

2021/22

Red Cross War Memorial Children's Hospital Trauma Unit Surveillance Report

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DATA REPORT 2021/22

Data processed in this report is obtained from the Red Cross War Memorial Children's Hospital, Paediatric Trauma Unit in Cape Town, with permission for processing in the ChildSafe research database.

About ChildSafe South Africa

In 1978, the vision of the Chief Surgeon of the Red Cross War Memorial Children's Hospital encompassed the establishment of the Child Safety Centre in response to the massive number of child injuries encountered in the Trauma Unit. The Child Safety Centre was formed and from the beginning, this Centre focused on education, research, and advocacy. Support from the Department of Paediatric Surgery was essential in the development of the Child Safety Centre.

By 1987, the Centre had grown, and it was officially constituted as the Child Accident Prevention Foundation of Southern Africa (CAPFSA). In 2008, CAPFSA was officially changed to ChildSafe South Africa.

Vision

To create safer world for children.

Mission

- To promote the child's right to safety through research, education, environmental change, and recommendations for legislation.
- To be a recognised source for national research data on child accidents and injuries.
- To be recognised as a national point of reference and a provider of child safety information.
- To work in close cooperation with government, the corporate and business sectors, industry, NGO's, academic and other educational institutions, and societal communities.

Preface

The Trauma Unit at the Red Cross War Memorial Children's Hospital is familiar to the communities surrounding the well-known address on Klipfontein Road, Rondebosch, Cape Town. This Trauma Unit is part of the comprehensive clinical services which the hospital, one of very few stand-alone children's hospitals in Africa, offers. And since the Trauma Unit offers tertiary level care and interventions, it is known across the Cape Town metropole and the whole region. Every year, in addition to admissions from the local drainage area, the Trauma Unit receives hundreds of referrals from all parts of the Western Cape, depending on the severity of the injuries incurred and the need for specialist interventions or Intensive Care requirements. In addition to serving the clinical needs of patients who are attended to, the Trauma Unit also serves as a Clinical Training Unit for medical students and doctors on their path to becoming specialists, both local and international doctors.

In terms of injuries and accidents, it is well recognised that prevention should form a part of the treatment package and this is especially true for children. And therefore, it is a wonderful privilege that the Trauma Unit Staff can collaborate with ChildSafe South Africa, who are instrumental in setting up and implementing injury prevention and family education programs. The ChildSafe injury report which follows summarises the injuries seen and treated at the Trauma Unit during the reporting period of 2021 to 2022. We remain very grateful to ChildSafe South Africa and the dedicated staff for the invaluable work which they do.



August 2022

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ChildSafe Child Injury Report

The Red Cross War Memorial Children's Hospital (RCWMCH), located in Rondebosch, is the largest stand-alone tertiary hospital in sub-Saharan Africa, dedicated entirely to children and manages about 250 000 patient visits each year. Most of these patients come from communities across all nine provinces of South Africa and all over Africa. This report focuses on data collected at the Trauma Unit and the Poison Information Centre (PIC) at RCWMCH, which together treated just over 6000 children in 2021.

The data for this report was compiled by ChildSafe using data from the Trauma Unit which was captured on the REDCap database set up in mid-2018 specifically for this purpose and poisons data from the AfriTox TeleLog database (Poisons Information Helpline) and the Poisons Information Centre clinical database. The report primarily analysed the data from the RedCap summarising key injury data points which could inform prevention strategies. Given that there are not enough child injury prevention practitioners, it is hoped that this report will help raise awareness of such prevention strategies. Table 1 analyses data of all (0-13years old) children treated in the Trauma unit at the Red Cross War Memorial Children's Hospital, during the period 2019 - 2021.

