Child Accident Prevention Foundation of Australia
Western Australia

Kidsafe WA Childhood Injury Bulletin
Annual Report: 2023 - 2024

Partner:

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

CONTENTS

Suggested Citation:
Tsvetkov A, Jamieson K, & Skarin D. Kidsafe WA Childhood Injury Bulletin: Annual Report 2023-24. Perth (WA): Kidsafe WA (AU); 2025 January.

LANGUAGE AND TERMINOLOGY

Term	Meaning
Perth Children's Hospital (PCH)	PCH is a paediatric hospital in Western Australia and is the referral centre for paediatric illness and injury within the state.
Emergency Department (ED) Presentations	Children between zero and <16 years old that present to the triage desk at PCH ED.
Category 'other'	In each of the PCH ED injury surveillance fields there is often an 'other' category. This is used when presentations are missing information or do not fit in the categories outlined.
Blunt force injury	An injury caused by contact with an object i.e. child ran into wall or the child hit by ball.
Injury factor	This can be a product or a structure that contributed to the cause of the injury.

INJURIES AT A GLANCE

19,847
Children attended the Perth Children's Hospital (PCH ED) due to injury during the 2023-24 financial year

Sex

56.8%
Of the children were male

43.2%
Of the children were female

12.2%
Of the children were admitted to hospital for further treatment

Cause of Injury

36.4%
Of injuries were due to a fall

26.9%
Of injuries were due to a blunt force

Age

34.7%
Of the children were between 0 and 4 years old

26.7%
Of the children were between 5 and 9 years old

38.6%
Of the children were between 10 and 15 years old

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 among Australian children aged zero to fourteen, accounting for nearly half of all deaths in this age group. More children die of injury than of cancer, asthma and infectious diseases combined. However, many of these deaths and injuries can be prevented. Kidsafe WA works 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
PCH is the only paediatric hospital in Western Australia and is the referral centre for paediatric illness and injury within the state. Approximately 68,000 children present to the PCH ED each year. The PCH ED Injury Surveillance System is designed to capture data related to all children who present with an injury. This report provides a summary of all Injury Surveillance System data collected at PCH ED between July 2023 and June 2024. While this data does not take into account all Emergency Department presentations in Western Australia, it offers a useful snapshot of injury occurrences and patterns of presentation.

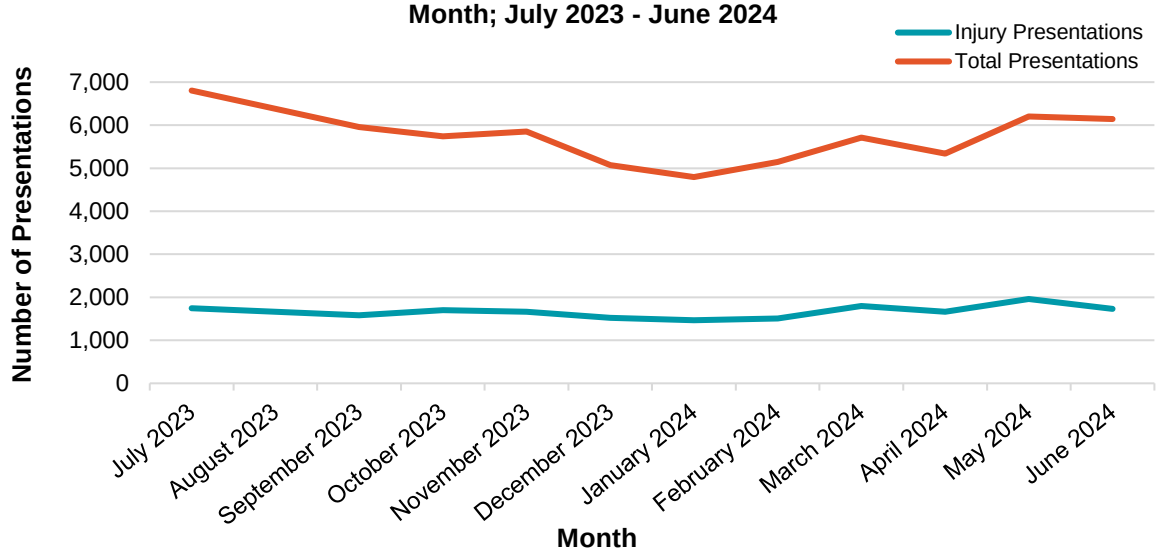
The total number of children presenting to the PCH ED has fluctuated between 61,000 and 72,000 over the past five years. On average, injury presentations account for approximately 30 percent of presentations with a slight peak seen in 2020-2021 (Table 1).

