

---

## Chapter 2

# Overview of Admissions to Liverpool Hospital

---

This section contains

Executive Summary and Overview	29
Synoptic View of Admissions and Transfers to Liverpool Hospital	30
Mechanism of Injury Annually for Total Admissions to Liverpool Hospital	31
Place of Injury Occurrence - Major	32
Place of Injury Occurrence - Minor	33
Weekday Comparison: Falls, Road Trauma and Interpersonal Violence	34
Type of Injury Admitted, Cause, Number of Patients,	35
Pre-hospital Triage Category, Age and Sex, Mode of Arrival	36
Analysis of trauma by Age, ISS and Trauma type	38
Origin of Patients Admitted to Liverpool Hospital	39
Bypass Failure - Transfer to Liverpool Hospital - 1999	40
Drug or Alcohol Links with Trauma	42

### EXECUTIVE SUMMARY AND OVERVIEW

- In excess of 1,000 seriously injured patients with an injury severity score of 16 or greater admitted to South Western Sydney Area Health Service Hospital.
- Falls are a dominant source of injury.
- Static trend in the number of gunshot and stabbing prevalent throughout the 5 year period.
- Falls, road trauma and interpersonal violence appear to have different admission patterns.
- Road trauma and interpersonal violence share the same time of presentation with a tendency of greater numbers between 4.00pm and midnight, whereas falls occur on a much more day time basis between 8.00am and 4.00pm.
- The number of patients transferred to Liverpool Hospital is increasing, accounting for 17% of those in the major injury category in 1999.

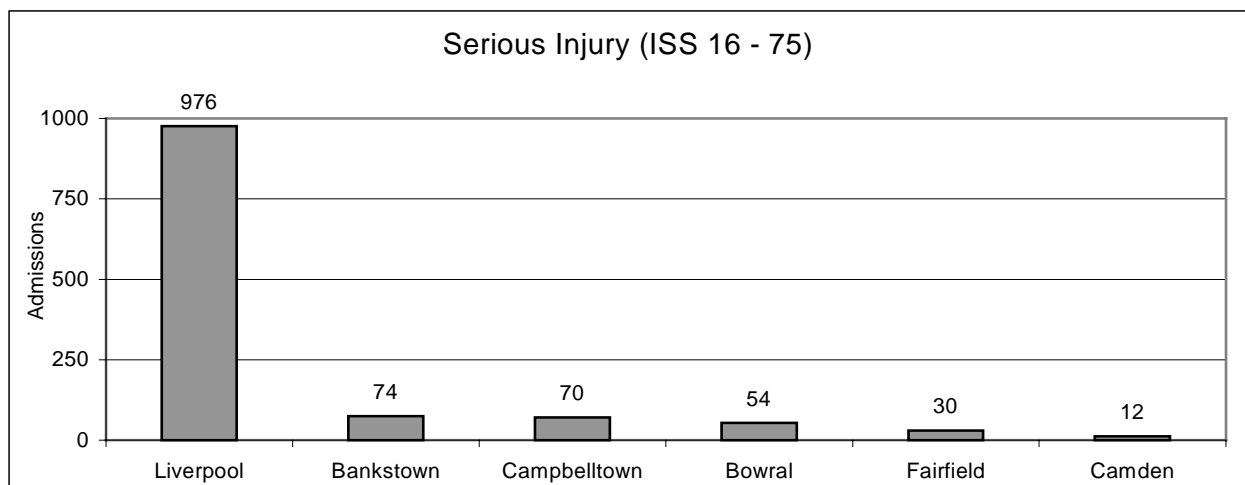
## Synoptic Overview of Admissions and Transfers to Liverpool Hospital

There were 23,637 trauma admissions to SWSAHS hospitals during the five years 1995 to 1999

- ❖ Liverpool Hospital received 9225 (39%) of the total
- ❖ Males represented 67.3% and Females 32.7% of all trauma admissions to Liverpool
- ❖ Of the 9225 admissions to Liverpool, 3,793 (57%) are entered into Major injury category database
- ❖ 3,304 came directly to Liverpool Hospital and 489 were transferred from another hospital
- ❖ Of the 489 transfers into Liverpool Hospital 409 originated from other hospitals in SWSAHS and 80 from other area health services.
- ❖ 976 patients sustained serious injuries with Injury Severity Score (ISS\*) 16 or more. Of these 808 came directly to Liverpool Hospital, 127 were transferred in from other hospitals within SWSAHS and 41 transferred from another are health service
- ❖ 9.1% of major category trauma admissions to Liverpool Hospital sustained penetrating injuries whereas 5.1% of major category trauma admissions to other hospitals in SWSAHS sustained penetrating injuries.

*\*Refer to section on Outcome Measures for more information on Injury Severity Scoring.*

### Number of Serious Injury Admissions to Each Hospital in SWSAHS (1995 - 1999)



### Mechanism of Injury Annually for Total Admissions to Liverpool Hospital

Liverpool	1995	%	1996	%	1997	%	1998	%	1999	%	Total	%
MVA driver	159	9.3	164	8.9	215	11.9	200	10.2	231	12.1	969	10.5
MVA front passenger	78	4.6	72	3.9	62	3.4	99	5.1	70	3.7	381	4.1
MVA back passenger	42	2.5	36	1.9	28	1.5	32	1.6	47	2.5	184	1.9
MBA rider	78	4.6	66	3.6	72	4.0	74	3.8	80	4.2	370	4.0
MBA pillion	3	0.2	5	0.3	4	0.2	6	0.3	0	0.0	18	0.2
Pedestrian	102	6.0	92	5.0	75	4.1	93	4.7	89	4.7	451	4.9
Pedal cyclist	42	2.5	51	2.8	52	2.9	42	2.1	44	2.3	231	2.5
Personal assault	109	6.4	152	8.2	158	8.7	132	6.7	138	7.2	689	7.5
Stabbing	43	2.5	55	3.0	63	3.5	71	3.6	50	2.6	282	3.0
Gunshot	13	0.8	16	0.9	13	0.7	16	0.8	16	0.8	74	0.8
Industrial	149	8.7	188	10.2	186	10.3	185	9.4	115	6.0	823	8.9
Fall < 5 metres	524	30.8	528	28.6	475	26.3	528	27.0	503	26.4	2558	27.7
Fall 1m to 5m	9	0.5	6	0.3	4	0.2	12	0.6	61	3.2	92	1.0
Fall >= 5 metres	28	1.6	32	1.7	35	1.9	31	1.6	28	1.5	154	1.7
Recreation	136	8.0	128	6.9	134	7.4	139	7.1	118	6.2	655	7.1
Burns	56	3.3	53	2.9	39	2.2	55	2.8	50	2.6	253	2.7
Other	91	5.3	163	8.8	149	8.2	192	9.8	238	12.5	833	9.0
Not documented	29	1.7	18	1.0	29	1.6	33	1.7	14	0.7	123	1.3
Dog bite	12	0.7	24	1.3	16	0.9	19	1.0	14	0.7	85	0.9
<b>Total</b>	<b>1703</b>	<b>100</b>	<b>1848</b>	<b>100</b>	<b>1809</b>	<b>100</b>	<b>1959</b>	<b>100</b>	<b>1906</b>	<b>100</b>	<b>9225</b>	<b>100</b>

