



Child Accident Prevention Foundation of Australia
Western Australia



Kidsafe WA Childhood Injury Bulletin Annual Report: 2016 - 2017



GOVERNMENT OF
WESTERN AUSTRALIA

PARTNER

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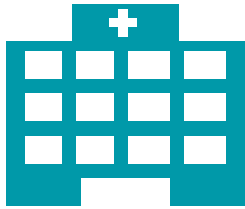
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INJURIES AT A GLANCE



17,939

Children were seen in the Princess Margaret Hospital Emergency Department due to injury during the 2016/17 financial year.



49

Children per day were seen in the PMH ED for an injury.



36%

Of injuries occurred in children under 5 years.



37%

Of injuries were due to a fall.



57%

Of injured were male.



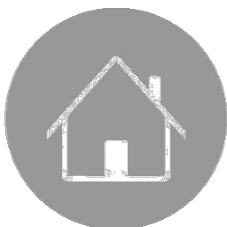
26%

Of injuries were due to a blunt force.



4,190

Injuries were sport-related.

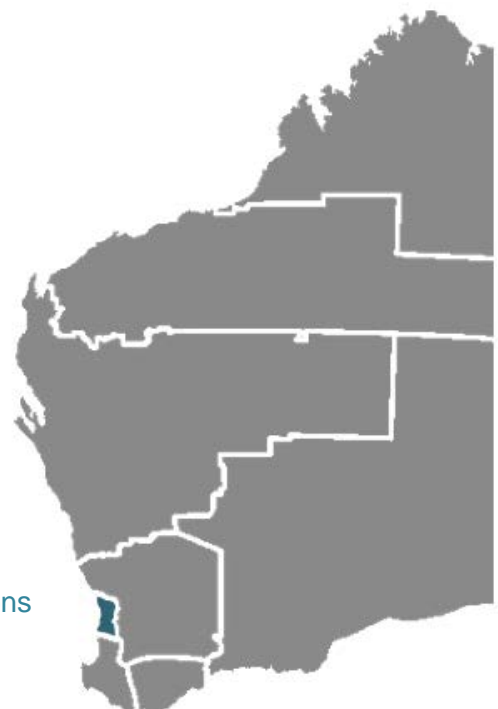


15%

Of injuries occurred at home.

93%

Of injury presentations reside in the Metropolitan area.



INTRODUCTION

Kidsafe WA

Kidsafe WA is the leading independent not-for-profit organisation dedicated to promoting safety and preventing childhood injuries and accidents in Western Australia. Injuries are the leading cause of death in Australian children aged one to fourteen, accounting for nearly half of all deaths in this age group. More children die of injury than die of cancer, asthma and infectious diseases combined. Many of these deaths and injuries can be prevented. Kidsafe WA works in the community to educate and inform parents and children on staying safe at home, at play and on the road.

Injury Surveillance Paediatric Hospital Data

Princess Margaret Hospital for Children (PMH) is the only paediatric hospital in Western Australia and is the reference centre for paediatric illness and injury for the state. Every year approximately 60,000 children present to the PMH Emergency Department (ED). The PMH Injury Surveillance System is designed to capture data related to all children presenting with an injury. This annual report provides a summary of all the Injury Surveillance System data collected at PMH between July 2016 and June 2017.

