



Child Accident Prevention Foundation of Australia
Western Australia



Kidsafe WA Childhood Injury Bulletin Annual Report: 2018 - 2019

Partner:



Government of **Western Australia**
Department of **Health**

CONTENTS

Injuries at a Glance	1
Introduction	2
Demographics	3
Injury	5
Treatment	7
Discussion	9

© Kidsafe WA

Suggested Citation:

McKenna J & Skarin D. Kidsafe WA Childhood Injury Bulletin: Annual Report 2018-2019. Perth (WA): Kidsafe WA (AUS); 2019 Dec.

References:

¹Wilson, M, Daly, M. Competitiveness, risk taking, and violence: the young male syndrome. *Ethology and Sociobiology* [internet]. 1985. 6(1): 59-73. [https://doi.org/10.1016/0162-3095\(85\)90041-X](https://doi.org/10.1016/0162-3095(85)90041-X).

²Peden, M, et al. *World Report on Child Injury Prevention*. Geneva: World Health Organisation. 2008.

INJURIES AT A GLANCE

18,708

Children were seen in the Perth Children's Hospital Emergency Department (PCH ED) due to injury during the 2018-19 financial year.



51

Children per day were seen in PCH ED for an injury.



35%

Of injuries occurred in children under 5 years.



36%

Of injuries were due to a fall.



56%

Of the children injured were male.



26%

Of injuries were due to a blunt force.



23%

Of Injuries were sport-related.

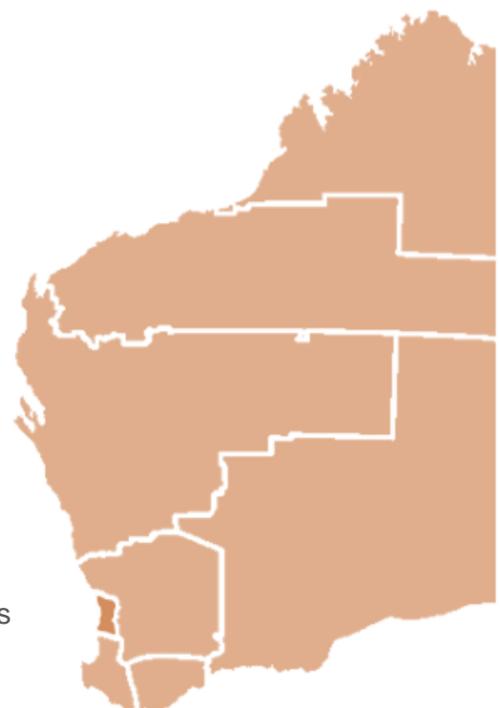


13%

Of children had injuries serious enough to warrant admission to hospital.

93%

Of injury presentations reside in the Metropolitan area.



INTRODUCTION

Kidsafe WA

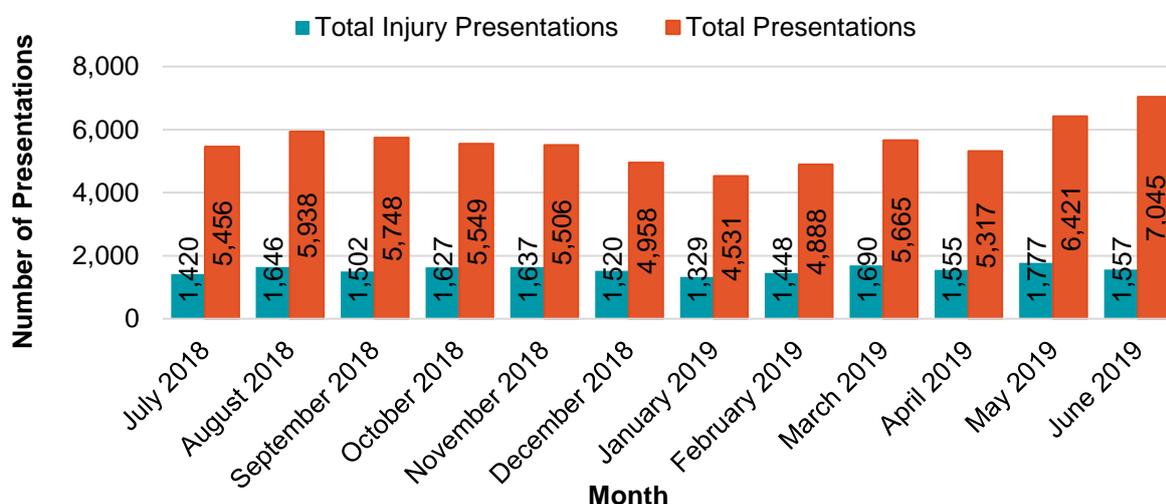
Kidsafe WA is the leading independent not-for-profit organisation dedicated to promoting safety and preventing childhood injuries and accidents in Western Australia. Injuries are the leading cause of death in Australian children aged one to fourteen, accounting for nearly half of all deaths in this age 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.

