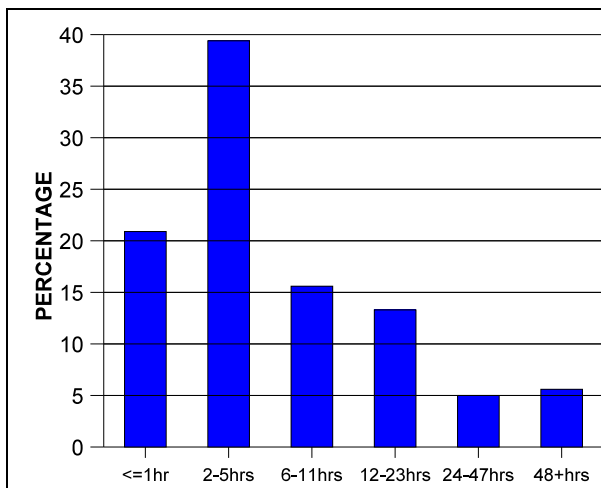


Figure 12 : Delay to treatment

Among severely injured patients, it was distressing to note that only 35% reached hospital during the 'golden hour'. Patients with severe injuries at KEH took a median of 2.5 hours to reach hospital while those at GFJ arrived within an hour and a half. Although this difference has major clinical ramifications and probably reflects the emergency medical services in the different regions, it did not reach statistical significance.

## **6. MODIFICATIONS TO PROFORMA AS A RESULT OF PILOT**

A number of modifications were made to the injury surveillance proforma as a result of suggestions made by the doctors who completed the forms. These changes are reflected in the final questionnaire included in Annexure B.

To summarise the changes:

- the three colours were changed to shades of a single colour to reduce the costs involved with replicating the form
- the carbon paper was replaced with a self-carbonating form
- attempted suicide : a free form text box was inserted so that doctors could indicate what poisons or medications were taken
- perpetrator-victims relationship : a category called 'acquaintance' was included
- gender of main perpetrator : an unknown category was included
- placement after initial assessment : a category called 'referred' was included

## **7. ROLL OUT OF SURVEILLANCE SYSTEM**

Following the piloting of the injury surveillance system a sampling strategy for roll out was developed by the scientists working on the project.

The following criteria were used to select facilities:

- All provinces represented
- State secondary & tertiary hospitals
- Urban and rural mix
- Large and small trauma caseloads
- High and low violence areas
- High and low traffic collisions
- All injury severities
- Accessible
- Practically feasible
- Don't already have a system in place

Furthermore, the CSIR plotted annual trauma caseloads for each province. These data had been obtained from a rapid assessment of trauma facilities conducted by the consortium in early 2000. Maps such as the one depicted in Figure 13 were used to assist with the selection of facilities.