### Mechanism of Injury for Admissions to Liverpool Hospital

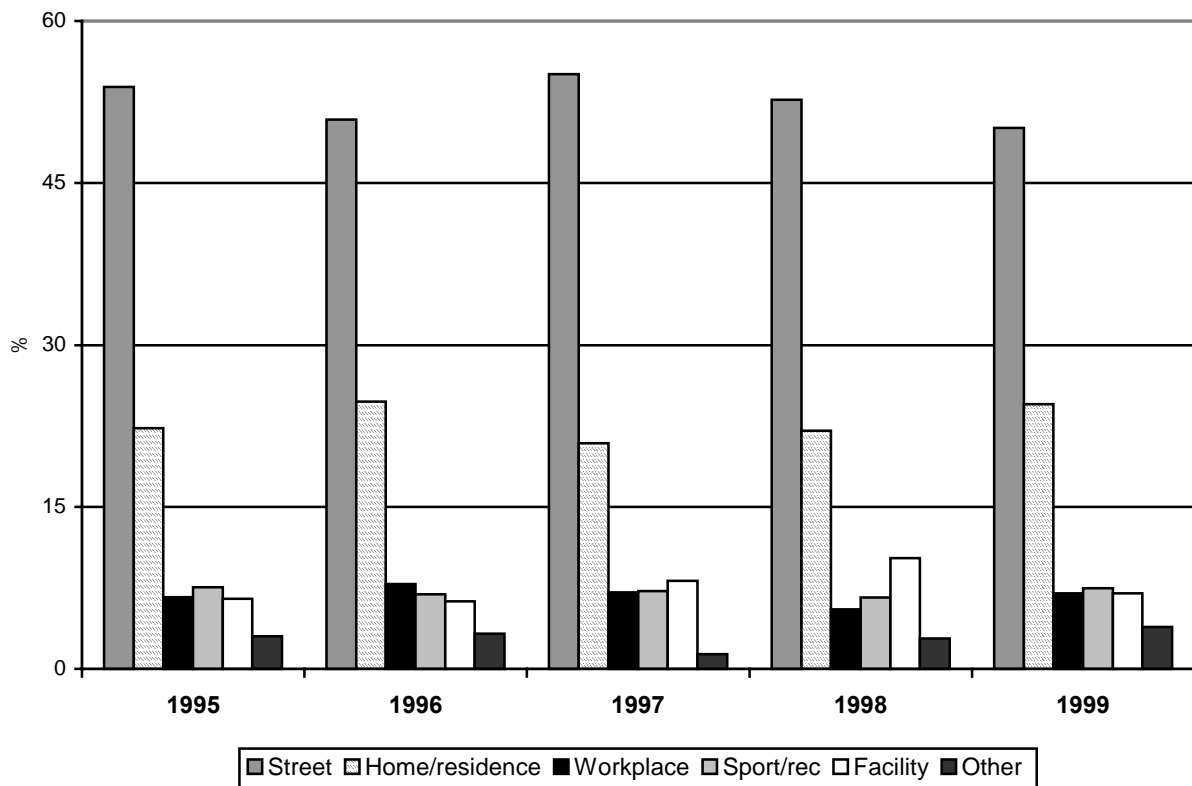


### Place of Injury Occurrence

The following table represents the 3,794 Major Category injury patients who were admitted to Liverpool Hospital over the period 1995 to 1999.

Place of Injury	1995	%	1996	%	1997	%	1998	%	1999	%	Total	%
Street	358	53.9	376	50.9	406	55.1	433	52.7	417	50.1	1990	52.5
Home	142	21.4	172	23.3	144	19.5	168	20.5	184	22.1	810	21.4
Workplace	44	6.6	58	7.8	52	7.1	45	5.5	58	7.0	257	6.8
Sport (organised)	28	4.2	24	3.2	30	4.1	27	3.3	19	2.3	128	3.4
Facility	22	3.3	26	3.5	33	4.5	55	6.7	28	3.4	164	4.3
Recreation	22	3.3	27	3.7	23	3.1	27	3.3	43	5.2	142	3.7
Pub/club	18	2.7	16	2.2	23	3.1	21	2.6	20	2.4	98	2.6
Farm	10	1.5	13	1.8	6	0.8	13	1.6	22	2.6	64	1.7
Unknown	10	1.5	11	1.5	4	0.5	10	1.2	10	1.2	45	1.2
Resident Inst	6	0.9	11	1.5	10	1.4	13	1.6	20	2.4	60	1.6
School	3	0.5	4	0.5	4	0.5	8	1.0	10	1.2	29	0.8
Other	1	0.2	1	0.1	2	0.3	1	0.1	1	0.1	6	0.2
<b>Total</b>	<b>664</b>	<b>100</b>	<b>739</b>	<b>100</b>	<b>737</b>	<b>100</b>	<b>821</b>	<b>100</b>	<b>832</b>	<b>100</b>	<b>3,794</b>	<b>100</b>