Perth Children’s Hospital Injury Surveillance System

Perth Children’s Hospital (PCH) is the sole tertiary paediatric hospital in Western Australia acting as a key referral source for childhood injury and disease within the state. The PCH Injury Surveillance System is an electronic database that involves the systematic collection of all Emergency Department (ED) injury data. Injury data is initially collected by triage nurses, and later coded and validated by an Injury Surveillance Officer. This annual report provides a summary of all the Injury Surveillance System data collected at PCH ED between July 2018 and June 2019. While this data does not capture all Emergency Department presentations in Western Australia, it offers a representative snapshot of injury patterns.

During the 2018-2019 financial year a total of 67,022 children attended PCH ED. Of these presentations 28.1 percent (n=18,708) were due to injury (Figure 1).

Figure 1: Total Presentations and Injury Presentations to PCH ED by Month; July 2018 - June 2019



Over the last five years PCH ED attendance numbers have fluctuated between 60,000 and 70,000 children (Table 1).

Table 1: Total Presentations and Injury Presentations to the PCH ED by Financial Year; July 2014 - June 2019

Year	Total Presentations	Total Injuries	Injury as a % of Presentations
2018-2019	67,022	18,708	28.1%
2017-2018	61,748	17,720	28.7%
2016-2017	60,716	17,939	29.5%
2015-2016	62,935	18,423	29.3%
2014-2015	68,279	19,854	29.1%

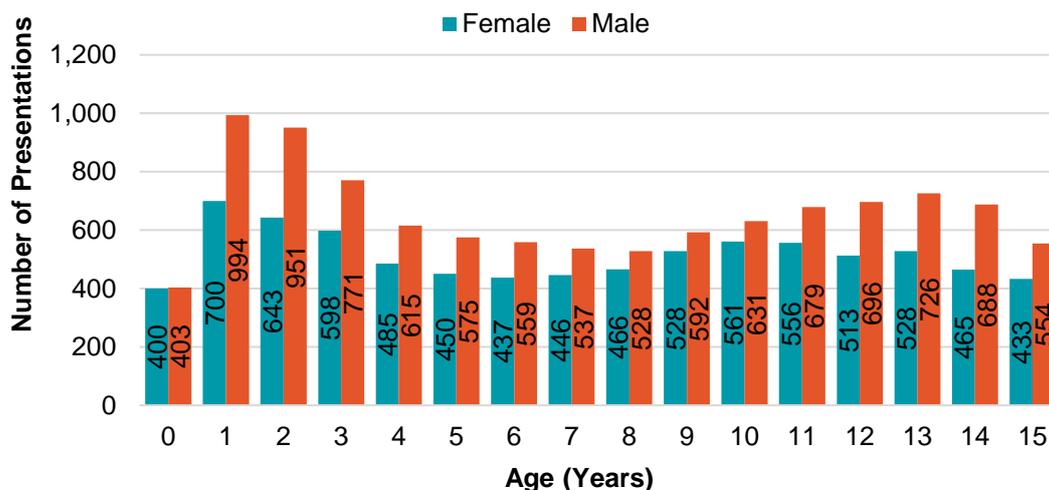
DEMOGRAPHICS

AGE AND GENDER

Children aged between zero and five years of age are at greater risk of injury in comparison to other age groups accounting for 35.1 percent (n=6,560) of all injury presentations. Among this age group toddlers aged one and two years recorded the highest number of injuries accounting for 9.1 percent (n=1,694) and 8.5 percent (n=1,594) of injuries respectively (Figure 2). Children at these young ages are rapidly developing new skills, however do not always have the coordination or developmental ability to protect themselves from hazards. Teens and pre-teens aged between 10 and 14 years are also at greater risk of injury accounting for 32.3 percent (n=6,043). Young adolescents are often developing a sense of independence and it can be difficult for parents and carers to find the right balance between allowing children to make their own choices and enforcing rules to protect them from serious injury.