Number of children treated at RCWMCH Poison and Trauma Unit 2019 – 2021 (0 – 13 years old)

Children's Age	0-12 years	13 years	Total 0-13 years
Years	Trauma	Trauma	Total Trauma
2019	6534	33	6567
2020	5633	25	5662
2021	5106	27	5133
Cumulative total	17 277	85	17 362

Most Common Causes of Child Injuries

The WHO World Report on Child Injury Prevention (2008) outlines that the four most common causes of injury amongst children worldwide include:

- 1.Falls
- 2.Road Traffic Accidents
- 3.Drowning
- 4.Poisons

These categories of injuries closely align with the injury statistics reported in this report. Injuries are a leading cause of death and disability among children in South Africa.

Childhood Injury at the Trauma Unit - 2021

The remainder of this report will analyse data for children from 12 years old and younger as RCWMCH primarily caters for this age group but sometimes, the RCWMCH extends the services to children between 12 – 13years old in special circumstances. The ChildSafe Child Injury Report primarily details injuries treated at the Trauma Unit RCWMCH.

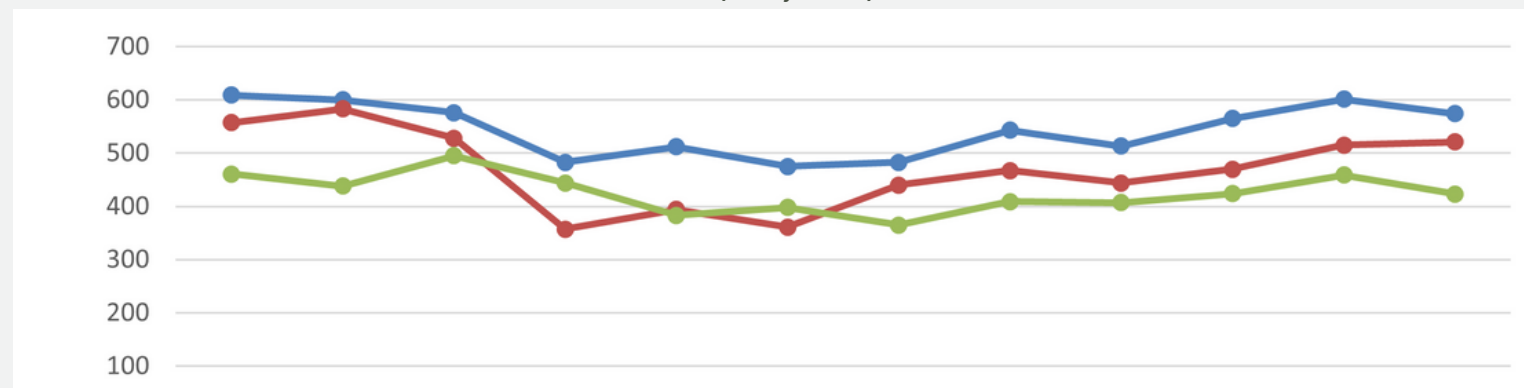
[1] Gallagher SS et al. The incidence of injuries in 87,000 Massachusetts children and adolescents. American Journal of Public Health. 1984, 74:1340 - 1347

[2] Linnan M et al *Child Mortality and injury in Asia: survey results and evidence*. Florence, Unicef Innocent Research Centre, 2007. : *survey results and evidence*. Florence, Unicef Innocent Research Centre, 2007

[3] World Health Organization (WHO). 2008. World Report on Child injury prevention. [Online] https://apps.who.int/iris/bitstream/handle/10665/43851/9789241563574_eng.pdf;jsessionid=A378569ABEA2B49B35175663E7A519BD?sequence=1. Available: August 2022

An analysis of the years 2019 to 2021 period in which a total of children 12 years old and younger were treated.