Place of Injury Major Category Injuries Liverpool n=3,794

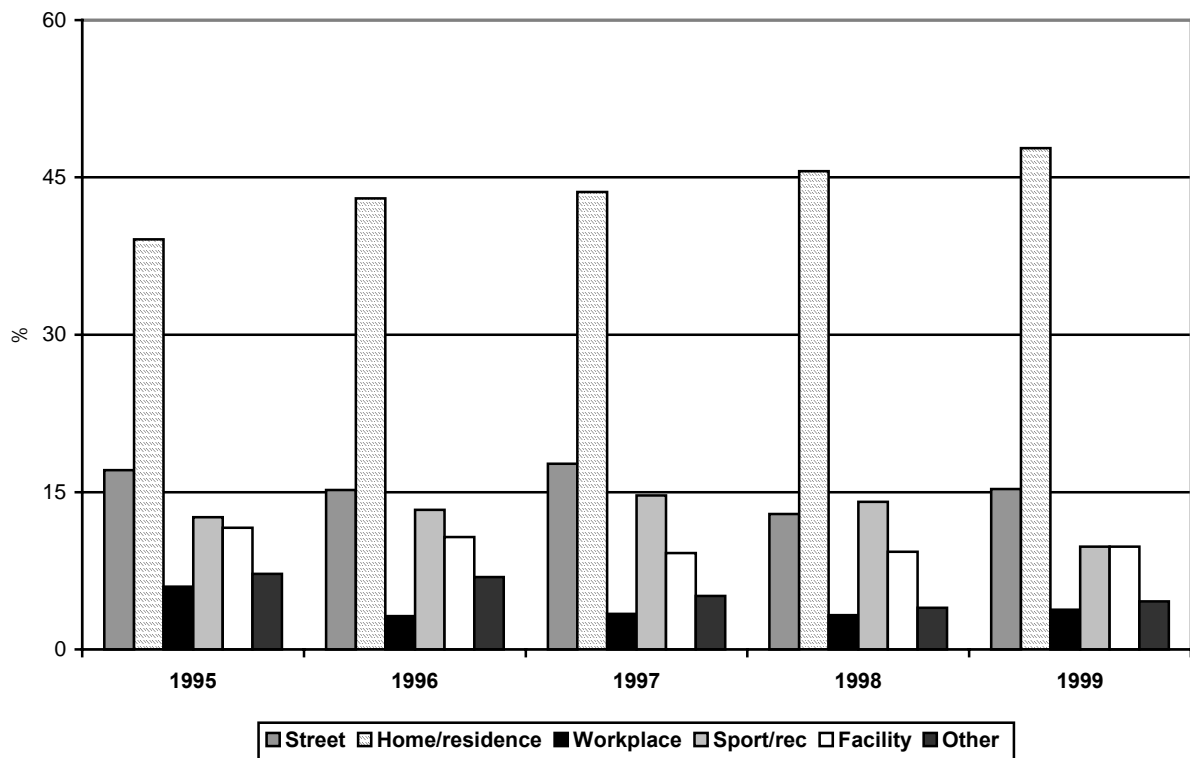


## Place of Injury Occurrence

The following table represents the 5,432 Minor Category injury patients who were admitted to Liverpool Hospital over the period 1995 to 1999.

Place	1995	%	1996	%	1997	%	1998	%	1999	%	Total	%
Street	178	17.1	169	15.2	190	17.7	147	12.9	164	15.3	848	15.6
Home	393	37.8	464	41.8	451	42.1	512	45.0	509	47.4	2,329	42.8
Resident Inst	62	6.0	35	3.2	36	3.4	38	3.3	41	3.9	212	3.9
Workplace	111	10.7	125	11.3	138	12.9	151	13.3	97	9.0	622	11.4
Facility	26	2.5	21	1.9	17	1.6	14	1.2	20	1.9	98	1.8
Pub/club	20	1.9	22	2.0	20	1.9	10	0.9	8	0.7	80	1.5
Recreation	91	8.8	89	8.0	77	7.2	89	7.8	84	7.8	430	7.9
Organised Sport	54	5.2	46	4.1	31	2.9	30	2.6	37	3.4	198	3.6
School	21	2.0	31	2.8	24	2.2	16	1.4	12	1.1	104	1.9
Farm	13	1.3	13	1.2	16	1.5	7	0.6	4	0.4	53	0.9
Other	4	0.4	9	0.8	5	0.5	3	0.3	1	0.1	22	0.4
Not documented	66	6.4	85	7.7	67	6.3	121	10.6	97	9.0	436	8.0
<b>Total</b>	<b>1,039</b>	<b>100</b>	<b>1,109</b>	<b>100</b>	<b>1,072</b>	<b>100</b>	<b>1,138</b>	<b>100</b>	<b>1,074</b>	<b>100</b>	<b>5,432</b>	<b>100</b>

**Place of Injury Minor Category Injuries Liverpool n=5,432**



## Weekday and Time of Arrival

### Weekday Comparison of Admissions from Falls, Road Trauma and Interpersonal Violence

2,389 patients were admitted with injuries from falls to Liverpool Hospital during the 5-year period. 2,084 admitted with injuries from Road trauma and 813 patients were admitted with injuries from interpersonal violence (not including intentional self-harm). The following table represents the number of patients admitted on each weekday for these different mechanisms of injury.

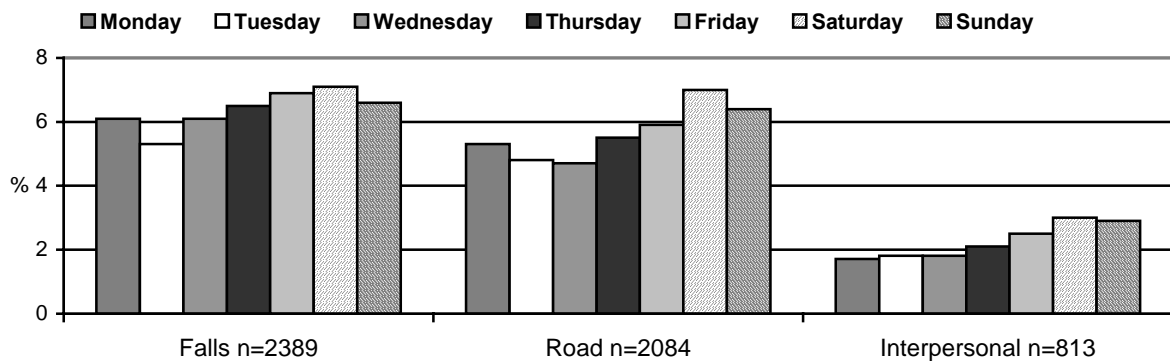
**Weekday of Admission for Falls, Road Trauma and Interpersonal Violence**

Liverpool	Falls	%	Road	%	Interpersonal	%	Total	%
Monday	382	13.6	333	13.4	109	11.0	824	15.6
Tuesday	330	11.8	301	12.4	112	11.3	743	14.1
Wednesday	385	13.7	293	11.8	111	11.2	789	14.9
Thursday	411	14.7	345	13.9	134	13.5	890	16.8
Friday	436	15.5	373	15.0	160	16.1	969	18.3
Saturday	445	15.9	439	17.7	187	18.8	1071	20.3
Sunday	415	14.8	399	16.1	181	18.2	995	18.8
Total	2389	100	2084	100	813	100	5286	100

### Weekday Distribution of Presentation for Falls, Road Trauma and Interpersonal Violence

The following graph represents the weekday of presentation for the 5,286 patients admitted following injuries from falls, road trauma and interpersonal violence that were admitted to Liverpool Hospital.

