

## Childhood Injury Surveillance in WA: Beginnings and Now

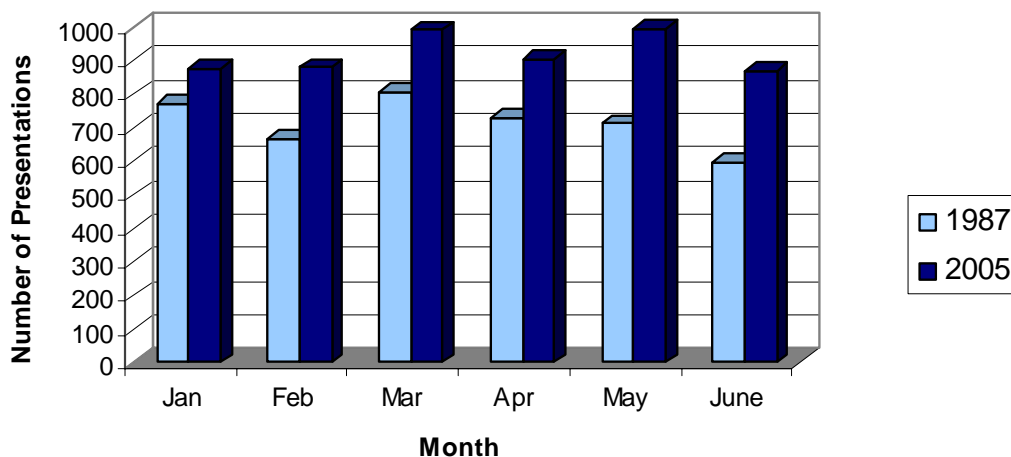
### Introduction

- The West Australian Division of the Child Accident Prevention Foundation of Australia (Kidsafe WA) introduced Injury Surveillance data collection at Princess Margaret Hospital (PMH) in July 1986.
- The Injury Surveillance system was designed to provide timely clues as to the nature and causes of injuries primarily for use to develop injury prevention interventions.
- The first calendar year report was available at the end of 1987.
- In 1997 the Department of Health (DOH) and PMH became responsible for producing reports on patterns of childhood injury in Western Australia.
- A new system for collecting Injury Surveillance data at PMH was implemented in July 2004.
- This edition of the WA Childhood Injury Surveillance Bulletin compares 1987 data against 2005 data.

### Summary

- In July 2004, Injury Surveillance at PMH was adjusted to match the coding used in other Perth Metropolitan Hospital Emergency Departments.
- The combined first two quarterly data reports available from PMH are for January to June 2005.
- January to June 2005, 5,524 children presented at PMH Emergency Department as a result of injury.
- During 1987, 7,573 children were recorded by the ISS as attending the Accident & Emergency Department (A&E) for the first time on account of injury, 4,285 between January and June 1987.
- For the purpose of this Bulletin, only January to June 1987 data has been used for comparison.
- There are limitations in the comparison due to changes in the coding of data collected.

**Figure 1: Number of Emergency Department Presentations at PMH, January to June 1987 & 2005**



## Results

From January to June 1987, 4,285 children presented at Princess Margaret Hospital A & E as a result of injury, while 5,524 presented during January to June 2005.

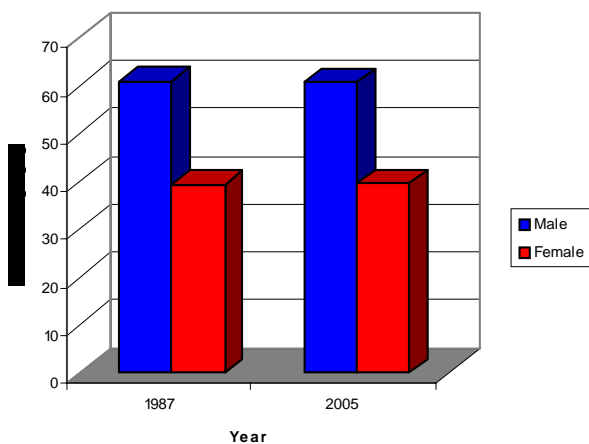
In 2005, ninety-two percent of children attending the PMH ED were from the Perth Metropolitan Area, 6% were from Rural WA and a further 2% were of unknown residence. A similar breakdown of residential location is not available for 1987.

The following comparison of data is broken down by gender, age, aboriginality, intent, location, and cause of injury. Some of the comparisons could not be made due to the unavailability of data for those categories.

### Gender

In both 1987 and 2005, males were more likely to sustain an injury, accounting for 60.8% and 60.6% presentations to PMH ED, respectively. Females represented 39.2% in 1987 and 39.4% in 2005 of PMH presentations. The gender distribution for injury in children has remained unchanged between 1987 and 2005.