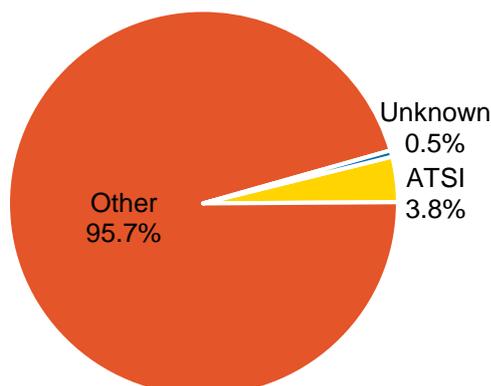
Across all age categories males are over-represented for injury. They represent 56.1 percent (n=10,499) of all injury presentations to the PCH ED, with females accounting for the remainder (43.9%, n=8,209). The greatest sex difference in injury prevalence is seen in toddlers (59.2%) and early adolescents (58.4%).

Figure 2: Injury Presentations to PCH ED by Age and Gender; July 2018 - June 2019



Aboriginal and Torres Strait Islander (ATSI) children account for 3.8 percent (n=708) of injury presentations to PCH ED (Figure 3).

Figure 3: Injury Presentations to PCH ED by Ethnicity; July 2018 - June 2019



AREA OF RESIDENCE

Children residing in the Perth Metropolitan Area account for 93.1 percent (n=17,416) of injury presentations to PCH ED (Figure 4). Children residing in rural Western Australia account for 4.4 percent (n=829) with the remainder consisting of children residing either interstate or overseas (0.5%, n=102), or had their place of residence listed as unknown (1.9%, n=361). Of Aboriginal children presenting to PCH ED with an injury, 24.7 percent (n=175) reside in a rural or remote location in Western Australia, which is a significantly higher proportion than the non-Aboriginal population (3.6%, n=652).

Figure 4: Injury Presentations to PCH ED by Area of Residence; July 2018 - June 2019

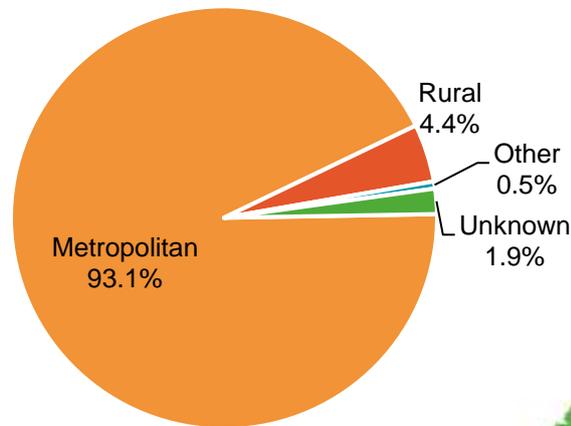
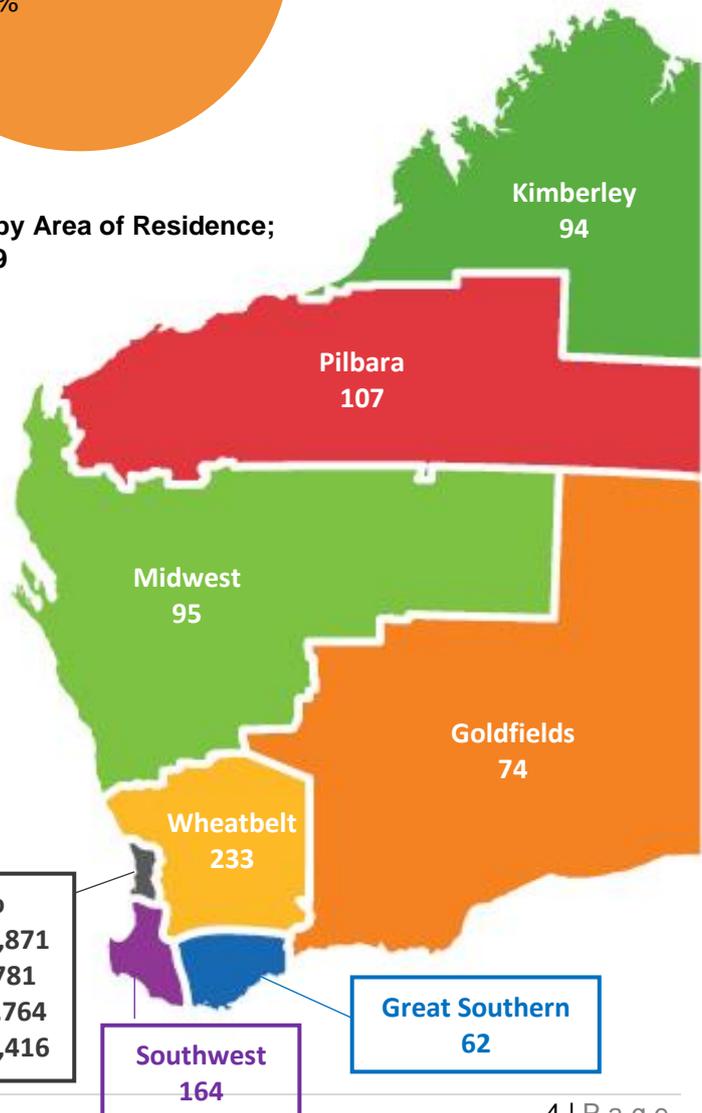