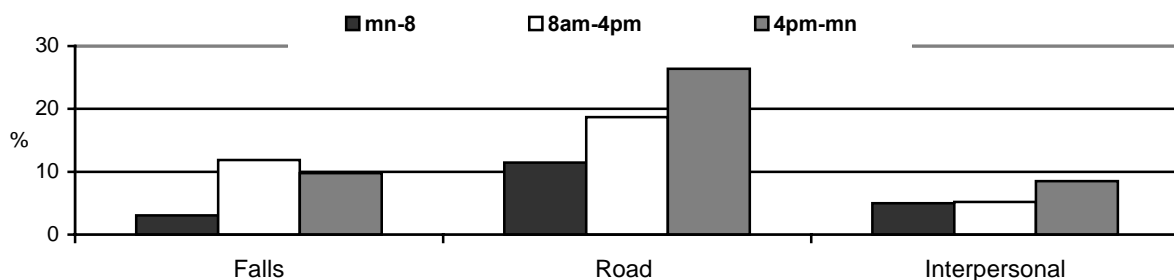
**Weekday Distribution of Admissions**



### Time of Presentation for Falls, Road Trauma and Interpersonal Violence

The following graph represents the time of day for the 5,286 patients admitted following injuries from falls, road trauma and interpersonal violence that were admitted to Liverpool Hospital.

**Time of Presentation**



## Liverpool Hospital 1999

### Type of Injury Admitted

In 1999 there were 1,549 patients admitted to hospitals in SWSAHS entered into the Major Injury category. Of these 833 were admitted to Liverpool Hospital. SWSAHS receives patients suffering predominantly blunt trauma. A higher proportion of patients admitted to Liverpool hospital had penetrating injuries (9.1%) compared to the combined total for the other five hospitals (5.1%).

### Mechanism of injury for Admissions to Liverpool Hospital

Although the greatest numbers of injury admissions occur as a result of falls, road trauma represents the higher proportion of serious injuries. In **1999**, 605 patients (31.5% of total injury admissions) were admitted to Liverpool Hospital following falls and 561 patients (29.2%) were admitted following road trauma related injuries. Of the 605 admissions from falls 193 represented (23.2%) of major category injuries and 412 (37.9%) of the minor category injuries. (Refer to section describing 'Major' and 'Minor' Injury categories.)

Mechanism	Major Category		Minor Category		Total	
Falls	193	23.2	399	37.2	592	31.1
Road	410	49.2	151	14.1	561	29.4
Total Falls/Road	603	72.4	550	51.3	1153	60.5
Other	230	27.6	523	48.7	753	39.5
Total	833	100	1073	100	1906	100

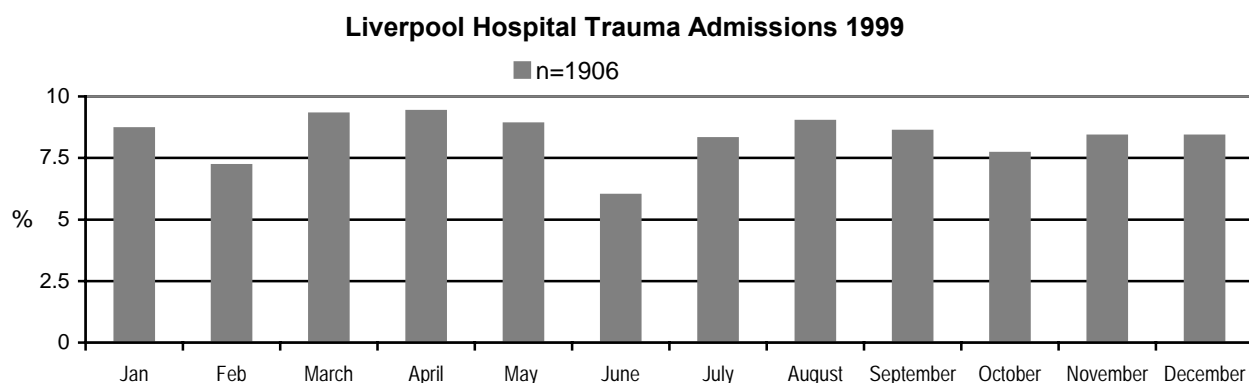
348 (62%) of patients injured in road trauma were vehicle occupants, 80(14.3%) motorcyclists, 89 (15.9%) pedestrians and 44 (7.8%) involved pedal cyclists.

There were 118 (18.3% of total) injuries from recreational activities, 115 (15.3%) industrial injuries. 50 (6.6%) admissions resulted from burns.

204 (27%) patients were admitted with injuries from interpersonal assault. Blunt assault accounted for 138 (67.6%) of interpersonal violence, and penetrating injuries from stabbing or gunshot accounted for 66 (32.3%) of injuries from interpersonal violence.

### Trauma Admissions Each Month to Liverpool Hospital

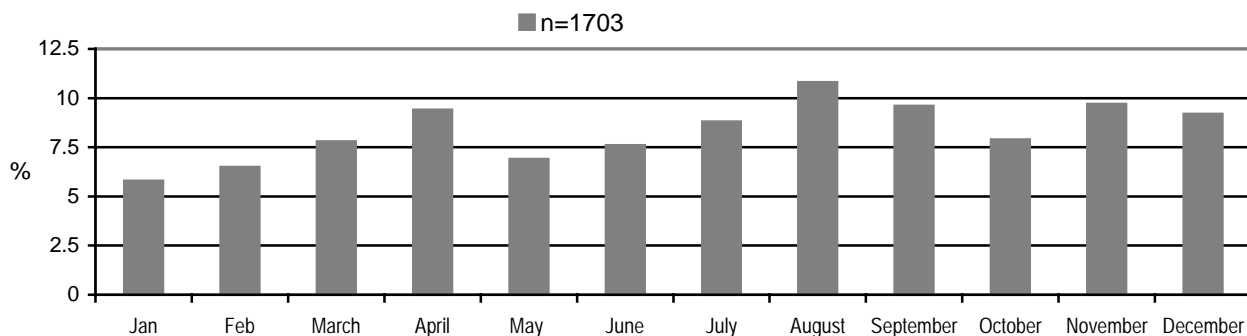
The graph below shows the total number of trauma admissions each month to Liverpool Hospital