Table 1: Total Presentations and Injury Presentations to the PCH ED by Financial Year; July 2019 - June 2024

Year	Total Presentations	Total Injuries	Injury as a % of Presentations
2023-2024	69,089	19,847	28.7%
2022-2023	72,201	19,464	27.0%
2021-2022	69,124	20,241	29.3%
2020-2021	67,721	22,115	32.7%
2019-2020	61,984	18,912	30.5%

Over 69,000 children attended the PCH ED during the 2023-2024 financial year. Of these presentations 29 percent (n=19,847) were due to injury (Figure 1).

Figure 1: Total Presentations and Injury Presentations to PCH ED by Month; July 2023 - June 2024



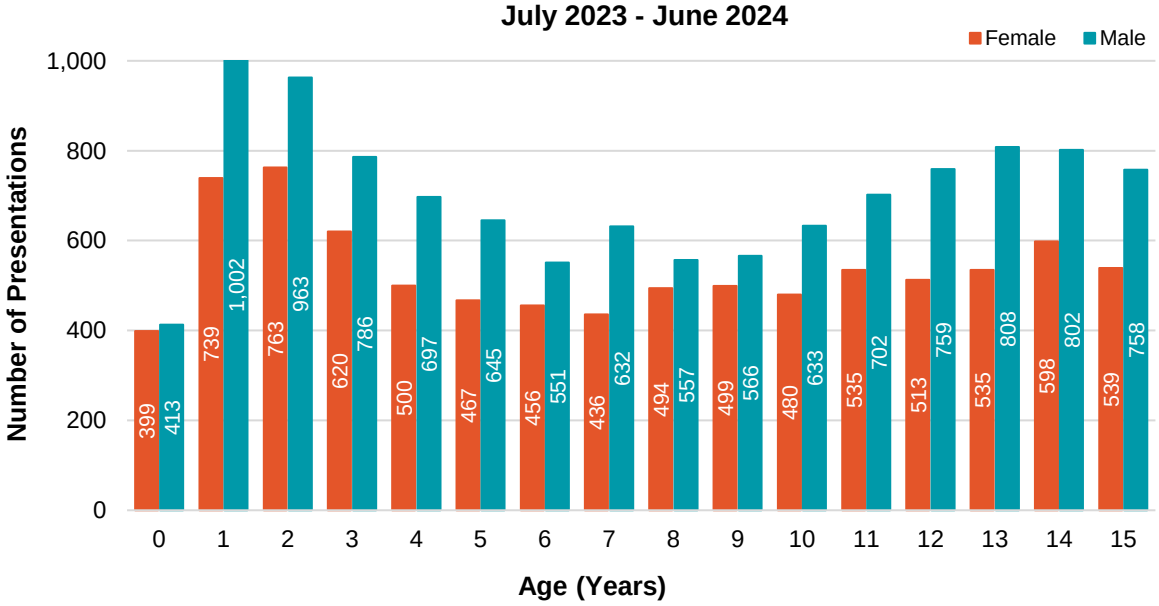
DEMOGRAPHICS

Age and Sex

One third of the children presenting to PCH ED are under five years old (34.7%, n=6,882). Similar to previous years, children aged one and two years present most accounting for 8.8 percent (n=1,741) and 8.7 percent (n=1,726) of injuries respectively (Figure 2). At this age children are still learning and developing their physical and cognitive skills. This means they may not have the necessary skills to explore their environment safely. Following this age group, young people between 10 and 14 years old account for a large number of injury presentations (32.1%, n=6,365). At this age, children become more independent and the injury risks change as they participate in different activities.

Males present more than females, accounting for 56.8 percent (n=11,274) and 43.2 percent (n=8,573) of injuries respectively. This is consistent with previous reports and continues to be the trend for children of all ages.