Figure 5: Injury Presentations to PCH ED by Area of Residence; July 2018 - June 2019

Within regional Western Australia, the Wheatbelt had the highest number of injury presentations to PCH ED (28.1%, n=233) (Figure 5). This was followed by the Southwest and Pilbara regions, accounting for 19.8 percent (n=164) and 12.9 percent (n=107) respectively.

There are many factors that may influence the number of injury presentations to PCH ED from rural or remote areas. This can include the distance and accessibility to Perth, population size and the availability of local medical facilities.



INJURY

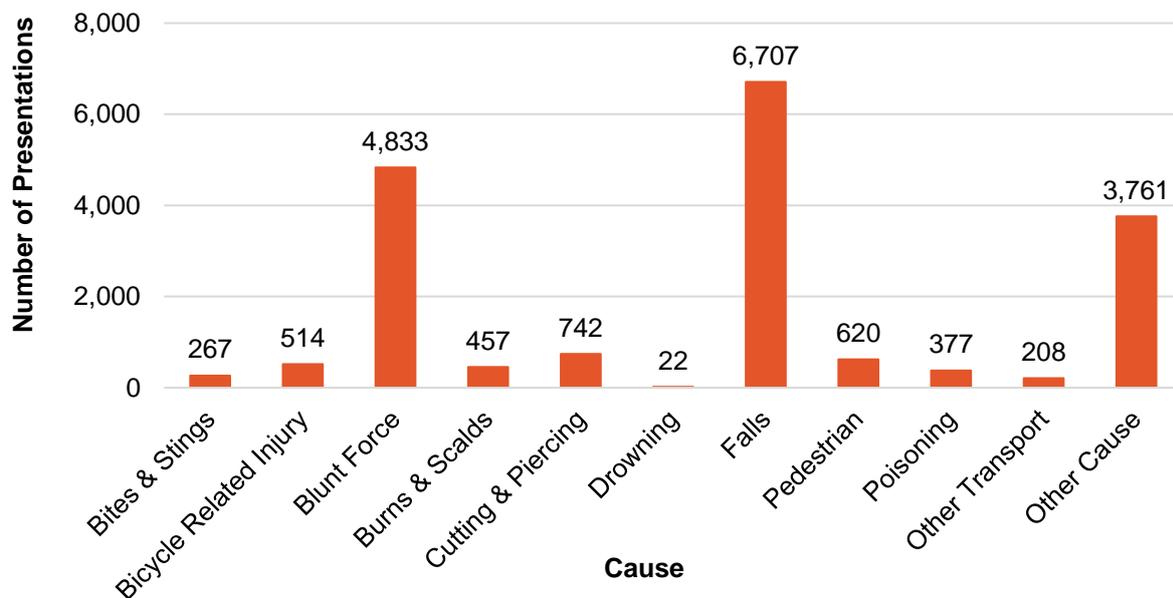
INTENT

The majority of injury presentations to PCH ED are due to unintentional circumstances (97.9%, n=19,307). Intentional self-harm (1.5%, n=289), injuries recorded as alleged assault (0.4%, n=73) and undetermined or other (0.2%, n=39) represented considerably less presentations.