Figure 2: Injury Presentations by Year & Gender

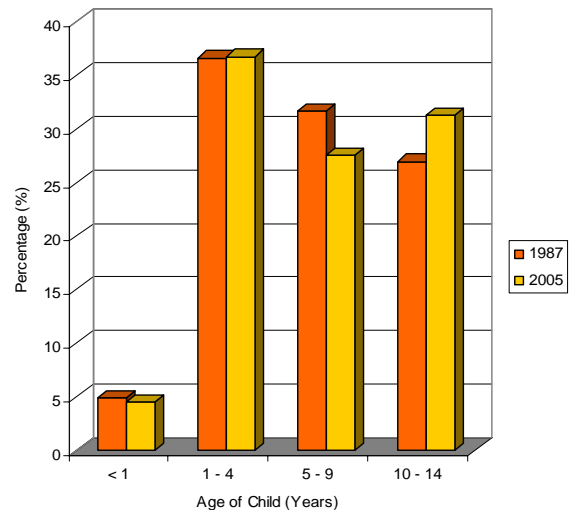


### Age

In both 1987 and 2005 children aged between one and four years accounted for the highest number of injury presentations with 36.6% and 36.7% respectively.

However in 1987 more children aged 5 to 9 years (31.6%) presented at Princess Margaret Hospital Emergency Department as a result of injury than in 2005 (27.5%). (See Figure 3)

Figure 3: Injury Presentations by Year and Age



In 1987 children aged 5-9 years ranked second with 31.6% for injury presentations, followed by children aged 10-14 years at 27%, and then children less than 1 year with 4.8%.

In 2005, children aged 10-14 years ranked second with 31.3%, closely followed by children aged 5-9 years with 27.5%, and then children less than 1 year with 4.4%.

### Aboriginality

Aboriginal and Torres Strait Islander status was not recorded as part of the Injury Surveillance statistics collected in 1987. However in 2005 they accounted for 5% (n=276) of the total number of injury presentations to Princess Margaret Hospital.

### Intentional versus Unintentional Injuries

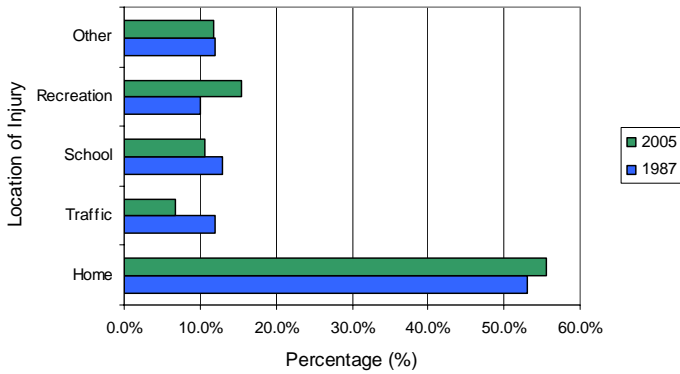
In 1987, intentional injuries to children presenting at PMH accounted for less than 3% of all injury presentations. In 2005 this percentage has changed marginally, accounting for 5% of all injury presentations to Princess Margaret Hospital.

### Location

The home has remained the most common location for injuries to children since 1987.

In 1987, the home accounted for 53% of injury presentations followed by School 13%; Traffic/Other 12%; and recreation 10% (See Figure 4).

**Figure 4: Location of Injury Presentations, 1987 & 2005**



In 2005, the home accounted for 55% of injury presentations followed by Recreation 15%; Other 12%; School 11%; and Traffic 7% (See Figure 4).

**Type of Injury Comparisons**

Due to the way the data was reported and collected in 1987 a direct comparison between all the major types of injuries eg. Falls, Scalds, Poisonings, etc cannot be made. However we were able to compare some specific injury issues identified in 1987 with 2005. These include:

**Children under 5 years**

- Poisoning

**Children under 15 years**

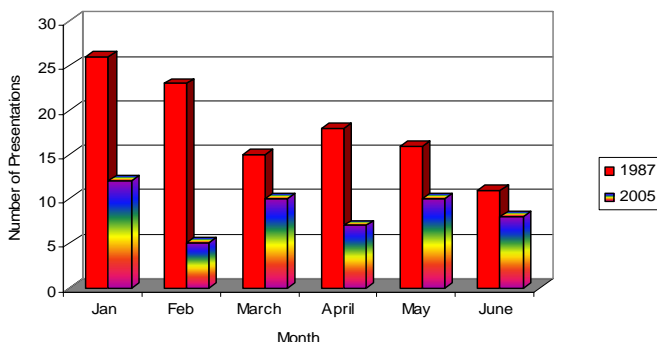
- Falls (overall)
- Animal Injuries

**Poisoning in Under 5's**

From January to June 2005, 52 children have presented at Princess Margaret Hospital as a result of Unintentional Poisoning, while from January to June 1987 there were 109 cases.