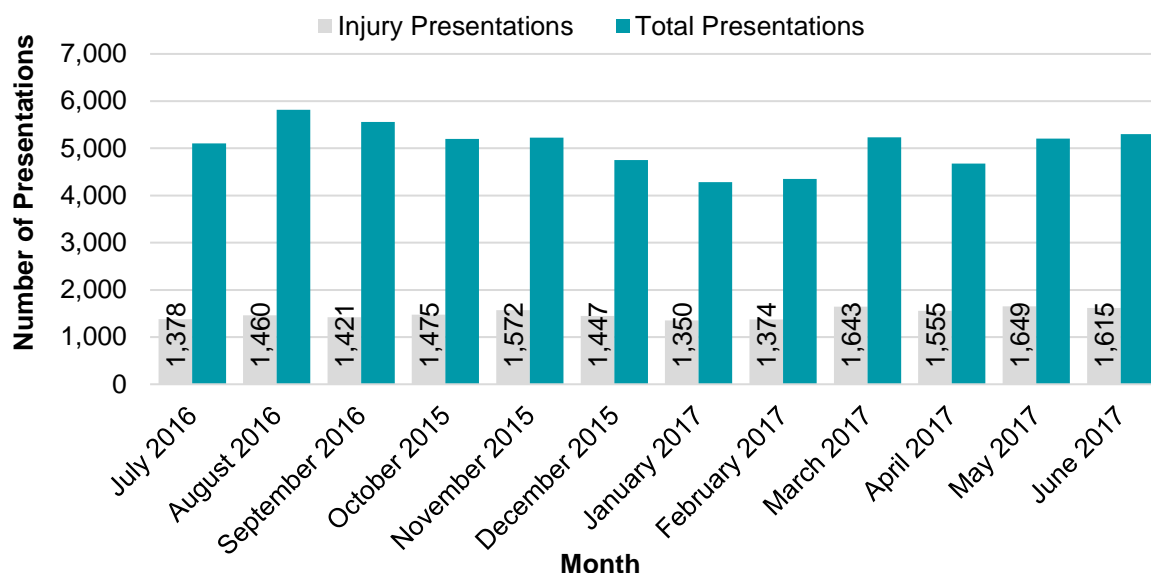
Over the last five years PMH ED attendance numbers have declined from over 70,000 children to closer to 60,000 (Table 1) and in 2016 accounted for only a third (35.6%) of metropolitan paediatric ED attendances compared to 42.5 percent in 2013. This decline coincides with the opening of Fiona Stanley Hospital in Murdoch in early 2015.

Table 1: Total Presentations and Injury Presentations by Financial Year

Year	Total Presentations	Total Injuries	Injury as a % of Presentations
2016-2017	60,716	17,939	29.5%
2015-2016	62,935	18,423	29.3%
2014-2015	68,279	19,854	29.1%
2013-2014	70,283	19,645	27.9%
2012-2013	70,586	19,252	27.3%

During the 2016-2017 financial year a total of 60,716 children attended the PMH ED. Of these presentations 29.5 percent (n=17,939) were due to injury (Figure 1).