Figure 2: Injury Presentations to PCH ED by Age and Sex; July 2023 - June 2024



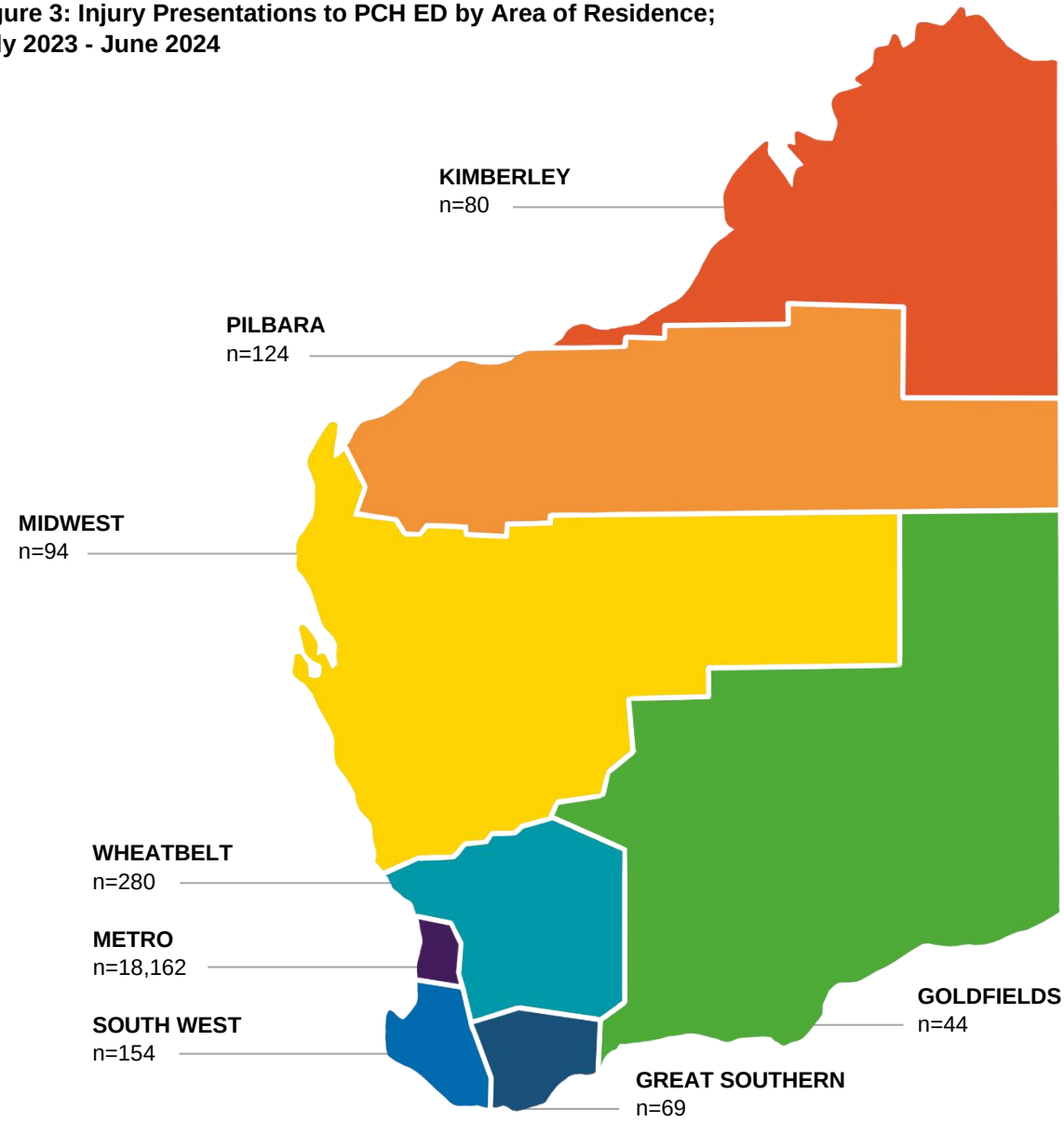
Aboriginal and / or Torres Strait Islander children account for approximately five percent (n=919) of the injury presentations to PCH ED. The 2021 Census data reports a similar statistic where 5.6 percent of Western Australian children aged between zero and 14 years identify as Aboriginal and / or Torres Strait Islander descent[1,2].

Area of Residence

The Perth Metropolitan Area is where most children presenting to the PCH ED live (91.5%, n=18,162) (Figure 3). The remaining children live in regional Western Australia (4.3%, n=845) or other locations (4.2%, n=840). Of the presentations where children identified as Aboriginal and / or Torres Strait Islander, 20.3 percent (n=187) reside in regional Western Australia.

Within regional Western Australia, like previous years the Wheatbelt had the highest number of injury presentations to PCH ED accounting for 33.1 percent (n=280). There are many factors that may influence the number of children presenting from regional Western Australia to PCH ED. This includes, however is not limited to the proximity to Perth, the health facilities available within the region and population size.

Figure 3: Injury Presentations to PCH ED by Area of Residence; July 2023 - June 2024