Emergency Department presentations for Unintentional Poisoning in children has almost halved between 1987 and 2005. (See Figure 5)

**Figure 5: Number of Poisoning Presentations by Month**



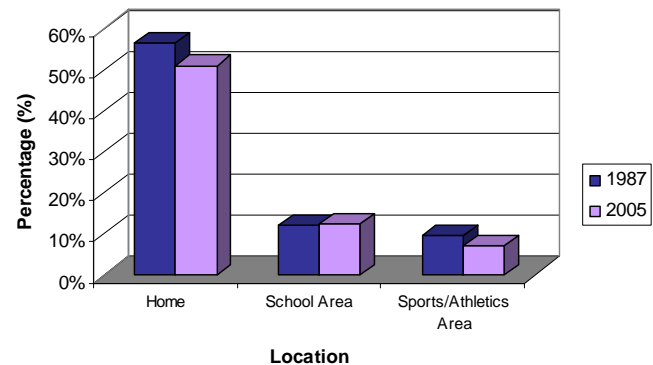
**Fall related Injuries in Under 15's**

From January to June 2005 2,286 children have presented at Princess Margaret Hospital as a

result of a fall, while from January to June 1987 there were 1,719 cases.

The most common location for falls in both 1987 & 2005 was the Home (See Figure 6).

**Figure 6: Top Three Locations for Fall Injuries**



Children aged 0-4 years had the highest percentage of hospital presentation for falls in both 1987 (43%) and 2005 (45%). In 1987 2 year olds had the highest percentage of fall injury presentations while in 2005 it was children aged 1 year.

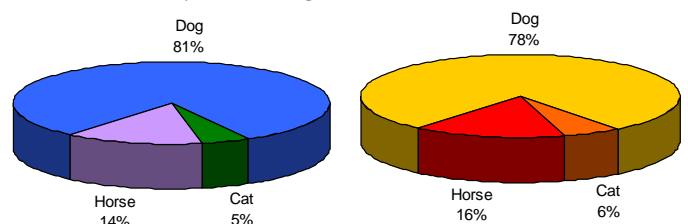
**Table 1: Fall Injuries by Age Group, 1987 & 2005**

Year	Age Group		
	0-4 years	5-9 years	10-14 years
1987	43%	33%	24%
2005	45%	28%	27%

**Animal Related Injuries in Under 15's**

In both 1987 and 2005 Animal related injuries were of particular interest. During the first six months of 2005, there has been a higher than average number of dog bites.

**Figure 7: Animal Injuries, 1987 & 2005 in children less than 15 years of age**



In 2005 more than 80% (n=63) of animal related injuries are caused by Dogs and in 1987 they accounted for 78% of animal related injuries.

Children aged one (n=12) and four (n=10) had the highest number of animal injuries in 2005. These ages were also at greatest risk in 1987.

## Summary & Limitations

Changes in the Injury Surveillance System and the data coding set over time limit detailed comparisons between 1987 and 2005. However, where comparison has been possible, little has changed between 1987 and 2005. Raw numbers appear higher in 2005 than in 1987, but this could be the effect of a larger population rather than a true increase in numbers.

Changes introduced in July 2004 reduced the code set for a more simplified system and enabled PMH Emergency Department injury data to integrate with the system used in other major metropolitan hospital Emergency Departments in Western Australia.

### The code set in 1987 included:

- Number/Age/Sex
- Body Parts Injured
- Human Intent
- Breakdown Event
- Context of Incident
- Location of Incident
- Mechanism of Injury
- Safety Precautions

### In 2005, the code set includes:

- Number/Age/Sex/Residence
- Human Intent of Injury
- Cause of Injury
- Place of Injury
- Injury Factor (limited choice of factors)

The reduction in codes appears to result in less detail being recorded. This may make the development of targeted child injury prevention campaigns more difficult due to the limited information available on mechanism of injury, related factors and detailed location of injury occurrence.

From 1987 until June 2004 data collected enabled analysis of the Context of Injury - What was the child doing when the injury occurred?; Was the child wearing safety gear such as helmet, seat belt, harness in pram etc? This information along with Nature of the Injury/Body parts Injured now relies on any free text entered by Triage Nurses. Codes for Location of injury occurrence are now reduced making it difficult to determine exactly where injury occurred.

## Where to from Here

The next editions of the WA Childhood Injury Surveillance Bulletin will focus on selected Childhood Injury Topics.

The planned focused reports to be completed before June 2005 include:

- Falls in Focus (November 2005)
- Water Safety (January 2006)
- Childhood Poisoning (April 2006)

An edition focussing on product related injury is planned for July 2006, pending renewal of funding. However, all plans may change if an emerging issue arises that requires a special focus report.

The usefulness of the new ED Injury Surveillance System at PMH to the provision of detailed information about childhood injuries in WA and the subsequent development of specific and targeted injury prevention campaigns is still to be tested. This will be monitored on an ongoing basis and feedback offered to improve the system.

Already several modifications have occurred including reinstating additional codes for childhood poisoning to enable identification of chemical and medicinal product poisonings.

### Suggested Citation:

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*The WA Childhood Injury Surveillance Bulletins are developed by Kidsafe WA in consultation with the Princess Margaret Hospital Emergency Department Injury Surveillance Officer; Department of Health (Clinical Network Development Team - Injury) and reviewed by the Injury Surveillance Steering Committee.*

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