Figure 1: Total Presentations and Injury Presentations by Month

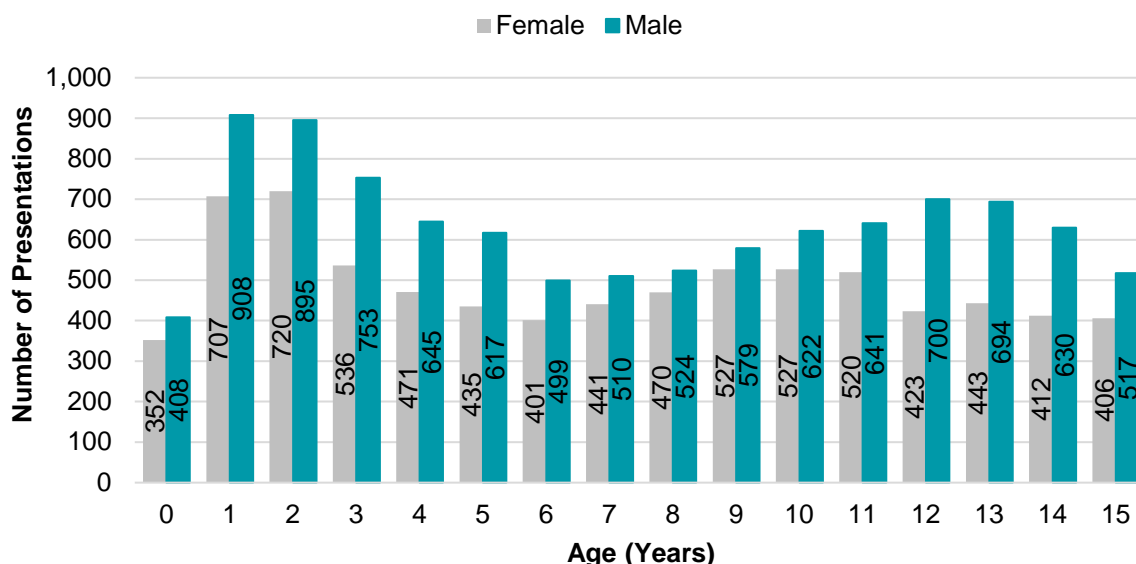


DEMOGRAPHICS

AGE AND GENDER

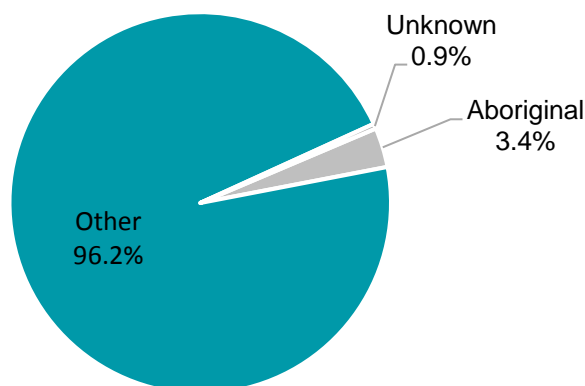
Children under five years of age are at greater risk of injury, accounting for 35.6 percent (n=6,395) of injury presentations (Figure 2). Within that age group toddlers aged both one and two years recorded the highest number of injuries (n=1,615, 9.0%). Children at these young ages are becoming mobile, however may lack the cognitive ability to navigate the world safely, relying on adults to look out for their safety and wellbeing. There is a second peak seen amongst teens and pre-teens aged 12 and 13 years both accounting for 6.3 percent (n=1,123 and n=1,137 respectively) of injuries (Figure 2). Teens are often developing their independence and are participating in a range of new activities. It can often be difficult for parents to find the right balance between allowing children to make their own choices and enforcing rules to keep them safe from serious injury. Throughout childhood males are at greater risk of injury in comparison to females accounting for 56.6 percent (n=10,146) of injuries to females 43.4 percent (n=7,793). The gap is greatest amongst teenagers, where males account for over 60 percent of 12, 13 and 14 year olds.

Figure 2: Injury by Age and Gender



Aboriginal children account for 3.4 percent (n=603) of injury presentations to the PMH ED (Figure 3). Over a quarter of Aboriginal children presenting to PMH ED with an injury reside in a rural or remote location in Western Australia, which is a significantly higher proportion than the total population (4.8%, n=862)

Figure 3: Injury by Ethnicity



AREA OF RESIDENCE

Children residing in the Perth Metropolitan Area account for 93 percent (n=16,689) of injury presentations (Figure 4). Children residing in rural Western Australia account for 4.8 percent (n=862) with the remainder made up of children residing either interstate or where their residence was unknown.

Figure 4: Injury by Area of Residence

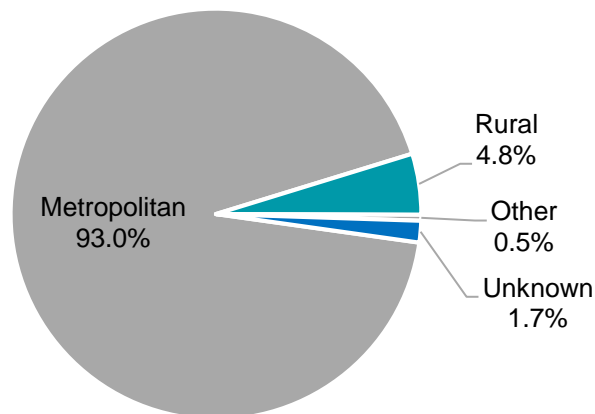
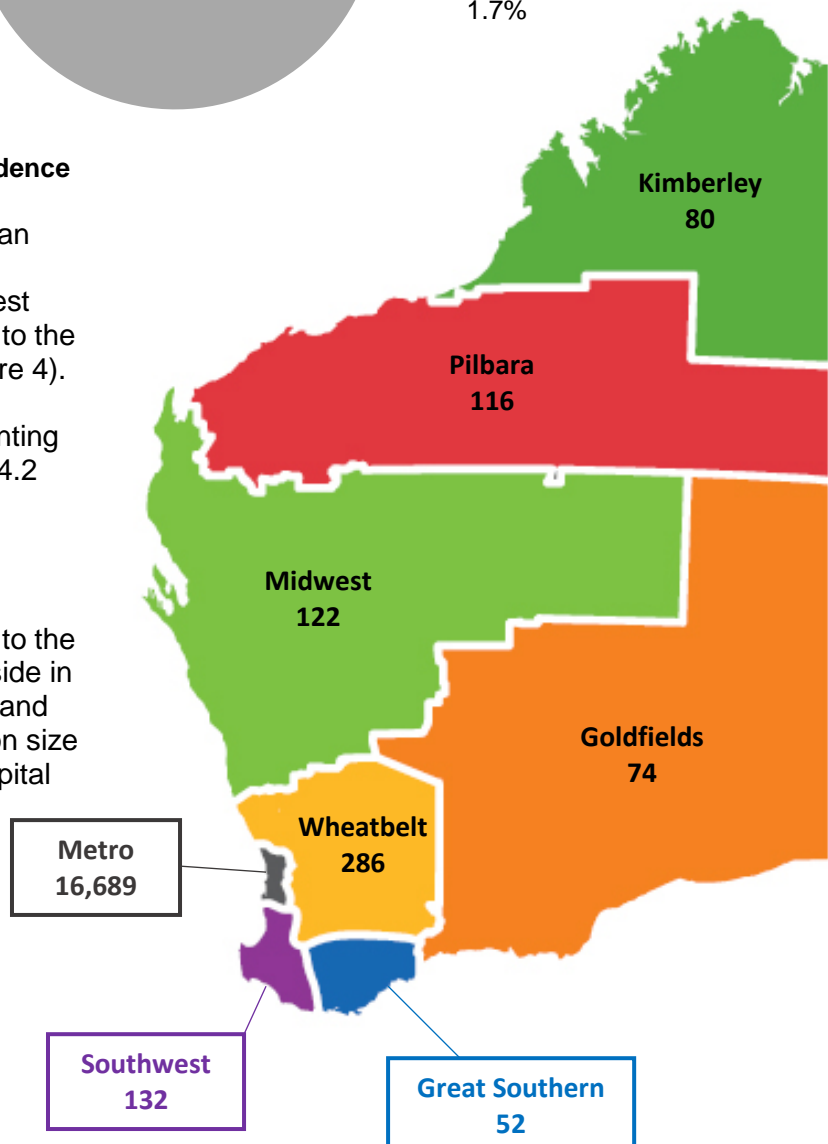