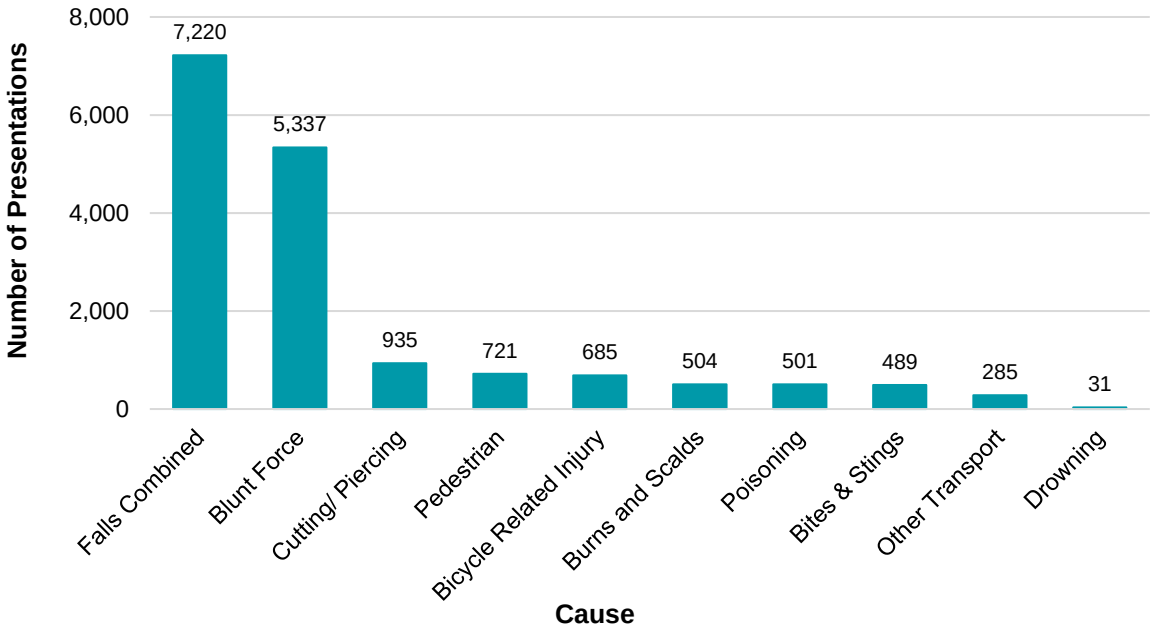


INJURY

Intent
The majority of the injury presentations to PCH ED are due to unintentional circumstances (96.1%, n=19,081). The remaining presentations are due to intentional self-harm (3.2%, n=626), alleged assault (0.6%, n=116) and undetermined / other causes (0.1%, n=24). Of note, over the five year period intentional self-harm injuries were on the rise until 2023/24 where the proportion dropped to 3.2 percent from 3.9 percent in 2022/23.

Cause
Of the known causes of injury, falls continue to be the leading cause of injury to PCH ED (43.2%, n=7,220). This is followed by blunt force, accounting for 31.9 percent (n=5,337) (Figure 4). Of note, burns and scalds presented more this year accounting for three percent of the presentations compared to 2.7 percent in the previous year.

Figure 4: Injury Presentations to PCH ED by Cause; July 2023 - June 2024



Injury Factor
Similar to previous years, almost half of the injuries had an associated injury factor (46.3%, n=9,196). Of the presentations with an injury factor, building components (21.2%, n=1,947) such as doors, walls and windows was most common. This was followed by wheeled equipment (16.1%, n=1,479), furniture (14.9%, n=1,368), sports equipment (13.3%, n=1,223) and playground equipment (12.0%, n=1,101).

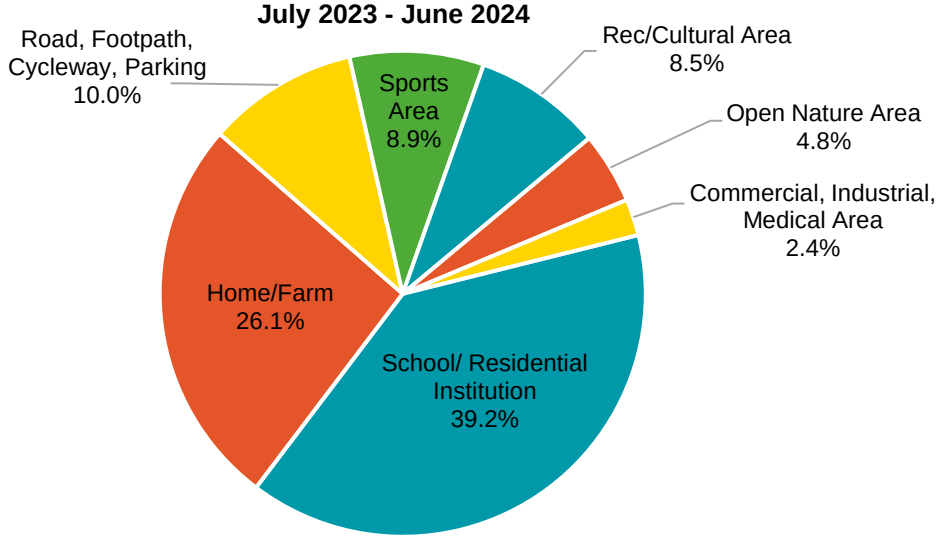
Safety Equipment
It was recorded for the majority of presentations to PCH ED that safety equipment was not applicable (72.2%, n=14,329). For the remaining presentations the use of safety equipment was unknown (25.0%, n=4,964), used (2.2%, n=429) and not used (0.6%, n=125).