Number of children treated at RCWMCH Poison and Trauma Unit 2019 – 2021 (0 – 13 years old)



Year	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
2019	609	600	576	483	512	475	483	543	513	565	601	574	6534
2020	557	583	528	357	394	361	440	467	444	470	515	521	5637
2021	461	438	495	444	383	398	365	409	407	424	459	423	5106
Total	1627	1621	1599	1284	1289	1234	1288	1419	1364	1459	1575	1518	

Three-year comparison by types of injuries (in %)

All injuries	2019 (%)	2020 (%)	2021 (%)
Assault	3	3	3
Burns	13	15	15
Dog Bites	1	2	2
Falls	43	42	41
Miscellaneous	15	15	17
Struck By/Caught between	11	11	10
Traffic	12	12	12

Areas in which the children brought to the Trauma Unit reside

The majority of the children brought to the Trauma Unit at the RCWMCH for treatment resided in about 119 areas in the greater Cape Town and surroundings. The 18 locations which recorded 100 cases, or more in 2019 are compared to 2020 & 2021 and are represented in the graph below. All are located in the Cape Flats. The highest number of child injuries in 2021 (703) were recorded for Athlone. However, only (80) of these children were admitted for further treatment with (2) of these being severe injuries, while (701) were treated as outpatients for minor (299) or moderate (402) injuries. It must be noted that the RCWMCH is located in Rondebosch which is adjacent to Athlone. Given the proximity and that the RCWMCH has a high standing internationally, may explain why RCWMCH is considered by many living in Athlone as the first port of call.

119

majority of the children brought to the Trauma Unit at RCWMCH for treatment resided in about 119 areas in the greater Cape Town and surroundings.

100

18 locations which recorded 100 cases, or more in 2019 are compared to 2020 & 2021.

703

The highest number of child injuries in 2021 (703) were recorded for Athlone.

80

80 of these children were admitted for further treatments.

701

701 were treated as outpatients.

2

2 of these being severe injuries.

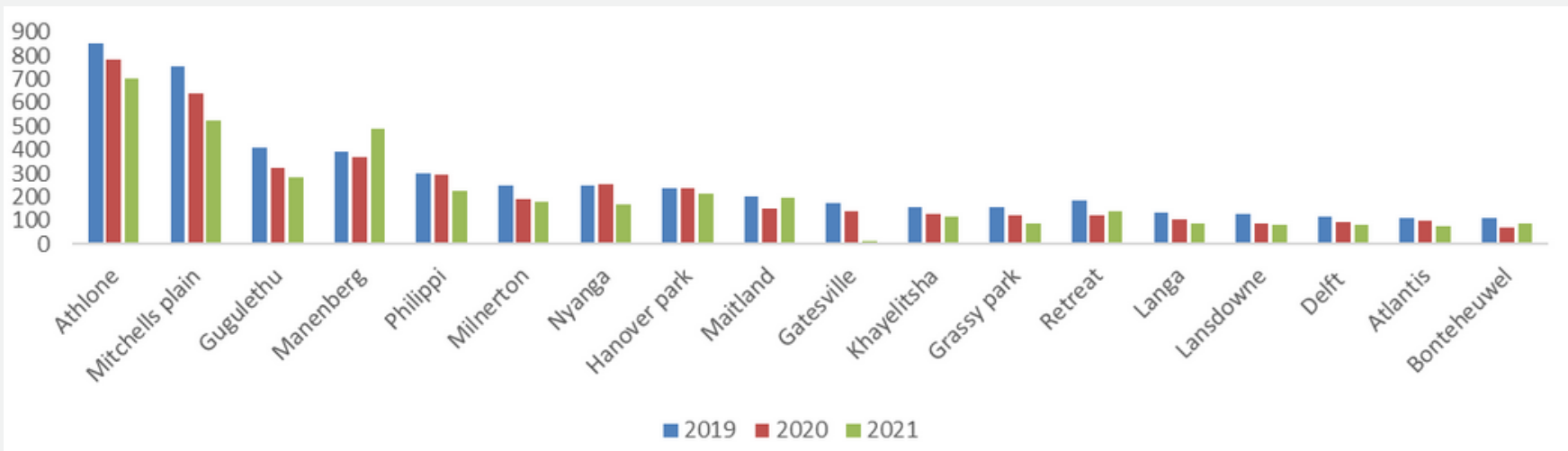
299

299 were treated for minor injuries.