Figure 5: Injury by Area of Residence

Outside of the Perth Metropolitan Area children residing in the Wheatbelt region had the highest number of injury presentations to the PMH ED (33.2%, n=286) (Figure 4). Following the Wheatbelt is the Southwest and Midwest accounting for 15.3 percent (n=132) and 14.2 percent (n=122) of rural injury presentations respectively.

Factors that may influence the number of injury presentations to the PMH ED from children who reside in a rural region include distance and accessibility to Perth, population size and the availability of local hospital facilities.



INJURY

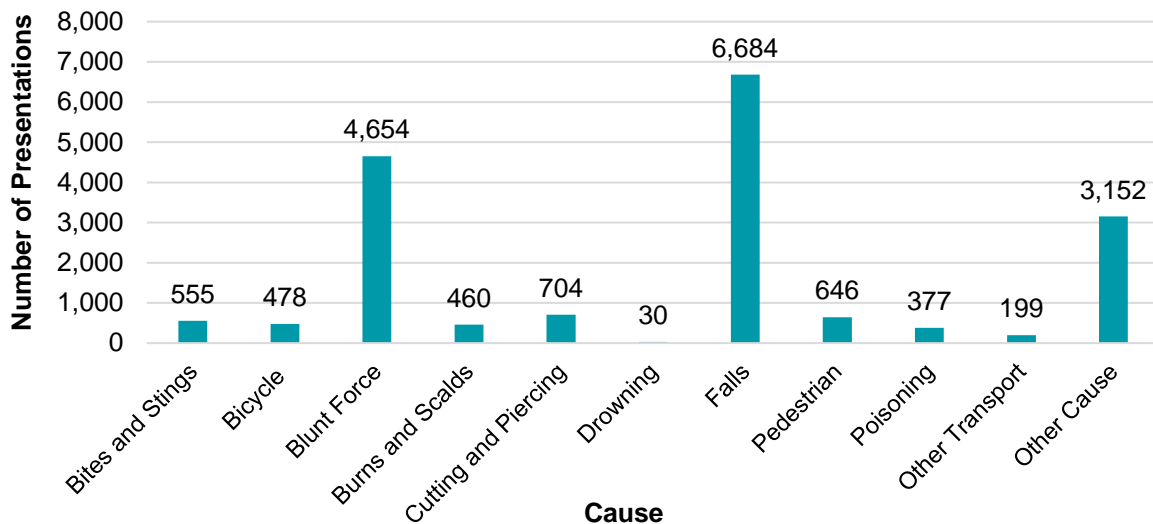
INTENT

The majority of injury presentations to the PMH ED are due to unintentional circumstances (97.3%, n=17,453). The remaining injuries are due to either self-harm (1.8%, n=328), alleged assault (0.5%, n=96) or were undetermined (0.3%, n=62).

