

Comparative analysis of Child Injury Data (0-13 years) at Red Cross War Memorial Children's Hospital, South Africa, 2019- 2024



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INTRODUCTION

- Child injuries** are a major public health concern, causing significant morbidity, mortality, and disability. Globally, over 875,000 children die annually from unintentional injuries.
- The Red Cross War Memorial Children's Hospital (RCWMCH) captures child injury data in two systems:

- ChildSafe Database** – paper-based records of patients presenting to the RCWMCH trauma unit, entered electronically, focused solely on child injury prevention.
- HECTIS** – Western Cape provincial electronic health information system, introduced in 2020, captures emergency centre data in real-time.

- Problem:**
- The completeness and accuracy of **HECTIS** compared to **ChildSafe** has never been assessed, raising concerns about data reliability for surveillance and intervention planning.
- Understanding the completeness of these databases is vital for ensuring accurate epidemiological surveillance.
- Validation of HECTIS trauma data at RCWMCH is needed to support full transition to electronic records
- Aim:**
- Assess completeness, accuracy, and differences between HECTIS and ChildSafe data for children aged 0–13 years (1 Jan 2019–31 Dec 2024).

METHODS

- Design:** Observational analytical cross-sectional study using secondary data.
- Setting:** RCWMCH trauma unit, Western Cape, South Africa.
- Population:** All children aged 0–13 years with injury records between 1 Jan 2019 – 31 Dec 2024.
- Data Sources:** HECTIS & ChildSafe databases.
- Key Variables:** Age, sex, injury location, injury type, time of injury, severity, outcome, completeness of records
- Age groups:** Early childhood 0–4y, Middle childhood 5–9y, Early adolescents 10–13y
- Data was cleaned and analysed using **R software**.