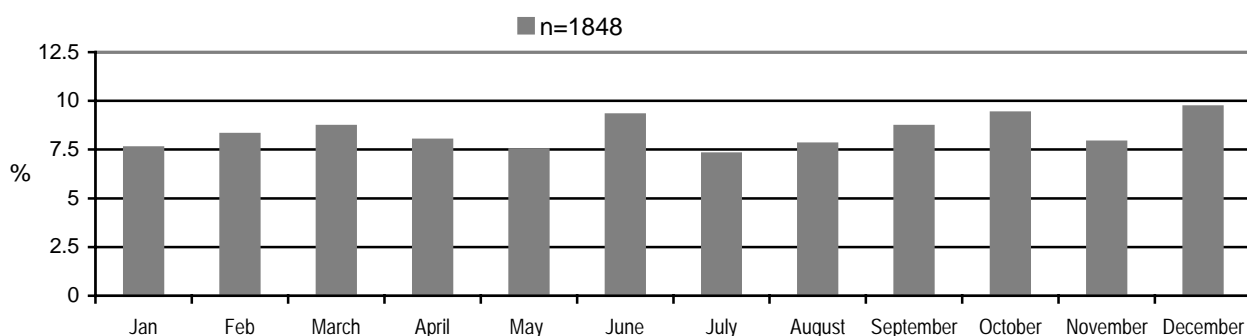
during 1999. The proportion each month can be compared to the monthly admissions for years 1995 to 1998 on next page.

## Trauma Admissions Each Month to Liverpool Hospital

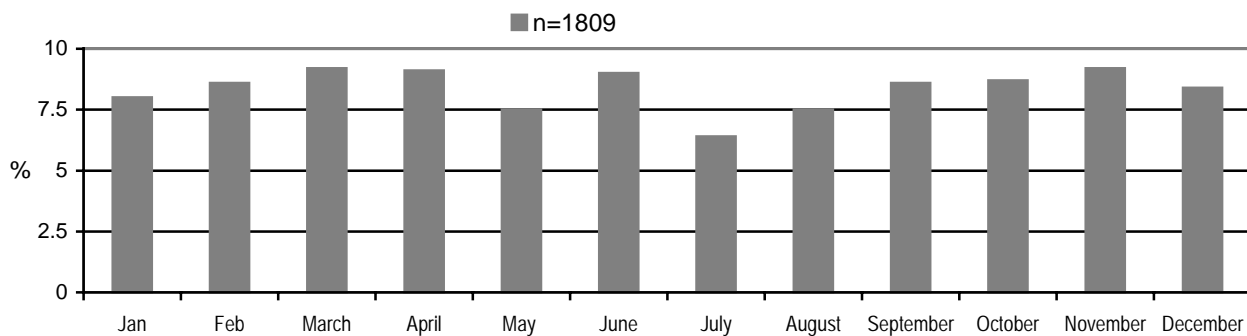
### Liverpool Hospital Trauma Admissions 1995



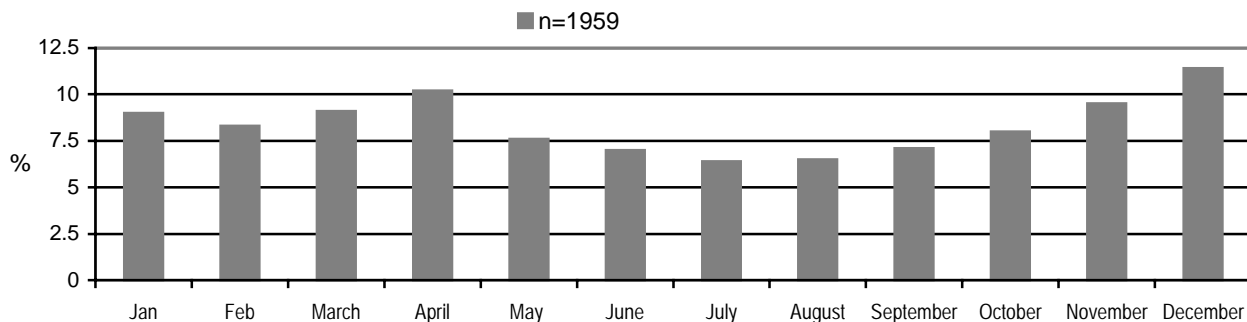
### Liverpool Hospital Trauma Admissions 1996



### Liverpool Hospital Trauma Admissions 1997



### Liverpool Hospital Trauma Admissions 1998

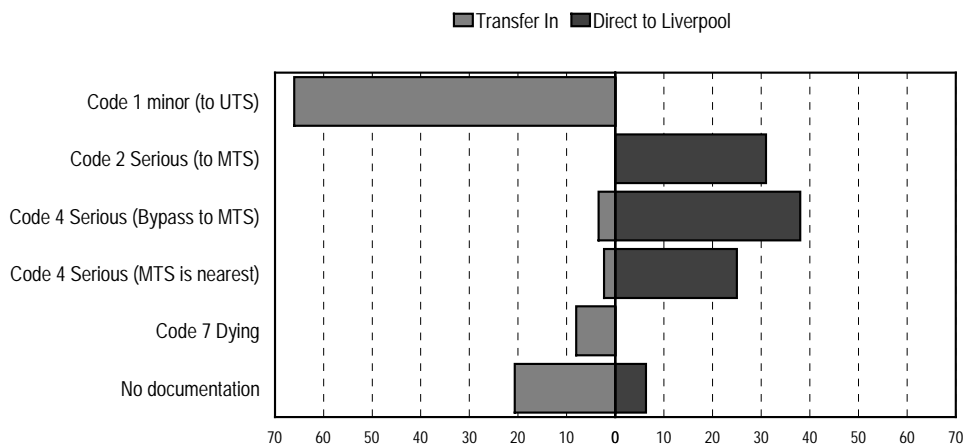


## Liverpool Hospital 1999

### Pre-hospital Triage Category

674 patients (Major Injury category) who were admitted to Liverpool Hospital received pre-hospital care by ambulance. This graph shows the pre-hospital ambulance officers' triage transport decision. 587 patients were delivered directly to Liverpool and 87 were transfers from another hospital. Of the 87 transfers, 57 (65.5%) were triaged as Code 1 ("minor") and taken to an urban hospital before being transferred to Liverpool Hospital for definitive treatment. The mean ISS for this group of patients was  $11 \pm 7.1$  (1-29). 7 patients (8%) were triaged as Code 7 (Dying). The ISS for the patients who bypassed a nearer urban hospital and were taken directly to Liverpool was  $15 \pm 12$  (1-75).