CAUSE

Falls are the leading cause of injury accounting for 37.3 percent (n=6,684) of presentations to the PMH ED (Figure 6). Secondary to falls is blunt force (25.9%, n=4,654) referring to collision based injuries. Other cause accounts for 17.6 percent (3,152) of injuries and refers to an unspecified injury cause or those that do not fit into an existing category.

Figure 6: Injury by Cause



LOCATION

The most common location for an injury to occur is other place (63.8%, n=11,451) referring to an unspecified location or one that does not fit into an existing category. Following this is the home and school locations accounting for 15.1 percent (n=2,714) and 10.8 percent (n=1,940) of injuries respectively (Figure 7a). Within the home, injuries occurred most commonly in the outdoors (13.6%, n=370), living and dining area (10.1%, n=273) and bedroom (9.7%, n=264) (Figure 7b). A large proportion of injuries within the home occurred in an unspecified location (58.9%, n=1,599)

Figure 7a: Injury by Location

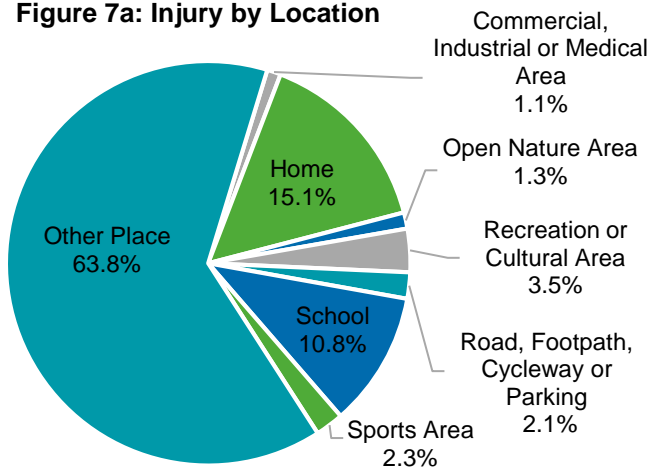
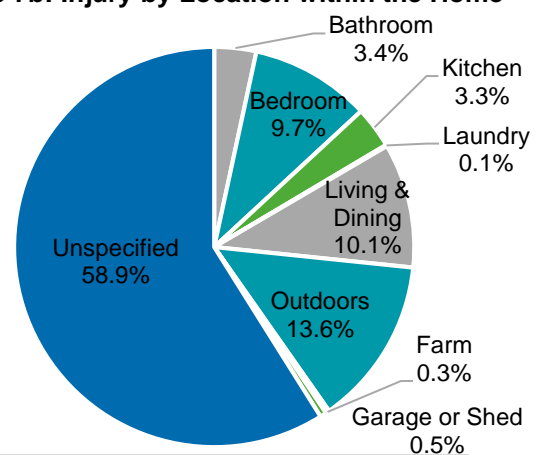


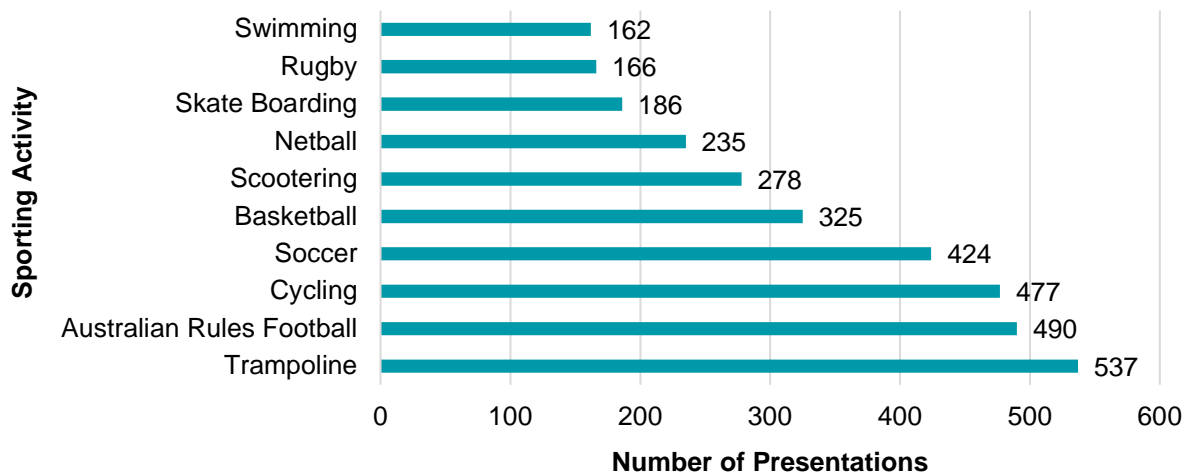
Figure 7b: Injury by Location within the Home