402

402 were treated for minor injuries.

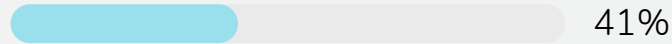
Number of children (0 – 13years old) treated from 18 locations which recorded 100 cases or more



Summary of injury types - 2021

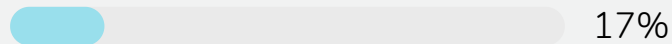
In 2021, of the total number of 5106 trauma injuries were recorded in respect of children 12 years and under.

Falls



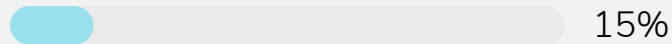
Fall injuries accounted for 41% of all injuries

Miscellaneous



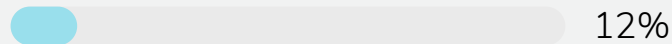
Miscellaneous includes sharp instrument, firearm, machinery, other bites, immersion/ drowning, suffocation, food foreign body, other foreign body, and other cause

Burns



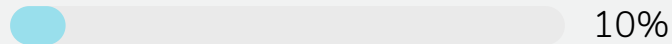
Burns were 15%

Road Traffic Crashes



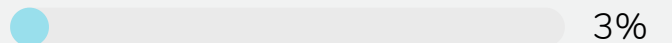
Traffic crash injuries accounted for 12%

Struck by or Caught in between



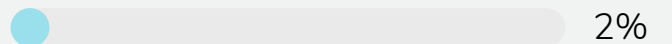
Children struck by or caught in between objects made up 10%