Of the presentations where the use of safety equipment was known (2.8%, n=554), cyclists were the best at using safety equipment (85.1%, n=212) such as helmets. This was followed by motorcyclists (84.3%, n=43), motor vehicle occupants (83.1%, n=74), wheeled pedestrians (54.4%, n=68) and other sports (74.2%, n=23). The remaining nine presentations had various causes and all used safety equipment.

Location

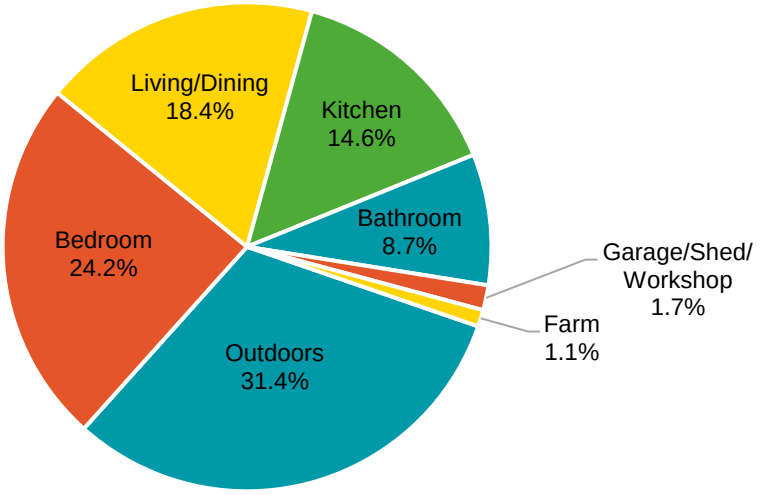
The location for the majority of injury presentations was unknown (74.2%, n=14,732). Of the known locations (25.8%, n=5,115), the school was the most common location for injuries to occur (39.2%, n=2,005). This was followed by injuries around the home (26.1%, n=1,336) (Figure 5a).

Figure 5a: Injury Presentations to PCH ED by Known Location; July 2023 - June 2024



Injury presentations around the home can be broken down further by the different areas of the home. Many of the home injuries occurred in an unspecified location accounting for 45.6 percent (n=609). Of the presentations where the area of the home was specified, the outdoors (31.4%, n=228) was the most common place for injuries to occur. This was followed by the bedroom (24.2%. n=176) and the living / dining area (18.4%, n=134) (Figure 5b).

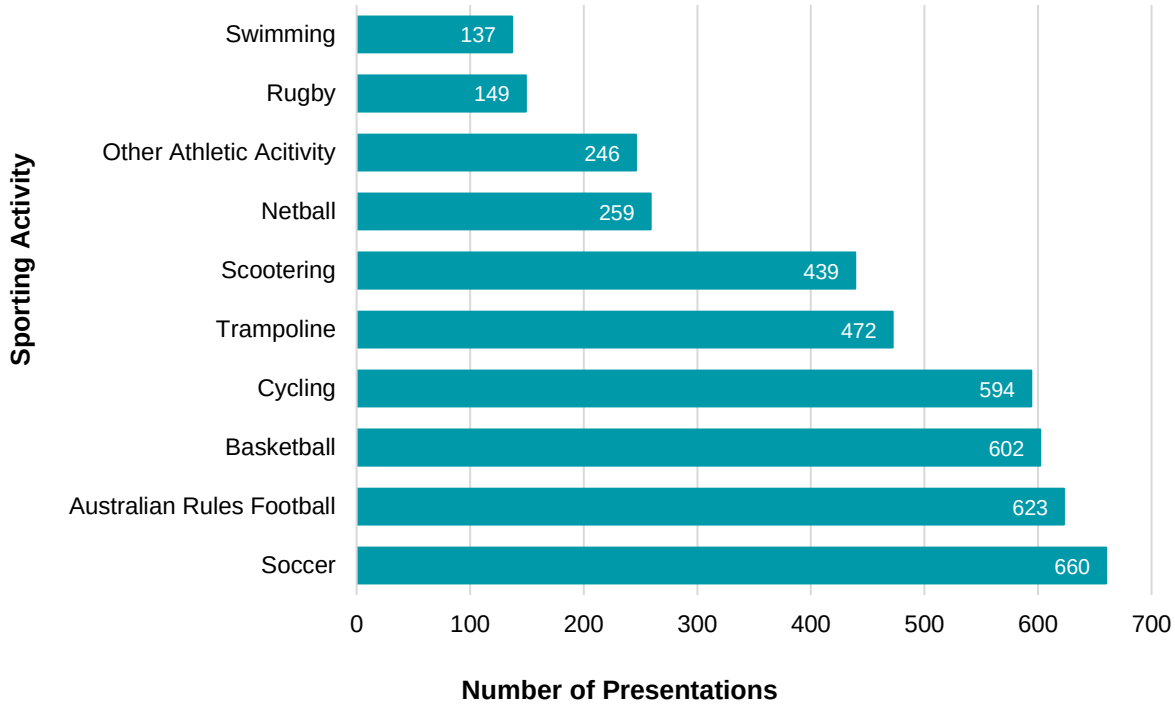
Figure 5b: Injury Presentations to PCH ED by Home Location; July 2023 - June 2024