RESULTS

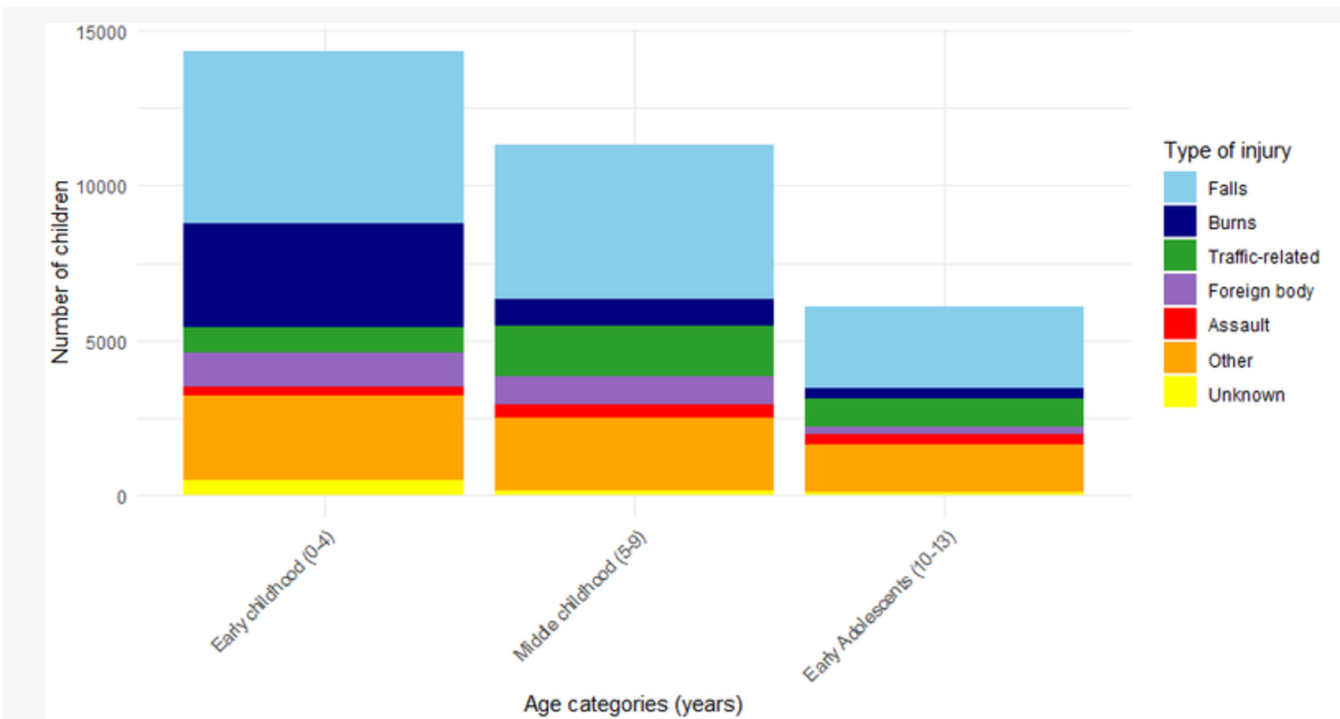


Figure 1: Number of children by age category and type of injury.

- 31 931** records were captured in ChildSafe database (2019–2024).
- 26.8%** of records contained at least one missing field, overall field completeness was **73.2%**.
- Majority are male (**61%**)
- Child injuries observed mostly in children 0–4 years (early childhood).
- Falls (**42%**) were most common, followed by burns (**14%**) and traffic-related injuries (**11%**).

(This poster presents preliminary findings from ChildSafe database while awaiting HECTIS data. Final comparison results will include completeness, sensitivity/specificity, and differences in variables captured between systems.)

REFERENCES

- Peden M, Oyegbite K, Ozanne-Smith J, Hyder AA, Branche C, Rahman AF, et al. 2008. World Report on Child Injury Prevention. Geneva: World Health Organization. [cited 2024 Sep 22]. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK310641/>
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Table 1: Characteristics of child injuries, 2019- 2024 (n= 31 931)

Variables	n (%)
Age at injury (continuous)	4.6 (2.1, 8.1)
Unknown	6 (<0.1%)
Age Categories (years)	
0-4 years	14,353 (45%)
5-9 years	11,334 (36%)
10-13 years	6,091 (19%)
Unknown	153 (0.5%)
Sex	
Male	19,455 (61%)
Female	12,469 (39%)
Unknown	7 (<0.1%)
Sub-Districts	
Eastern	845 (2.6%)
Khayelitsha	646 (2.0%)
Klipfontein	14 811 (46%)
Mitchells Plain	3 138 (9.8%)
Northern	2 312 (7.2%)
Southern	3 512 (11%)
Western	5 000 (16%)
Others	1 469 (4.6%)
Unknown	198 (0.6%)
Time categories	
Morning (06:00 -12:00)	5,737 (18%)
Afternoon (12:00 – 18:00)	10,447 (33%)
Evening (18:00 – 21:00)	7,070 (22%)
Night (21:00 – 06:00)	8,677 (27%)
Admission status	
Admitted to trauma unit	3,713 (11.6%)
Admitted directly to ward/ICU	5,378 (16.8%)
Not admitted	22,833 (71.5%)
Unknown	7 (<0.1%)