Assault



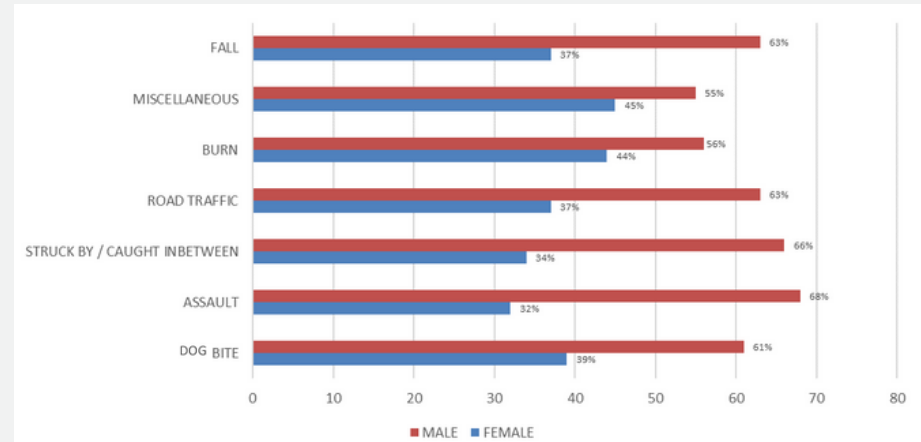
Assault injuries stood at 3%

Dog bites



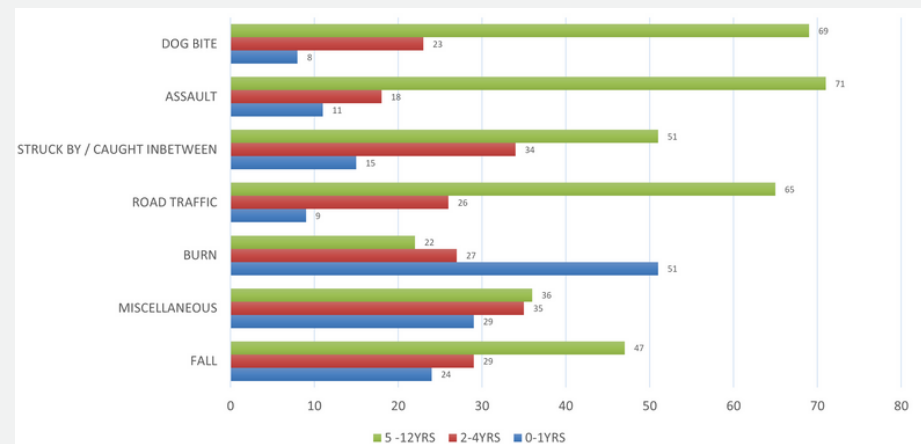
Dog bites accounted for 2%

Injury types by gender



- Boys were treated more than girls across all injury types.
- Boys accounted for 61% (1995) of the 5106 children treated; their injuries were also more severe than those of girls.

Injury types by age

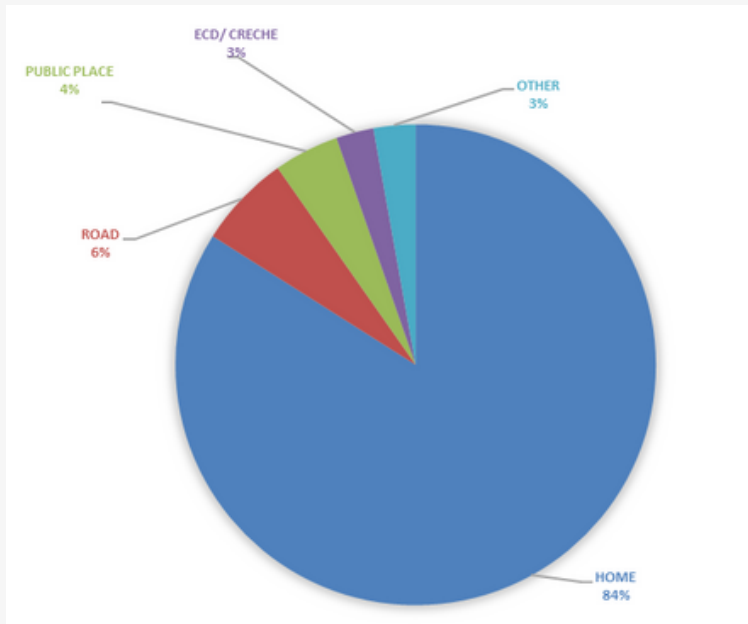


- Children between the age of 5 and 12 years accounted for 45% of injuries.
- Children aged 2 to 4 years accounted for 30 % of children treated.
- Children under 1 year accounted for 25% of injuries.

Injury types by location and comparison by age

0-4 Years

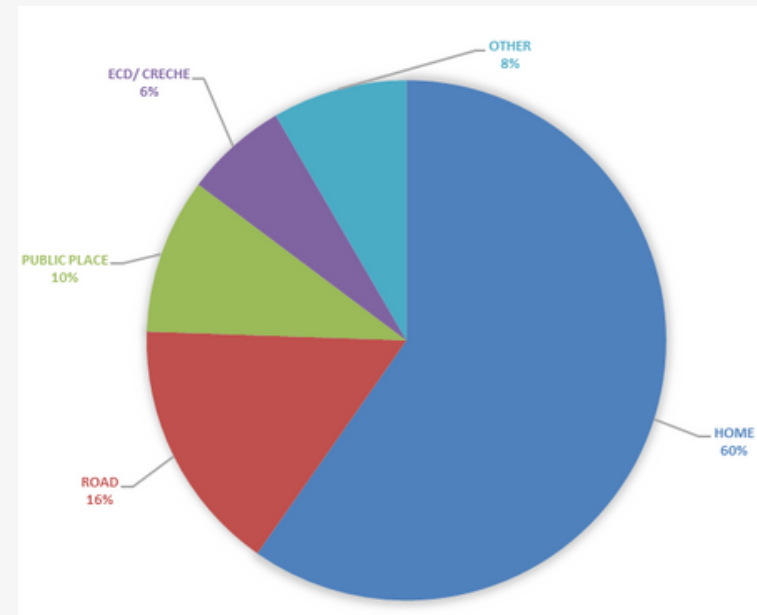
Children 0-4 years accounted for 55% of all injuries.