Sporting Activity

Approximately one quarter of the injuries to PCH ED were associated with sporting activities (27.1%, n=5,374). The most common sporting activity associated with injury was soccer (12.3%, n=660). This was followed by Australian Rules Football (11.6%, n=623), basketball (11.2%, n=602), cycling (11.1%, n=594) and trampolines (8.8%, n=472). See Figure 6 for the top ten sporting activities resulting in injuries.

Figure 6: Injury Presentations to the PCH ED by Sporting Activity; July 2023 - June 2024

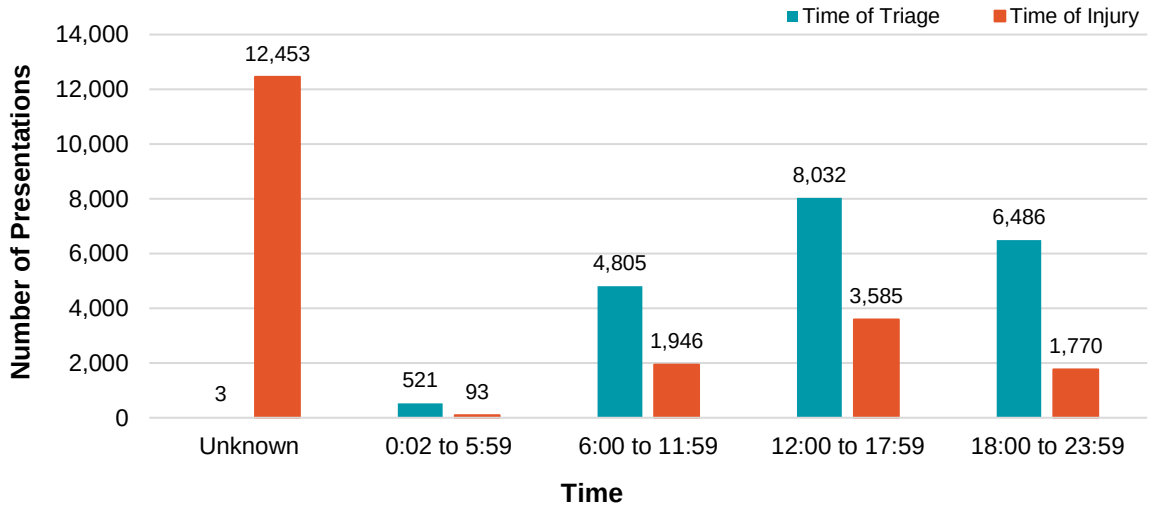


TREATMENT

Time of Day

The time a child presents to PCH ED and time of injury are recorded during the triage process. The most common time for children to present to PCH ED was between 12:00 and 17:59 (40.5%, n=8,032). This is followed by the time between 18:00 and 23:59 (32.7%, n=6,486). A similar pattern is seen for time of injury, however the time for almost two thirds of the presentations was unknown (62.7%, n=12,453). Where the time of injury is known (37.3%, n=7,394), approximately half of the injuries occurred between 12:00 and 17:59 (48.5%, n=3,585). This is followed by injuries occurring between 6:00 and 11:59, accounting for 26.3 percent (n=1,946) (Figure 7).

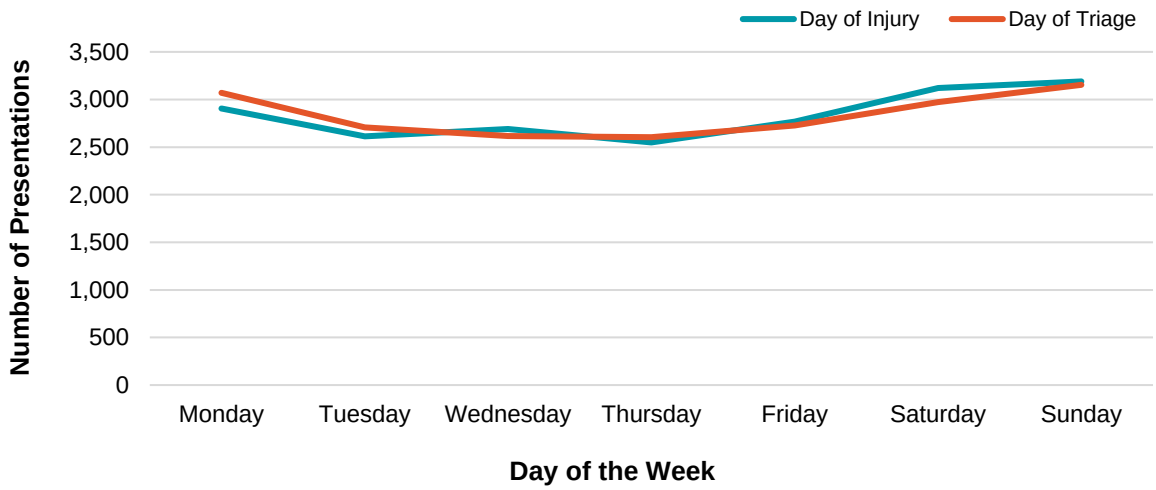
Figure 7: Injury Presentations to PCH ED by Time of Triage and Time of Injury; July 2023 - June 2024