CAUSE

The leading cause of injury presentations to PCH ED is falls, accounting for 36.2 percent (n=6,707) of presentations (Figure 6). Secondary to falls is blunt force (26.1%, n=4,833), referring to collision based injuries. Where an injury cause is unspecified or does not fit into an existing category, it is classified as other cause. Other cause accounts for 20.3 percent (n=3,761) of injury presentations.

Figure 6: Injury Presentations to PCH ED by Cause; July 2018 - June 2019



INJURY FACTOR

Just under half of all injuries had an associated injury factor (43.2%, n=8,088). The most common injury factors include building components such as doors, windows and fittings (10.2%, n=1,908), and furniture (6.8%, n=1,163) such as chairs, sofas, tables and cupboards.

LOCATION

The majority of injury presentations occurred in an unspecified location or one that does not fit into an existing category. This is referred to as other place which account for 76.4 percent (n=14,298) of injury presentations. Following this is the school and home locations accounting for 9.9 percent (n=1,848) and 6.2 percent (n=1,162) of injuries respectively (Figure 7a). Within the home, a large proportion of injuries occurred in an unspecified location (52.7%, n=612) (Figure 7b). Of known injury locations within the home, injuries occurred most commonly in the outdoors (34.8%, n=413) and living/dining Areas (10.6%, n=123).

Figure 7a: Injury Presentations to PCH ED by Location; July 2018 - June 2019

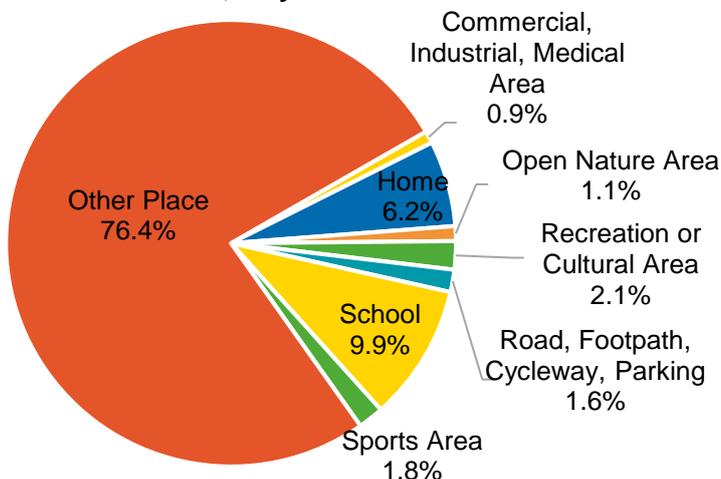
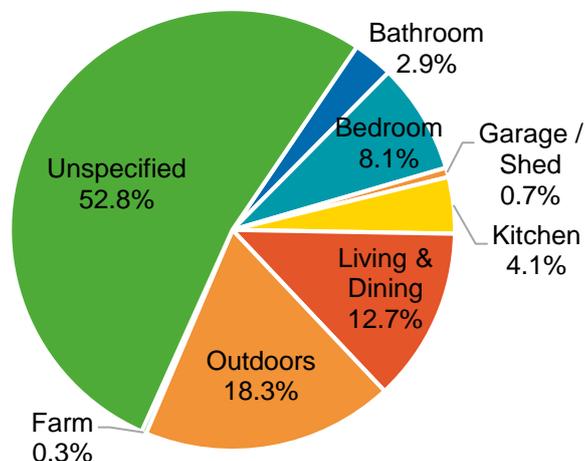