- 84% occurred at home, followed by 6% on the road, 4% public place,
- 3 % at ECD / creche, and other 3% on otherplaces.

5-12 Years

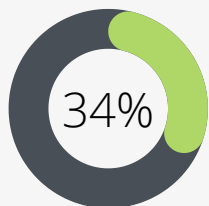
Children 5-12 years constituted 45% of all injuries.



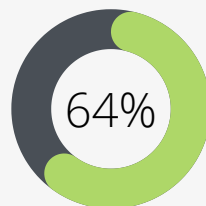
- For children between 5 and 12 years, who account for 45% of all injuries:
- 60% of injuries occurred at home,
- Followed by 16% on the road,
- 10% in public place, other 8% & school 6%.

Severity of Injury

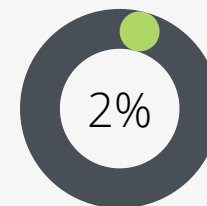
Most children (3730) 73% were injured at home, the majority of these injuries could be categorized as mortal, severe, moderate and minor.



Minor- minor injuries, all cases discharged



Moderate- all wounds requiring suturing or any other procedure, requiring theatre, all fractures



Severe- life threatening, survival probable, critical

Head Injuries

In 2021, of the total number of 5106 trauma injuries recorded in respect of children 12 years and under, of these 14% (699) were treated for head injuries.

434

Boys sustained head injuries, at almost twice the rate than 265 girls

384

Children under 5 years accounted for 55% (384) of the overall head injuries

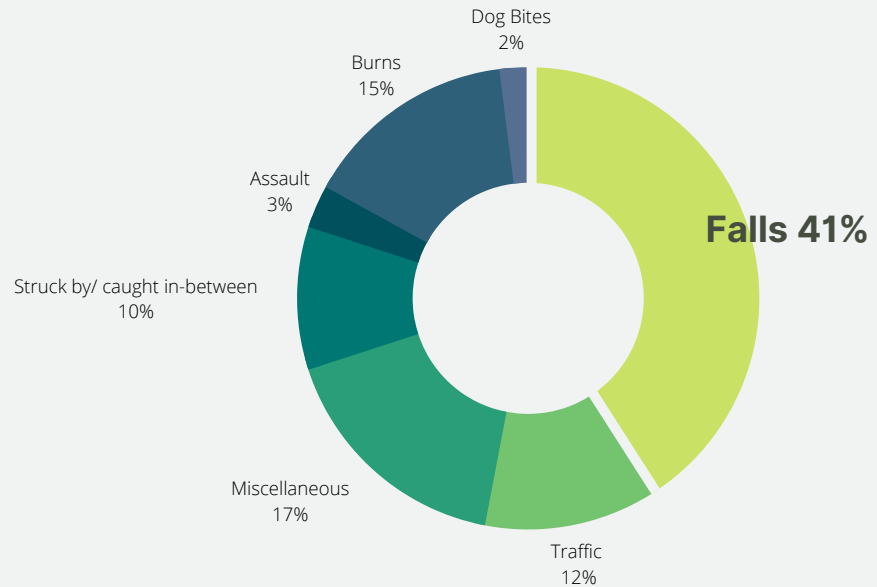
315

5 to 12-year-olds constituted 45% (315) of the overall head injuries

5

5 children died of head injuries due to pedestrian crashes

Summary of causes of head injuries



The percentage breakdown of head injuries:

- 41% as a result of falls
- 12% due to traffic-related injuries
- 17% the result of miscellaneous incidents
- 10% the result of struck by/caught in-between
- 3% the result of assault
- 15% due to burns
- 2% dog bites