Day of the Week

The day of injury and day of presentation is also recorded during the triage process. Of the presentations where the day of injury is recorded (99.9%, n=19,836), the greatest number of injuries occurred on Saturday and Sunday accounting for 15.7 percent (n=3,122) and 16.1 percent (n=3,190) respectively. The day of triage also follows a similar pattern (Figure 8).

Figure 8: Injury Presentations to PCH ED by Day of Injury and Day of Triage; July 2023 - June 2024



Triage Category

Every child that presents to PCH ED with an injury is allocated a triage category (Table 2). This reflects the level of medical urgency required. Two thirds of the injury presentations to PCH ED were semi-urgent (66.5%, n=13,195). This was followed by injuries that were deemed as urgent (25.6%, n=5,085) and an emergency (6.8%, n=1,348). Very few presentations were triaged as resus or non-urgent (1.1%, n=219).

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

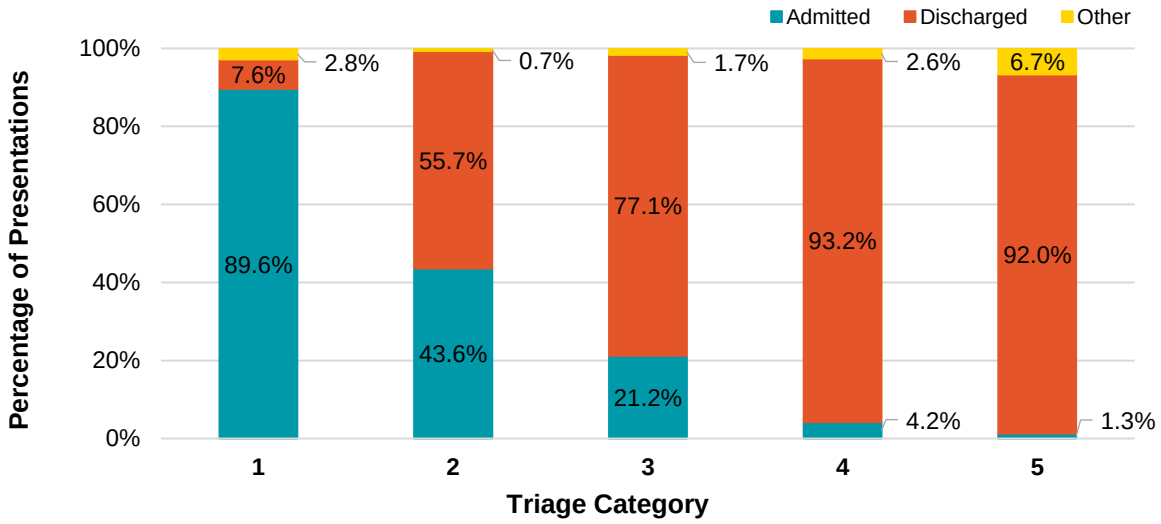
Referral Source

Most children presenting to PCH ED for an injury are referred by themselves or a relative (87.8%, n=17,433). This is followed by presentations either referred by a general practitioner (7.9%, n=1,568) or another hospital (3.4%, n=673). The remaining presentations are recorded as unknown or other (0.9%, n=173).

Outcome of Attendance

The majority of the children presenting to PCH ED with an injury are discharged from the ED with their treatment complete (85.9%, n=17,054). While 11.8 percent (n=2,348) are admitted to hospital for further treatment. The remaining presentations either did not wait for treatment, were transferred to another hospital or the outcome of their attendance is unknown or recorded as other (2.2%, n=445). As the triage category reflects the level of medical urgency, the more urgent the triage category, the more likely it is that a child will be admitted to hospital for further treatment (Figure 9).