## Trauma statistics for Western Cape

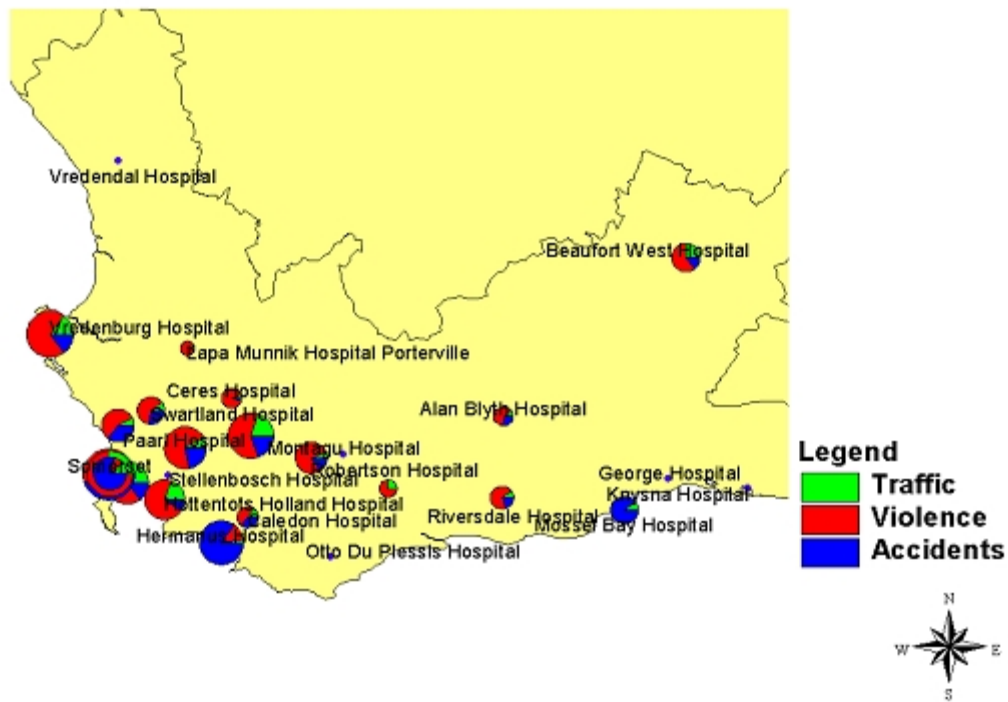


Figure 13 : Example of GIS mapping

Based on these criteria, 41 hospitals in the nine provinces of South Africa were selected for implementation of the injury surveillance system (Table IX).

**Table IX : Hospitals selected for roll out of national injury surveillance system**

<b>Hospital Name</b>	<b>REGION</b>	<b>ADDRESS</b>	<b>AREA</b>	<b>TOTALS</b>
<b>Western Cape</b>				
GF Jooste Hospital	Cape Metropolitan	Manenberg, Cape Town	urban	12950
George Hospital	Karoo	George	urban/rural	24276
Tygerberg Hospital	Cape Metropolitan	Tygerberg, Cape Town	urban	19735
Eben Dönges Hospital	Boland / Overberg	Worcester	rural	15000
Vredenburg Hospital	West Coast	Vredenberg	rural	15600
				<b>87561</b>
<b>Eastern Cape</b>				
Cecilla Makiwane Hospital	Amatola	Mdanstane, East London	urban/rural	43370
Mount Ayliff Hospital	Wild Coast 2	Mount Ayliff	rural	1325
Cradock Hospital	Stormsberg	Cradock	rural	4184
Livingstone Hospital	Algoa	Korsten, Port Elizabeth	urban	10500
Umtata General Hospital	Wild Coast 1	Umtata	urban/rural	22000
				<b>81379</b>
<b>Northern Cape</b>				
Gordonia Hospital	Benede-Oranje	Upington	rural	7535
Kimberley Hospital Complex	Diamantveld	Kimberley	urban	15047
				<b>22582</b>
<b>Gauteng</b>				
Chris Hani Baragwanath Hospital	Central Wits	Soweto	urban	25560
Kalafong Hospital	Pretoria	Pretoria	urban/rural	3239
Leratong Hospital	West Rand	Krugersdorp	urban	16776
Tambo Memorial Hospital	East Rand	Boksburg	urban/rural	23500
Ga-Rankuwa Hospital	Pretoria	Pretoria North	urban/rural	40830
				<b>109905</b>
<b>KwaZulu Natal</b>				
Addington Hospital	Durban	Durban	urban	24024
Edendale Hospital	Pietermaritzburg	Piessislaer	urban/rural	13189
King Edward VIII Hospital	Durban	Congella, Durban	urban	10000
Port Shepstone Hospital	Port Shepstone	Port Shepstone	urban/rural	3554
Stanger Hospital	Jozini/Empangeni	Stanger	rural	17380
Ladysmith Hospital	Ladysmith	Ladysmith	rural	5000
RK Khan	Durban	Chatsworth	urban/rural	16000
Vryheid Hospital	Ulundi	Vryheid	rural	7200
				<b>72323</b>
<b>Nothern Province</b>				
Letaba Hospital	Central	Letaba	rural	2200
Mapulaneng Hospital	Lowveld	Bushbuckridge	rural	3746
Pietersburg Hospital	Northern	Pietersburg	urban	25000
Warmbaths Hospital	Bushveld	Warmbaths	urban/rural	2501
				<b>33447</b>
<b>North West</b>				
Lehurutshe Community Hospital	Wesvaal	Lerato	rural	2685
Mafikeng General Hospital	Mmabatho	Mafikeng	urban/rural	4800
Tshepong Hospital	Klerksdorp	Klerksdorp	urban/rural	16320
Ganyesa Community Hospital	Vryburg	Ganyesa	rural	686
				<b>24491</b>
<b>Freestate</b>				
Boitumelo Hospital	Northern Free State	Kroonstad	urban/rural	5600
Elizabeth Ross Hospital	Eastern Free State	Witsieshoek	rural	1648
Goldfields Regional Hospital	Goldfields	Welkom	urban/rural	5796
Pelenomi Hospital	Bloearea	Bloemfontein	urban	27572
				<b>40616</b>
<b>Mpumalanga</b>				
Amajuba Memorial Hospital	Eastern Highveld	Volksrus	rural	3300
Rob Ferreira Hospital	Lowveld	Nelspruit	urban	4161
Themba Hospital	Lowveld	Kabokweni	rural	7502
Witbank Hospital	Highveld	Witbank	urban	2320
				<b>17283</b>