Fatal Injuries : 8 Children admitted to RCWMCH and died due to preventable injuries

- 5 children died of head injuries due to pedestrian crashes,
- 1 child died of a dog bite injury (Pitbull),
- 2 children died due to flame burns

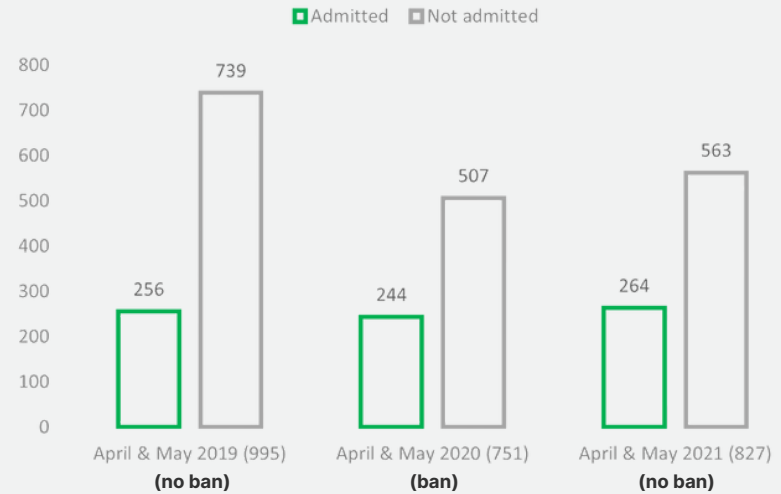
Impacts of Alcohol Ban on all injury types

South Africa imposed a comprehensive prohibition on alcohol sales at the start of the pandemic, which ran from April to June 2020. The restriction was reinstated in July 2020, but was later lifted in August 2020.

A third restriction was imposed in mid-December 2020, and it was lifted in February 2021.

During the first alcohol ban in South African from the period of April to June 2020, the RCWMCH Trauma Unit treated 751 children with 25% decrease from the previous year 2019 (995). Of 751 children, 244 children were admitted. This was a 5% decrease from 2019 (256).

The graph below shows the number of children admitted and not admitted in 2019, 2020 and 2021 during the alcohol ban period for all injuries.



In 2021, 827 children were treated with (32%) 264 admissions.