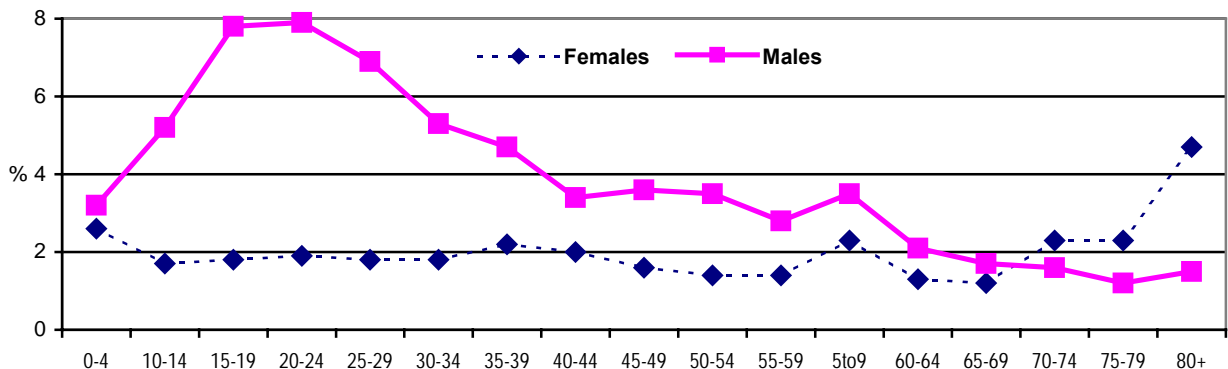
**Ambulance Transport Decision During 1999** n=674



### Age and Sex Distribution

There were more males (67.3%) than females (32.7%) admitted with injuries to Liverpool Hospital in 1999. Most injuries occur in the 15 to 29 age groups. There is a noticeable gender difference. Adolescent boys and young adult males are admitted more with injuries than females in the same age groups. In the older age group (from the age of 70 and upward) females had more injury admissions than males.

**Age and Sex Distribution Liverpool Hospital 1999** n=1906



## Liverpool Hospital 1999

### Analysis of Trauma by Age, ISS and Trauma Type During 1999

#### Blunt Trauma

Age (years)	ISS # 15		ISS ≥ 16		Minor Category*		Total	
	n	%	n	%	n	%	n	%
< 16	68	12.0	17	8.5	277	27.3	362	20.3
16-54	365	64.1	130	65.3	477	47	972	54.5
>54	136	23.9	52	26.1	261	25.7	449	25.2
Total	569	100	199	100	1,015	100	1,783	100

#### Penetrating Trauma

Age (years)	ISS # 15		ISS ≥ 16		Minor Category*		Total	
	n	%	n	%	n	%	n	%
< 16	3	7.3	0	0	3	15.8	6	8.2
16-54	35	85.4	11	84.6	15	78.9	61	83.6
>54	3	7.3	2	15.4	1	5.3	6	8.2
Total	41	100	13	100	19	100	73	100

#### Burns

Age (years)	ISS # 15		ISS ≥ 16		Minor Category*		Total	
	n	%	n	%	n	%	n	%
< 16	3	60	1	16.7	19	48.7	23	46
16-54	2	40	5	83.3	18	46.2	25	50
>54	0	0	0	0	2	5.1	2	4
Total	5	100	6	100	39	100	50	100

- ISS score is not calculated for the Minor Injury Group

The age distribution is shown in table above for blunt, penetrating and burns injuries, with a breakdown of those cases with an ISS >15. Serious penetrating trauma was uncommon in the young and old, and burns were also uncommon in the elderly. The population at greatest risk for injury of all types is in the 16 to 54 age group.

#### Mode of Arrival During 1999

Of the 833 Major category injury admissions, 689 (82.7%) came directly to Liverpool Hospital, 100 by private transport, 526 by ambulance and 12 primary helicopter retrieval. 144 (17.3%) of the patients were transferred from another hospital. Of these, 122 came from another hospital within SWSAHS and the remaining 20 from hospitals in another Area health Service.

### Origin of Patients Admitted to Liverpool Hospital 1995 - 1999

There were 3,974 patients with Major category injuries admitted to Liverpool Hospital during the five-year period. 3,305 (87.1%) of these came directly to Liverpool and 489 (12.9%) were transferred from another hospital. Of the 489 patient transfers 409 (83.6%) originated within South Western Sydney Area Health Service. Although there were 489 patients transferred into Liverpool Hospital only 302 (61.7%) were taken to the first hospital by ambulance. Of the 302 transfers to Liverpool Hospital who had pre-hospital intervention 36 (11.9%) were initially transported to Bowral (rural therefore no bypass protocol) 209 (69.2%) went initially to an urban hospital within SWSAHS, and 57 (18.9%) were transferred in from another area health service. Of the 209 transfers into Liverpool Hospital from urban trauma services 43 (20.6%) patients met criteria that should have initiated protocol to bypass the nearer urban hospital.

#### Direct Admissions and Transfers to Liverpool Hospital

Direct or Transfer	1995	%	1996	%	1997	%	1998	%	1999	%	Total
Direct	589	88.7	652	88.2	658	89.3	717	87.3	689	82.7	3305
Transfer In	75	11.3	87	11.8	79	10.7	104	12.7	144	17.3	489
Total	664	100	739	100	737	100	821	100	833	100	3,794

#### Origin of Transfers to Liverpool Hospital

Origin of Referral	1995	%	1996	%	1997	%	1998	%	1999	%	Total
Urban	51	68.0	67	77.0	58	73.4	72	69.2	114	79.9	362
Rural	13	17.3	5	5.7	8	10.1	11	10.6	9	6.3	46
Other AHS	11	14.7	15	17.2	13	16.5	21	20.2	21	13.9	81
Total	75	100	87	100	79	100	104	100	144	100	489