#### **4. CONCLUSION**

The piloting of the injury surveillance system served three major purposes, viz. to test the accuracy and reliability of the injury surveillance proforma and make necessary changes; to assess the acceptability of the system by doctors in trauma units; and to obtain a profile of non-fatally injured patients admitted to typical trauma units in the country.

In general the form worked well, although some patients were not captured but it is predicted that this rate will increase as doctors become better acquainted with the process. A number of recommendations made by the doctors completing the questionnaire were incorporated into a revised version of the form. The presentation of the form was modified so that it was easier to handle and less expensive to reproduce in vast quantities.

The majority of the doctors completing the questionnaire were happy to use the proforma in place of their regular doctors notes. Although there was some resistance initially, when doctors were informed that such a form would obviate the necessity for additional notes, they were eager to use the form. Consequently, at one hospital the doctors continued to complete the form long after the one month pilot period was over.

The results of the pilot study at the two facilities give some idea of the magnitude and profile of non-fatally injured patients who attend emergency departments in South Africa. Particularly interesting was the information obtained with regard to the context of violence. Such data on a national basis will be particularly useful both in terms of prevention and health care management.

This system has been presented to the Director General of Health and endorsed. Roll out to the 41 identified hospitals will commence in late 2000 and continue into the new year.

## ANNEXURE A

<b>HOSPITAL</b>		<b>HOSP NO</b>	
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<b>GENDER</b>	M	F	<b>RACE</b>	A	B	C	W	<b>HOME LANGUAGE</b>		<b>AGE</b>		
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<b>DATE &amp; TIME OF INJURY</b>	D	D	M	M	Y	Y	Y	Y	H	H	<b>DATE &amp; TIME OF TREATMENT</b>	D	D	M	M	Y	Y	Y	Y	H	H
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<b>CITY / TOWN WHERE INJURY TOOK PLACE</b>		<b>SUBURB WHERE INJURY TOOK PLACE</b>	
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SCENE OF INJURY (Please tick the one that applies)				ACTIVITY AT THE TIME OF INJURY (please tick the one that applies)			
1	Private House & Yard (incl pool)	10	Medical Service Area	1	Paid work	6	Education
2	Informal settlement/squatter camp	11	Farm	2	Unpaid work	7	Sleeping/eating/resting etc
3	Residential Institute	12	Sea, Lake, R iver, Dam	3	Travelling	8	Nothing in particu lar
4	Bar, Shebe en, N'Clu b, Disco	13	Open Land, countryside	4	Playing sport	89	Other
5	Road/street/ highway	14	Prison/In Custody	5	Leisure/playing	99	Unknown
6	Public transport& area surrounding	15	Sports & athletics area	<b>WAS ALCOHOL USED BY PATIENT PRIOR TO INJURY?</b>			
7	Industrial & construction area	16	Recreational area	Yes/suspected	No	Unknown	
8	Commercial area	89	Other	<b>WERE DRUGS USED BY PATIENT PRIOR TO INJURY ?</b>			
9	School/Educational area	99	Place Unknown	Yes/suspected	No	Unknown	