Figure 9: Injury Presentations to the PCH ED by Triage Category and Outcome of Attendance; July 2023 - June 2024



DISCUSSION

The Perth Children's Hospital is the leading paediatric hospital in Western Australia. Although there are several other paediatric facilities within WA, PCH remains the largest reference centre for paediatric illness and injury for the state. The PCH Emergency Department plays a vital role in collecting childhood injury data through an efficient and reliable injury surveillance system. This requires collaboration between the nursing, clerical and medical staff within hospitals. Analysing this data can determine current injury trends and the need for injury prevention programs. Ultimately this process assists with developing interventions to prevent or minimise childhood injury.

Between July 2023 and June 2024 PCH ED saw over 69,000 children, with 19,847 (28.7%) of these presentations being due to an injury. This is slightly higher than the previous year. Similar to previous years children under the age of five present most with injuries, with males over-represented across all age groups. This is consistent with Australia wide statistics where children under five have the highest rate of ED presentations and males also account for over half of the presentations[3].

The cause of injury has remained consistent across the past four years, with falls and blunt force injuries being the leading cause of injury to children. This is similar to childhood injuries seen across Australia with falls, blunt force injuries and transport injuries being the top three causes of hospitalisation[4]. When comparing the past four years of PCH ED data, the most notable difference is the number of burn and scald presentations. Burn and scald presentations have fluctuated across the years and has alternated between presenting more or less than both poisoning and bites/stings.

The use of safety equipment is also captured in PCH ED data. This year there was a slight decrease in the use of safety equipment, from 10.5 percent last year to 7.8 percent this year. Looking at specific activities, data shows that the use of safety equipment decreased for cyclists and motorcyclists, however increased for motor vehicle occupants and wheeled pedestrians when compared to the previous year.

Soccer, Australian Rules Football (AFL) and basketball account for over one third of the injuries associated with sports. In previous years either AFL or basketball was the leading sport most commonly associated with injuries, however this financial year soccer injuries presented most to PCH ED. The data also demonstrates that the risk of sporting injuries increases with age and starts to peak from around the age of 12 years, which is consistent with previous reports. Of note, this data only shows a snapshot of the injury risks associated with sports and does not take into account participation rate. This does however align with research that demonstrates that the most popular sports for children in WA are swimming, soccer, basketball and AFL[5].

Self-harm injuries have gradually increased over the past five years, however this year there was a slight decrease in these presentations. Although they account for a small portion of the total injuries to PCH ED, they are generally more severe and require hospital admission for further treatment. Approximately one quarter of self-harm injuries are admitted to hospital for further treatment[6] which is approximately double the admission rate for all other injuries. For more information on self-harm injuries and reducing these risks see the *Kidsafe WA Childhood Injury Report: Self-harm Injuries, 2016-2021*.

An ongoing issue is that information associated with the injury presentation is sometimes missed and therefore some of the data fields are coded as other or unspecified. This is particularly evident in the location field, where approximately three quarters of the presentations to PCH ED has inadequate information provided and therefore coded as other place. This is more than the previous year. To improve this Kidsafe WA and PCH provide educational seminars to advocate and support staff with this process.

Recommendations

- Provide injury prevention initiatives for all children and their parents / carers, with a focus on children under five years of age.
- Promote injury prevention initiatives that identify ways to reduce the risk of sporting injuries amongst teenagers.
- Provide and analyse self-harm injury data to key stakeholders.
- Raise awareness of the importance of child injury data collection and its role in injury prevention by providing ongoing staff development sessions between Kidsafe WA and PCH triage nurses.
- Produce and disseminate Kidsafe WA Childhood Injury Bulletins and Reports to support policy and interventions for child injury prevention.

REFERENCES

1. Australian Bureau of Statistics. Census Aboriginal and Torres Strait Islander people Quick Stats, 2021 [Internet]. Available from https://www.abs.gov.au/census/find-census-data/quickstats/2021/IQS5

2. Australian Bureau of Statistics. Census All persons Quick Stats, 2021 [Internet]. Available from https://www.abs.gov.au/census/find-census-data/quickstats/2021/5

3. Australian Institute of Health and Welfare. Injuries in children and adolescents 2021–22 [Internet]. Available from: https://www.aihw.gov.au/reports/injury/injuries-in-children-and-adolescents-2021-22/contents/variation-between-population-groups

4. Australian Institute of Health and Welfare. Health of children [Internet]. Available from: https://www.aihw.gov.au/reports/children-youth/health-of-children

5. Ausplay state and territory results [Internet]. Clearinghouse for Sport. Available from: https://www.clearinghouseforsport.gov.au/research/ausplay/results#data_tables_br_july_2023_june_2024

6. Tsvetkov A, Skarin D. Kidsafe WA Childhood Injury Report: Self-harm Injuries. Perth (WA): Kidsafe WA (AU); 2022 August.

Child Accident Prevention Foundation of Australia
Western Australia

www.kidsafewa.com.au