SPORTING ACTIVITY

Just under a quarter of injury presentations to the PMH ED were related to a sporting activity (23.3%, n=4,190). Trampoline was the most common sporting activity associated with injury accounting for 12.8 percent (n=537) of sports injuries, followed by Australian Rules Football (11.7%, n=490), cycling (11.4%, n=477) and soccer (10.1%, n=424).

Figure 8: Injuries by Sporting Activity

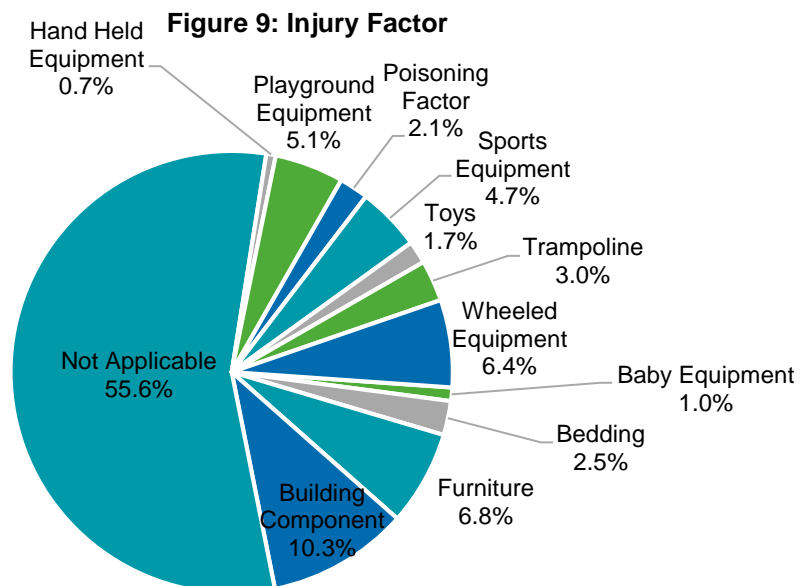


SAFETY EQUIPMENT

Only a small proportion of children presenting to PMH ED with an injury are recorded as using safety equipment (1.0%, n=185). This includes items like helmets, seatbelts and approved child car restraints. A further 0.6 percent (n=114) of injuries are recorded as not using any form of safety equipment and the remaining 98.3 percent (n=17,649) accounted for injuries where safety equipment was deemed not applicable or was unknown.

INJURY FACTOR

Just under half of all injuries had an associated injury factor (44.4%, n=7,959). Common injury factors include building components such as doors, windows and fittings (10.3%, n=1,855) and furniture (6.8%, n=1,244).