<b>CAUSE OF INJURY (Place a tick in appropriate box)</b>	Transport	Other Accident	Attempted suicide	Violence
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*Please complete the section appropriate for the cause of injury*

TRANSPORT		OTHER ACCIDENT / UNINTENTIONAL INJURY			ATTEMPTED SUICIDE / SELF INFLICTED		
Vehicle Involved	Traffic User	Specific cause			Specific method used		
1 Car/bakkie	1 Drive r/ rider/ cyclist	1 Sharp object	11 Struck against/ caught between	1 Sharp object	8 Hanging		
2 Minibus taxi	2 Passenger	2 Blunt object	12 Near drowning	2 Blunt object	9 Jump		
3 Bus	3 Pedestrian	3 Firearm	13 Hanging	3 Firearm	10 Poisoning		
4 Truck	89 Other	4 Hot liquid burn	14 Paraffin poisoning	4 Hot liquid burn	11 Near Drowning		
5 Motorcycle	99 Unknown	5 Chemical burn	15 Other poisoning	5 Chemical burn			
6 Bicycle	Safety belt/ chair/helmet used	6 Electric al burn	16 Dog bite	6 Electric al burn	89 Other		
7 Train		7 Fire burn	17 Other bite/sting	7 Fire burn	99 Unknown		
8 Aircraft	1 Yes	8 Fall on level	18 Machinery				
89 Other	2 No	9 Fall on stairs	89 Other				
99 Unknown	99 Unknown	10 Fall from height	99 Unknown				

VIOLENCE										
Specific cause			Type of violence			Perpetrator - Victim Relationship				
1 Sharp object	7 Choking/strangulation		1 Interpersonal	5 War/civil		1 Spouse/partner	6 Friend			
2 Blunt object	8 Fire burn		2 Rape/sexual	6 Gangs/syndicate		2 Biological parent	7 Police/legal			
3 Firearm	9 Other burn		3 Child abuse	89 Other		3 Step parent	8 Stranger			
4 Explosion	10 Poisoning		4 Legal intervention	99 Unknown		4 Other relative	89 Other			
5 Push/kick/fist	89 Other		<b>How many perpetrators were involved?</b>			5 Unrelated caregiver	99 Unknown			
6 Human bite	99 Unknown		1	2	3	4 or more	Unknown			
							<b>Gender of main perpetrator</b>	M	F	U

SEVERITY OF INJURIES		PLACEMENT AFTER INITIAL ASSESSMENT				FORM COMPLETED BY		
1	Minor	1	Discharged	4	Died			
2	Moderate	2	Admitted to ward	5	Absconded			
3	Severe	3	Admitted to ICU	6	Transferred			

4	Mortal	7	Referred to:	Please print name and sign
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## ANNEXURE B

<b>NAME OF HOSPITAL</b>		<b>HOSP NO</b>	
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<b>GENDER</b>	M	F	<b>RACE</b>	A	B	C	W	<b>HOME LANGUAGE</b>		<b>AGE</b>		
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7 Train		7 Fire burn	17 Other bite/sting	7 Poisoning	99 Unknown				
8 Aircraft	1 Yes	8 Fall on level	18 Machinery	If attempted suicide by overdose or poisoning, please state substance(s) taken					
89 Other	2 No	9 Fall on stairs	89 Other	-----					
99 Unknown	99 Unknown	10 Fall from height	99 Unknown						

VIOLENCE									
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