#### Origin of Transfers to Liverpool Hospital: Patients Self Presenting to First Hospital

Origin of Referral	1995	%	1996	%	1997	%	1998	%	1999	%	Total
Urban	25	71.4	28	82.4	22	81.5	29	85.3	49	86.0	153
Rural	4	11.4	1	2.9	1	3.7	3	8.8	1	1.8	10
Other AHS	6	17.1	5	14.7	4	14.8	2	5.9	7	12.3	24
Total	35	100	34	100	27	100	34	100	57	100	187

#### Origin of Transfers to Liverpool Hospital: Patients Taken by Ambulance to First Hospital

Origin of Referral	1995	%	1996	%	1997	%	1998	%	1999	%	Total
Urban	26	65.0	39	73.6	36	69.2	43	61.4	65	74.7	209
Rural	9	22.5	4	7.5	7	13.5	8	11.4	8	9.2	36
Other AHS	5	12.5	10	18.9	9	17.3	19	27.1	14	16.1	57
Total	40	100	53	100	52	100	70	100	87	100	302

#### Number of Patients Transferred Following Inappropriate Pre-hospital Triage

Referring Hospital	1995	1996	1997	1998	1999	Total
Camden	1	2	0	1	0	4
Fairfield	2	1	3	2	2	10
Campbelltown	3	1	3	7	5	18
Bankstown	0	0	1	2	7	11
Total	6	4	7	12	14	43

### Pre-hospital Triage - Transfers to Liverpool Hospital - 1999

It is desirable that patients are taken to the most appropriate hospital in the first instance. In 1999, 114 patients were transferred to Liverpool Hospital after first being taken to an Urban Trauma Service within SWAHS by the Ambulance Service. A closer examination of these transferred patients follows. 14 of the transfers can be considered the result of a bypass failure, 7 patients were taken to the nearest hospital because the patient was so seriously injured that it was felt they would not survive the distance to Liverpool hospital. The remaining 93 patients may not be considered bypass failure because they did not fit the criteria for protocol\* (eg vital signs normal and history of event did not raise a high index of suspicion).

### Transfers to Liverpool Hospital from Campbelltown Hospital 1999

Age	Description	ISS	TRISS	Triage
14	Pedestrian - # BOS/temporal bone, scalp lac, small SDH, Cerebral oedema, compound # neck humerus #Tibia/fibula, Penetrating wound elbow	25	0.662	Code 7
36	Stabbing Lac ventricle with Cardiac tamponade. Thoracotomy at Campbelltown (Sugrue/Crozier)	25	0.503	Code 7
36	Pedestrian - Extensive Frontal contusions, SDH, EDH, # temporal /BOS	25	0.662	Code 7
15	Rear passenger - Intra-cerebral contusion, #T1 lamina, Laceration face, # 1st rib	26	0.435	Code 7
18	Driver Severe compound #skull, Le Forte III, Lung contusion, Lac's Colon, Small bowel, Mesentery	34	0.068	Code 7
18	Rear passenger - Liver lac (gr 5), Aortic dissection, #L3 compression	16	0.994	Failure
12	Cyclist - Handlebar penetrating left lower quadrant (no breach peritoneum)	1	0.997	Failure
22	Fall from horse, # mandible x 2, #ribs 4-5-6, dislocated shoulder,	12	0.995	Failure
13	Cyclist - # arm, LOC Fitting and amnesia	14	0.987	Failure
24	Hanging, Cerebral oedema, abrasion neck /legs	10	0.832	Failure
51	Industrial contusion chest, abrasion back, contusion abdomen	2	0.998	*
57	Fall >1m and <5m - Headache nausea vomiting , Lac scalp, Hip pain	2	0.985	*
81	Blunt assault - # rib (10th) ? spleen NAD	2	0.985	*
21	Driver – Contusions chest wall, abdomen, neck , abrasions limbs	3	0.998	*
18	Fitted and fell at Uni sustained # skull - To have sleep deprived EEG	4	0.998	*
30	Roller-blading. # Tibia fibula	4	0.998	*
36	Blunt assault - # Nose, zygoma, lac face	4	0.998	*
16	# skull amnesia	5	0.997	*
50	Fall >1m and <5m - wedge fracture T12, contusion pelvis	5	0.997	*
61	Motor cyclist - # rib # sup inferior pubic ramus	5	0.981	*
19	Fall >1m and <5m # L1 20% wedge, LOC, amnesia	8	0.997	*
21	Blunt assault - # Skull, dislocated hip	8	0.997	*
19	?Feinted and hit head when fell # BOS (no CSF leak)	9	0.996	*
21	Motor cyclist compound # distal tibia/fibula	9	0.996	*
24	Driver - Amnesia, # Inferior orbital wall, Zygomatic arch depressed, Lac eye ?globe, hyphema, Seatbelt bruise	9	0.996	*
26	Driver - # tibia compound comminuted, # fibula, # lateral malleolus	9	0.996	*
27	Motor cyclist - Popliteal artery contusion, knee complete disruption torn ligaments (LCL,PCL,ACL,MCL)	9	0.996	*
29	Fell through glass window, GCS 14 combative sedated>obtunded >ETT >CT NAD	9	0.996	*
30	Blunt assault - # blow-out orbital wall; optic n compression (involve rectus)	9	0.996	*
46	Kicked by horse - # Tibial plateau, dislocated knee, peroneal n. palsy	9	0.996	*
19	Rear passenger GCS 14, Amnesia, STI face	10	0.996	*
29	Blunt assault - #BOS, peri-orbital contusion chest contusion	11	0.996	*
43	Blunt assault - CHI, #mandible (bilateral) Lac eye, #zygoma undisplaced	13	0.995	*
65	Front passenger - # ribs, neck of Humerus	13	0.965	*
37	Blunt assault - #BOS Facial #'s (bilateral orbit, arch, molar)	19	0.992	*
38	Blunt assault - #skull, pneumocranium, EDH, intracranial bleed, #orbital floor, maxilla, nose	25	0.987	*
67	Fall - Large SDH, #skull	25	0.212	*