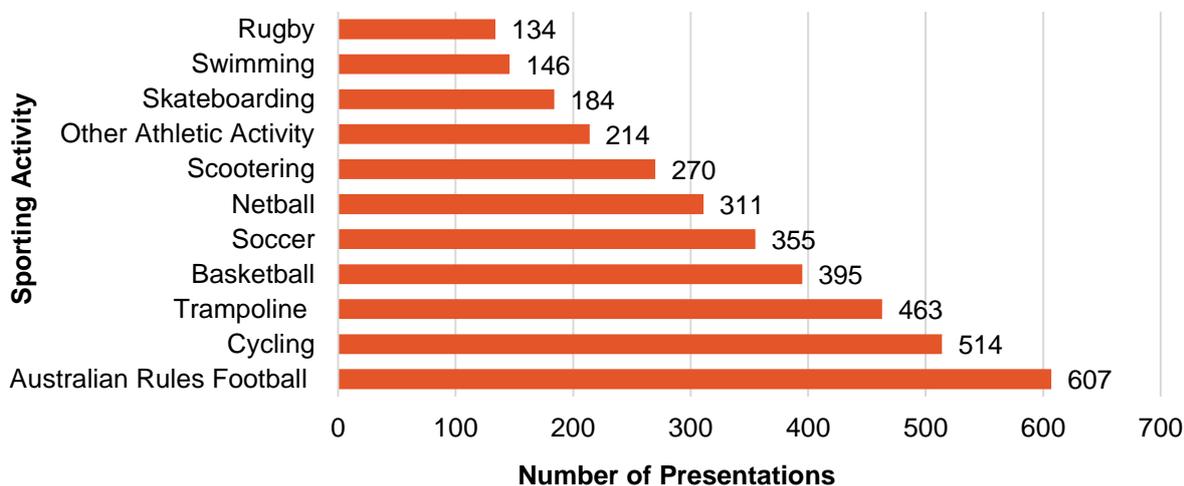
Figure 7b: Injury Presentations to PCH ED by Home Location; July 2018 - June 2019



SPORTING ACTIVITY

Sporting activities were related to just under a quarter of injury presentations to PCH ED (23.2%, n=4,349). The most common sporting activity associated with injury was Australian Rules Football, accounting for 14.0 percent (n=607) of sports injuries. This was followed by cycling (11.8%, n=514), trampoline (10.6%, n=463), basketball (9.1%, n=395) and soccer (8.2%, n=355). Figure 8 shows the most common sporting activities resulting in injury.

Figure 8: Injury Presentations to the PCH ED by Sporting Activity; July 2018 - June 2019



SAFETY EQUIPMENT

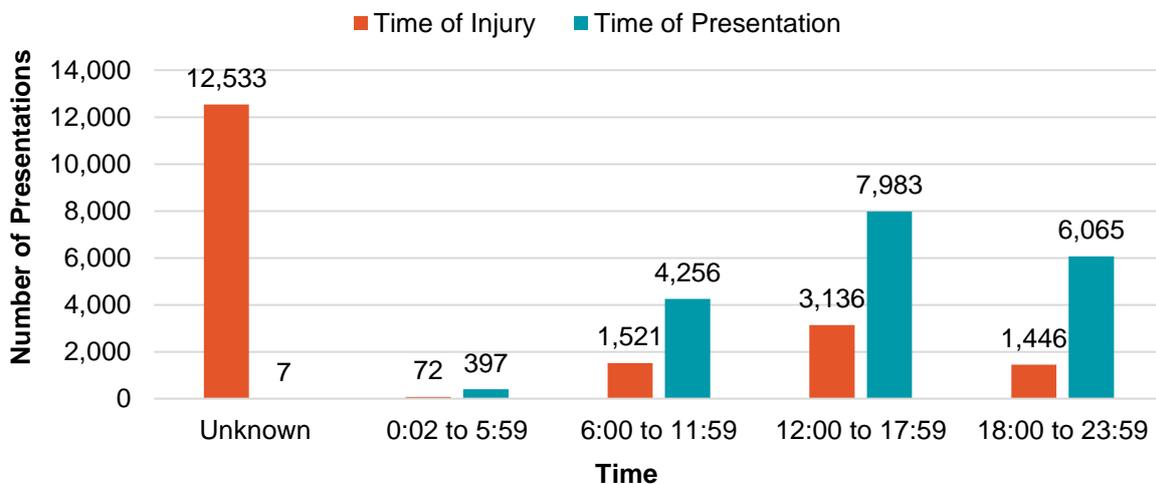
It was noted in a small proportion of injury presentations that safety equipment was used (1.0%, n=179). This includes items such as helmets, seatbelts and approved child car restraints. Only 0.5 percent (n=86) of injury presentations noted that no form of safety equipment was used, and the remaining 98.6 percent (n=18,443) accounted for injuries where safety equipment information was unknown or inadequate. For certain injury types, safety equipment is more frequently recorded. For example 43.5 percent (n=57) of motor vehicle accidents are recorded as using an approved child car restraint or seatbelt. Similarly, helmet use in cycling injuries is 12.5 percent (n=64).