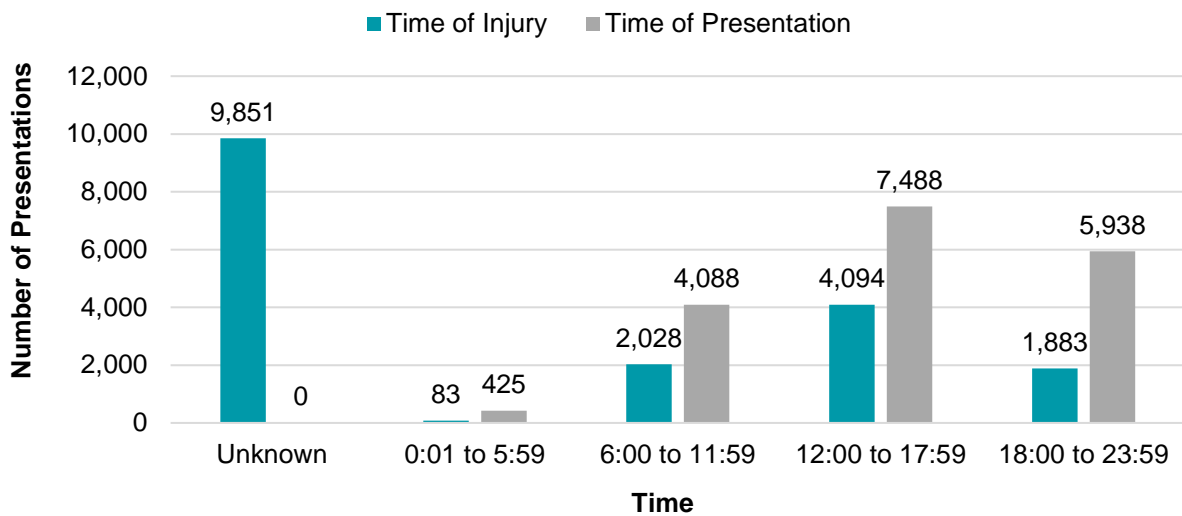


TREATMENT

TIME OF DAY

During triage at the PMH ED the time of a child's injury occurring and the time they presented to the ED are recorded. Over half of all injuries are recorded with an unknown time of injury (54.9%, n=9,851) (Figure 10). Where injury time is known, the most common time for injury to occur is between 12:00 and 17:59 (22.8%, n=4,094) and 6:00 and 11:59 (11.3%, n=2,028). Time of presentation to the PMH ED peaked between 12:00 and 17:59 (41.7%, n=7,488) and 18:00 and 23:59 (33.1%, n=5,938).

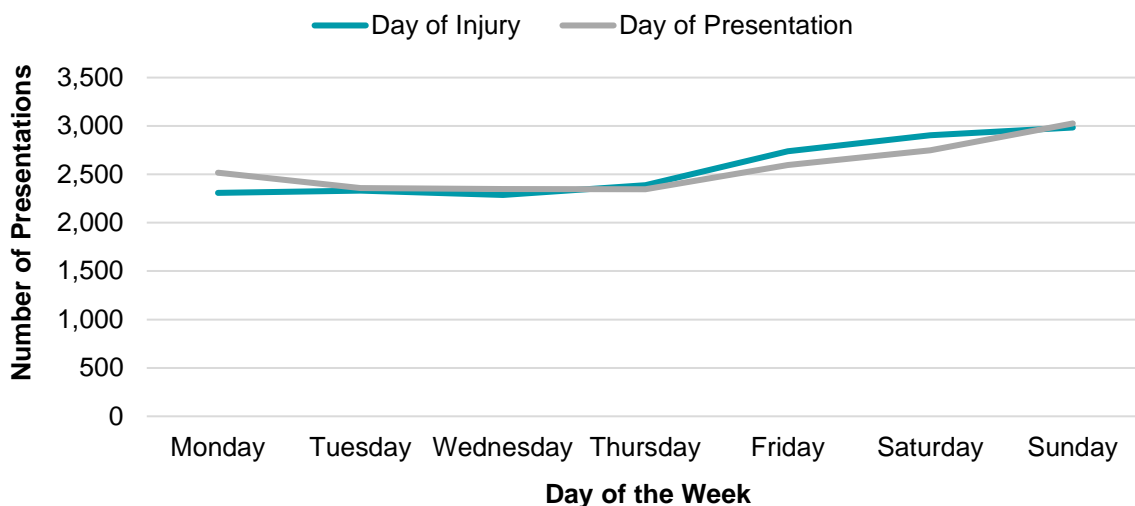
Figure 10: Time of Injury and Presentation



DAY OF THE WEEK

Similarly to time of day, the day of injury and day of presentation are recorded upon triage. Saturday and Sunday have the highest number of injury occurrences accounting for (16.2%, n=2,904) and (16.6%, n=2,984) of injuries respectively and showed a similar pattern for injury presentations. Wednesday recorded both the lowest number of injury occurrences and presentations accounting for (12.7%, n=2,287) and (13.1%, n=2,347) respectively.

Figure 11: Day of Injury and Presentation



TRIAGE CATEGORY

The triage category reflects the level of medical urgency of a presentation (Table 2). The majority of injury presentations to the PMH ED were semi-urgent (77.2%, n=13,846) followed by urgent (18.4%, n=3,300) and emergency (3.3%, n=599). Very few presentations are triaged as resus or non-urgent.