## Pre-hospital Triage - Transfers to Liverpool Hospital - 1999

### Transfers to Liverpool Hospital from Bankstown Hospital 1999

Age	Description	ISS	TRISS	Triage
45	Fall >1m and <5m - Large SDH/shift, cerebral oedema, hemiplegia	25	0.996	Code 7
25	Fall >5m - Cerebellar haematoma, DAI, SDH, brain swelling, open #skull.	30	0.566	Code 7
54	Fall >5m - # ribs 7-11, Lung contusions, # head of radius	17	0.993	Failure
61	Fall - Large SDH, EDH, multiple temporal contusions +I-C # skull	25	0.212	Failure
62	Other - Massive SDH midline shift	25	0.212	Failure
80	Pedestrian - Large SDH Injury at 10am went home deteriorated	25	0.212	Failure
68	Pedestrian - Flail #ribs1-10,Clavicle, Humerus, Fibula, Contusion eye	26	0.906	Failure
30	Motor cyclist - #Clavicle, ribs, tibia, LOC 5mins, Ruptured urethra, #sacrum, bilateral #inferior pub ramus (diastased>3cm)	29	0.982	Failure
75	Fall - SDH, deteriorated after discharge	29	0.163	Failure
91	Fall - # C1 anterior arch - # Odontoid peg, C1 arches	9	0.974	*
38	Industrial - Brachial plexus? Most likely Multiple myeloma	1	0.998	*
64	Driver - # Sternum	4	0.983	*
13	Pedal cyclist ?LOC, Chipped tooth, Facial abrasion, contusions abrasions thigh legs elbow	6	0.997	*
54	Driver - # L1-L3 anterior compression. DC to RNSP	7	0.998	*
39	Assault 3 men kicked punched at Wiley Pk stn, #skull, BOS, SAH, LOC	10	0.996	*
77	Pedestrian - amnesia, #BOS, ?#C4-5(degenerative), Orbital contusion	11	0.97	*
19	Assault with Baseball bat/petrol. Cerebral contusion #skull tiny EDH. Fitted in ED scalp lacerations Haemotympanium	17	0.993	*
59	Fall - Intra-cerebral h'toma, lac'n head, small lac ear #C3 lamina, #rib	17	0.952	*
73	Fall - SDH, # mandible, amnesia, small cerebral contusion	17	0.952	*
69	Fall - SDH 1x2cm; EDH, Oedema /Amnesia, #nose, # SKULL	20	0.94	*

### Transfers to Liverpool Hospital from Fairfield Hospital 1999

Age	Description	ISS	TRISS	Triage
15	Stabbing - # orbit, penetrating injury scapula (minor), lac finger	5	0.996	Failure
50	MVA Driver Large haemothorax, arterial bleeding RUL, # medial malleolus	20	0.965	Failure
41	MVA Driver Stable # C1 vertebra	4	0.998	*
37	Fall #T12-L1	8	0.997	*
40	Indoor soccer Brief LOC, # frontal bone, Orbit (compound) Zygomatic arch	13	0.995	*
77	Fall - Depressed parietal skull #, superficial frontal lobe haematoma	16	0.956	*
23	MVA Driver Seizure, amnesia, abrasion forehead	20	0.996	*

### Transfers to Liverpool Hospital from Camden Hospital 1999

Age	Description	ISS	TRISS	Triage
47	Motor cyclist (on farm) - # Zygoma, #T4 vertebral body	12	0.995	*

### Outcome During 1999

Of the 1,906 patients admitted to Liverpool Hospital 1477 (77.5%) were discharged home. 61 (7.3%) to rehabilitation and 73 (8.8%) were transferred to another hospital for acute care. There were a total of 43 deaths overall (5.1%). Of these 13 elderly patients with fractured neck of femur. Of the 30 remaining deaths, 26 were from blunt trauma (only 2 of these had ISS < 16) and 4 were from penetrating trauma.

## Involvement of Substance (Alcohol or Drugs) in Major Category Injury Liverpool Hospital 1996 - 1999

We began collecting information about the use of alcohol or drugs in patients admitted with Major category injuries during 1996. There were 3,100 patients with Major category injuries admitted to Liverpool Hospital during 1996 on whom this information was recorded. Of these 628 (20.3%) were documented as having had some substance (either drug or alcohol). In 1996 there were 125 (17.1%), in 1997, 136 (18.6%), in 1998, 193 (23.7%) and in 1999, 174 (21.1%) of the admissions for the corresponding year.

### Age and Sex Distribution: Drug or Alcohol Use

Age group	Females				Males				Total
	Substance Used	Not Used	Not Known	Total Females	Substance Used	Not Used	Not Known	Total Males	
0-14	1	55	43	99	2	123	117	242	341
15-24	28	67	68	163	156	153	309	618	781
25-34	12	48	53	113	160	100	219	479	592
35-44	21	47	42	110	106	87	128	321	431
45-54	12	38	40	90	64	72	101	237	327
55-64	5	35	31	71	22	48	76	146	217
65-74	3	36	21	60	22	46	58	126	186
75+	2	76	52	130	12	42	41	95	225
Total	84	402	350	836	544	671	1049	2264	3100

### Mechanism of Injury and Sex of Patients Who Were Under Influence of Drug or Alcohol

Mechanism	Females			Males			Total	
	Substance Used	%	Total Females	Substance Used	%	Total Males	n	%
Driver	16	8.1	198	107	25.6	418	616	19.9
Passenger	9	5.4	166	35	21.7	161	327	10.5
Motor Cyclist	3	27.3	11	29	14.0	207	218	7.0
Pedestrian	11	14.1	78	68	32.2	211	289	9.3
Pedal Cyclist		0.0	10	2	2.7	75	85	2.7
Fall <5m	27	11.2	241	85	25.8	330	571	18.4
Fall ≥ 5m	4	23.5	17	22	28.6	77	94	3.0
Blunt assault	5	16.1	31	122	45.7	267	298	9.6
Stabbing	3	14.3	21	51	32.1	159	180	5.8
Gunshot	1	33.3	3	8	16.7	48	51	1.6
Industrial		0.0	7	3	2.3	129	136	4.4
Other	5	9.4	53	12	6.6	182	235	7.6
Total	84	10.0	836	544	24.0	2264	3100	100

### Human Intent of Injury: Association With Drug or Alcohol Use

	Nil	%	Substance	%	Unknown	%	Total	%
Accident	974	39.1	400	16	1120	44.9	2494	80.5
Assault with Intent	75	15.7	177	37	226	47.3	478	15.4
Assault by Partner	2	18.2	4	36.4	5	45.5	11	0.4
Child neglect/abuse	5	100	0	-	0	-	5	0.2
Intentional Self-harm	15	16.5	35	38.5	41	45.1	91	2.9
Legal intervention	0	-	10	71.4	4	28.6	14	0.5
Undetermined	2	28.6	2	28.6	3	42.9	7	0.2
Total	1073	34.6	628	20.3	1399	45.1	3100	100