TREATMENT

TIME OF DAY

The time of a child’s injury occurring and the time they presented to PCH ED are recorded during triage. Two thirds of all injuries are recorded with an unknown time of injury (67.0%, n=12,533) (Figure 9). Where injury time is known, the most common time for injury to occur is between 12:00 and 17:59 (16.8%, n=3,136) and 6:00 and 11:59 (8.1%, n=1,521). Time of presentation to PCH ED peaked between 12:00 and 17:59 (42.7%, n=7,983) and 18:00 and 23:59 (32.4%, n=6,065).

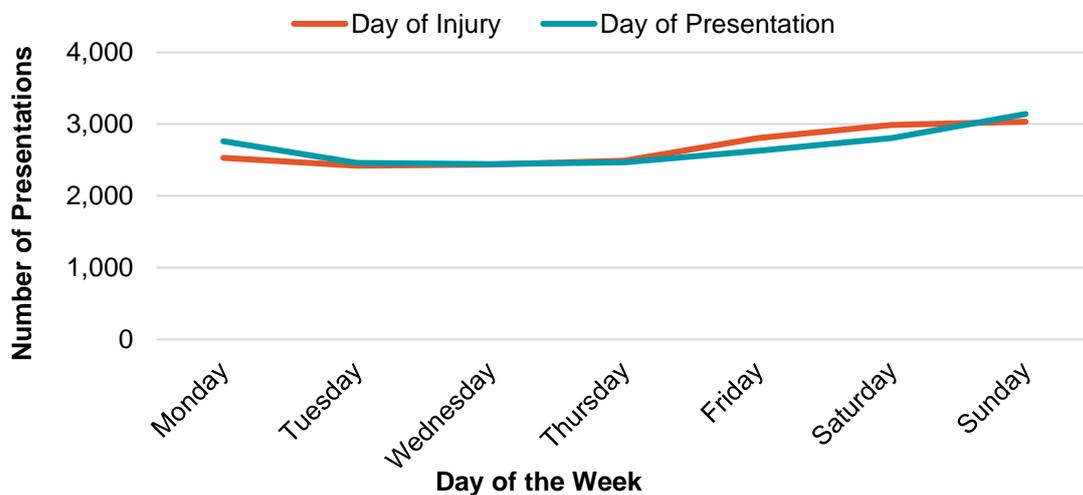
Figure 9: Injury Presentations to PCH ED by Time of Injury and Time of Presentation; July 2018 - June 2019



DAY OF THE WEEK

The day of injury and day of presentation are also recorded at triage. Saturday and Sunday have the highest number of injury occurrences accounting for (16.0%, n=2,990) and (16.2%, n=3,034) of injuries respectively and showed a similar pattern for injury presentations (Figure 10). Tuesday, Wednesday and Thursday recorded the lowest number of injury occurrences and presentations.

Figure 10: Injury Presentations to PCH ED by Day of Injury and Day of Presentation; July 2018 - June 2019



TRIAGE CATEGORY

Every child that presents to PCH ED with an injury is allocated a triage category that reflects the level of medical urgency required (Table 2). The majority of injury presentations were semi-urgent (80.0%, n=14,965) followed by urgent (15.9%, n=2,975) and emergency (3.2%, n=603). Very few presentations were triaged as resus or non-urgent.