Table 2: Triage Category

Category	Seen within (minutes)
(1) Resus	0
(2) Emergency	10
(3) Urgent	30
(4) Semi-urgent	60
(5) Non-urgent	120

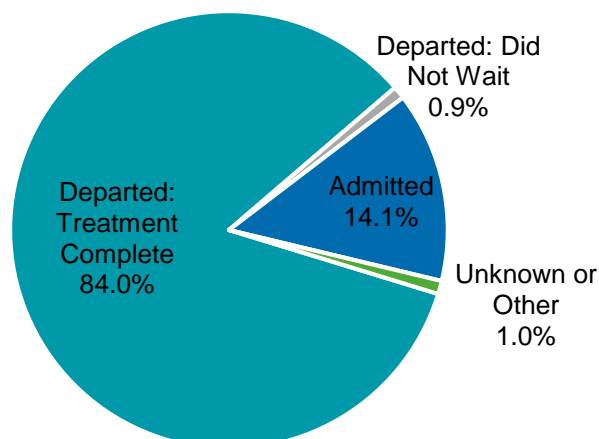
REFERRAL SOURCE

Most children who present to the PMH ED for an injury are referred by either themselves or a relative (83.6%, n=15,004). The remaining presentations are either referred by a general practitioner (8.1%, n=1,455) or another hospital (n=6.4%, 1,144). A small proportion of presentations are also recorded as other or were unknown.

OUTCOME OF ATTENDANCE

The majority of children who present to the PMH ED with an injury are able to depart with their treatment complete (84.0%, n=15,067) (Figure 12). A further 14.1 percent (n=2,530) require admission to hospital and the small remainder either do not wait or the outcome of their attendance is unknown or other.

Figure 12: Outcome of Attendance



DISCUSSION

Princess Margaret Hospital is the peak paediatric hospital in Western Australia and is the reference centre for paediatric illness and injury for the state, however over the last five years PMH ED attendance numbers have declined from over 70,000 children to closer to 60,000. This decline coincides with the opening of Fiona Stanley Hospital in Murdoch and an increase in children presenting to outer Metropolitan hospitals such as Joondalup Health Campus and St John of God Midland Public Hospital.

During the 2016-2017 financial year 17,939 children attended the PMH ED due to an injury. While the number of injury presentations has decreased, the proportion of injuries in comparison to all other presentations continues to consistently rise.

Children under five years of age continue to be at greater risk of injury, accounting for just under one third of injury presentations. Similarly males continue to be over-represented in injury presentations in comparison to females, with the gender gap greatest amongst teenagers.

Most injury presentations to the PMH ED are due to unintentional circumstances, with falls and blunt force remaining the leading causes of injury. Just under a quarter of injuries are related to a sporting activity, with trampoline and Australian Rules Football the most common sporting activity associated with injury.

Positively a large proportion of children who present to the PMH ED with an injury are able to depart with their treatment complete, with under 15 percent requiring admission to hospital.

The collection of injury data plays a vital role in the development of interventions designed to prevent or minimise childhood injury. It relies on an efficient and reliable computer system and effective collaboration between nursing, clerical and medical staff within the PMH Emergency Department. Analysis of this collected data can determine current injury trends and the effects of injury prevention programs. Similarly to previous years, large portions of the injury data is missing time, location, and safety equipment use. This highlights the importance of ongoing triage nurse education. Kidsafe WA and PMH continue to advocate and support staff in the collecting of data through education seminars.

RECOMMENDATIONS

- Investigate opportunities for childhood injury surveillance data collection at additional hospitals such as Fiona Stanley Hospital and Joondalup Health Campus.
- Ongoing injury prevention initiatives for all children, with specific focus on children under five years of age and teenagers.
- Continue to promote injury prevention initiatives that identify ways to reduce the risk of injury while using trampolines. Kidsafe WA have a number of resources that outline methods for trampoline safety which need to be further promoted to the Western Australian community.
- Further research into childhood sporting injuries, and factors mediating injury severity within different sports.
- More staff development sessions between Kidsafe WA and PMH triage nurses to raise awareness of the importance of child injury prevention and facilitate better data collection practices.
- Ongoing production and dissemination of Kidsafe WA Childhood Injury Bulletins to support policy and interventions for child injury prevention.



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