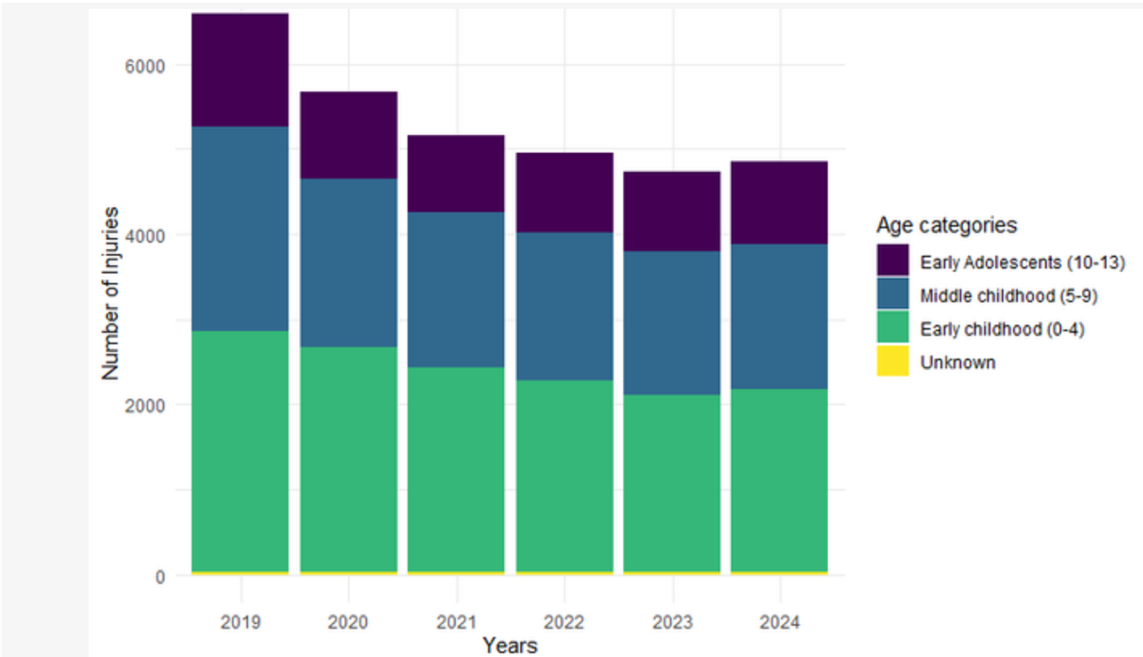


Figure 2: Number of injuries by age category per year

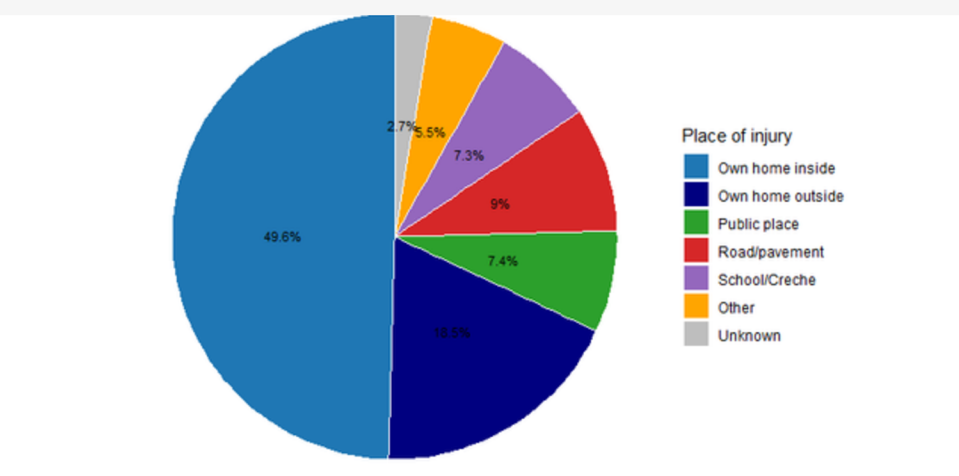


Figure 3: Number of injuries by place of injury

DISCUSSION & CONCLUSION

- Findings** from ChildSafe show that falls (**42%**) and burns (**14%**) remain major contributors to the injury burden, with the highest incidence in the **early childhood group (0–4 years)**. A substantial proportion of injuries occurred in (**49.6%**) **and around the home (18.5%)**, highlighting the home environment as a key risk setting.
- The **comparative analysis** (once HECTIS data is obtained) will:
 - Identify gaps in completeness of routine HIS data.
 - Evaluate accuracy of provincial electronic data for child injury surveillance.
 - Inform recommendations for data integration and improved workflow efficiency.
- Public Health Implication:** Reliable, complete, and accurate injury surveillance data is essential to guide evidence-based prevention strategies at RCWMCH.

CONTACT DETAILS

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