Table 2: PCH ED Triage Category

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

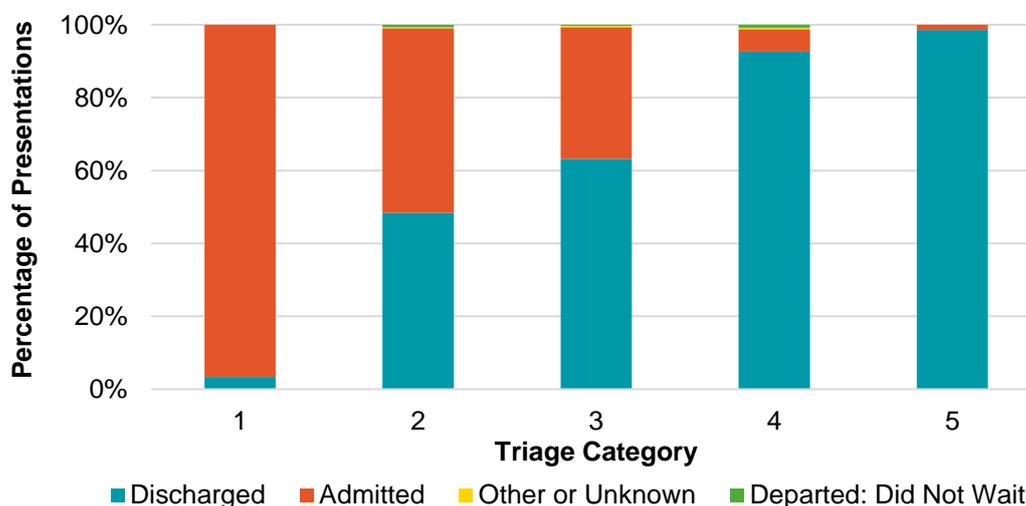
REFERRAL SOURCE

Most children who present to PCH ED for an injury are referred by either themselves or a relative (90.4%, n=16,917). The remaining presentations are either referred by another hospital (n=4.4%, 827) or a general practitioner (4.0%, n=744). A small proportion of presentations are also recorded as other or were unknown.

OUTCOME OF ATTENDANCE

The majority of children who present to PCH ED with an injury are discharged from the ED with their treatment complete (86.1%, n=16,108). A further 12.8 percent (n=2,395) require admission to hospital and the small remainder either did not wait for treatment or the outcome of their attendance is unknown or other. Children that are admitted to hospital account for 96.6 percent (n=86) of presentations recorded as resus, 50.6 percent (n=305) as emergency and 36.1 percent (n=1,075) as urgent (Figure 11).

Figure 11: Injury Presentation to the PCH ED by Triage Category and Outcome of Attendance; July 2018 - June 2019



DISCUSSION

The collection of childhood 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 injury surveillance system, and collaboration between nursing, clerical and medical staff within hospitals. Analysis of collected data can determine current injury trends and the need for injury prevention programs.

The Perth Children's Hospital is the leading paediatric hospital in Western Australia and saw over 67,000 children pass through its ED during this year. Although there are a number of other paediatric facilities within WA, for example Fiona Stanley Hospital and Joondalup Health Campus, PCH remains the largest reference centre for paediatric illness and injury for the state. During the 2018-19 financial year 18,708 children attended PCH ED due to an injury, accounting for 28.1 percent of total presentations. While the total number of injuries has increased from the previous year, it is in proportion to the overall increase in total presentations.

There continues to be a disparity between genders within injury data, with males over-represented across all ages of childhood. The biggest variation occurs within toddlers and adolescents where males account for almost 60 percent of total injuries. Data from developed countries worldwide indicates that from birth onwards, male children are injured at higher rates than female children. There are several theories to explain this, including that on average, males engage in more risky behaviour and are given more independence compared to females.^{1,2}

Almost a quarter of injuries are related to a sporting activity, with Australian Rules Football, cycling and trampolining most commonly associated with injury. Older children, who are more likely to participate in competitive sports, are more susceptible to injury with adolescents over ten years of age accounting for almost 70 percent of sports related injuries.

Similarly to previous years, the injury data has missing or generic data fields where injuries are coded as other or unspecified. This is particularly evident in the location field, where 76 percent of injuries are coded as other place, in comparison to 65 percent during last financial year and 52 percent five years ago. This highlights the importance of ongoing triage nurse education. Kidsafe WA and PCH continue to provide education seminars to advocate and support staff in the collection of data.

RECOMMENDATIONS

- Continue to investigate opportunities for childhood injury surveillance data collection at additional metropolitan and regional medical facilities in WA.
- Ongoing injury prevention initiatives for all children and their parents and carers, 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 sporting injuries amongst adolescents.
- Staff development sessions between Kidsafe WA and PCH triage nurses to raise awareness of the importance of child injury data collection and the role it plays in injury prevention.
- Ongoing production and dissemination of Kidsafe WA Childhood Injury Bulletins to support policy and interventions for child injury prevention.



Child Accident Prevention Foundation of Australia
Western Australia

www.kidsafewa.com.au