827

Children were treated

264

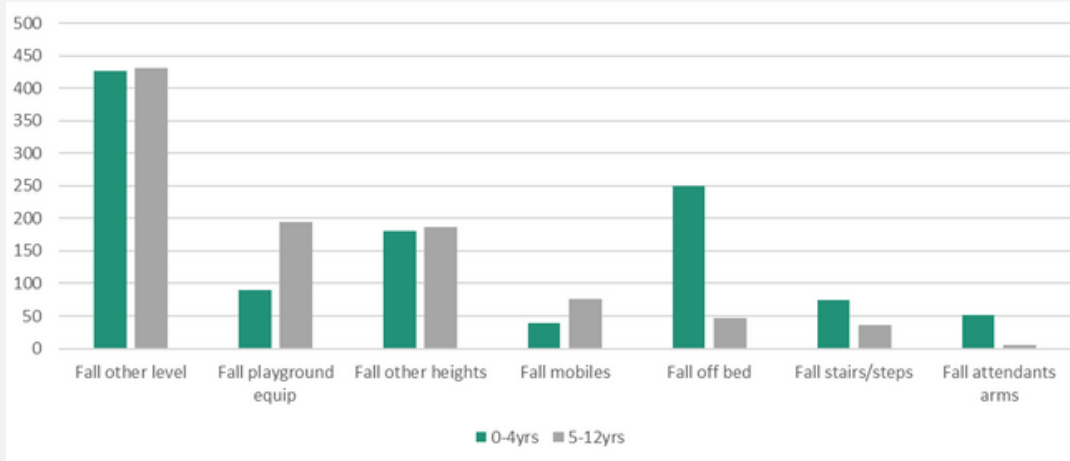
Children were admitted

All injuries	Jan-Feb 2021	Jan-Feb 2021 (%)	Jan-Feb 2022	Jan-Feb 2022(%)
Assault	28	3%	22	3%
Burns	125	14%	88	10%
Dog Bites	24	3%	14	2%
Falls	391	44%	384	45%
Miscellaneous	127	14%	134	16%
Struck By/ Caught between	83	9%	114	13%
Road Traffic	110	12%	96	11%
Total	888	100	852	100

Falls

Children aged 0 to 4 years were at greater risk of fall-related injuries in the home. Places where these falls occurred were mainly falling off beds, falling off stairs/steps, and attendants' arms were the highest amongst this age group. Children aged 5 years and over had the highest rates of playground injuries, mobiles including bicycles, scooters, etc., other height, and ground levels.

Falls injuries by age



0-4 YEARS

Were at greater risk of falls at home

76%

In both age groups, the home ranked the highest location for fall injuries

2087

Children were treated

5-12 YEARS

Were at greater risk of falling at school and on playgrounds



More boys than girls were treated for fall-related injuries

6

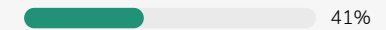
An average of 6 children are treated per day

Prevention Strategies

- Enforcement of playground equipment height and surface standards and compliance
- Reducing exposure to falls from and within homes and buildings, e.g., through stair guards and window latches
- Encouraging the use of protective equipment such as helmets when using skateboards, bikes, rollerblades or scooters, etc.
- Reducing opportunities to fall from cots beds and bunks through change in design
- Reducing the use of baby walkers

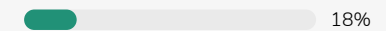
Tripping and falling

accounts for 41% of all fall injuries at ground level



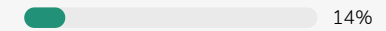
Falls from other heights

include anything above ground level but exclude bunks and stairs and is the second leading cause (18%) of injuries



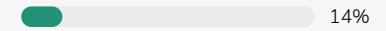
Falling off bed/bunk

accounts for 14% of fall injuries



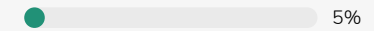
Falling off playground equipment

accounted for 14% of fall injuries



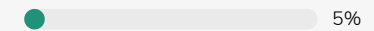
Mobile

walking rings being used by young children under 2 years account for 5%



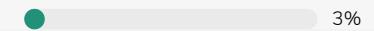
While falling downstairs

accounts for 5%



Falling out of attendants arms

account for 3%



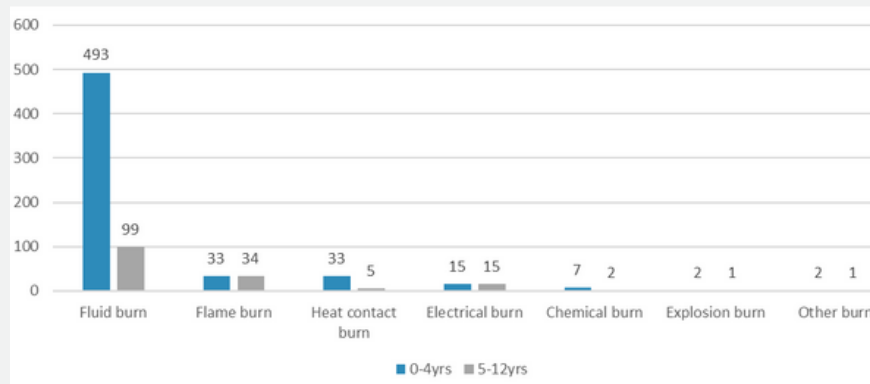
Burns

Burns was the 3rd leading cause of injury in children and accounted for (15%) treated at the Trauma Unit in 2021

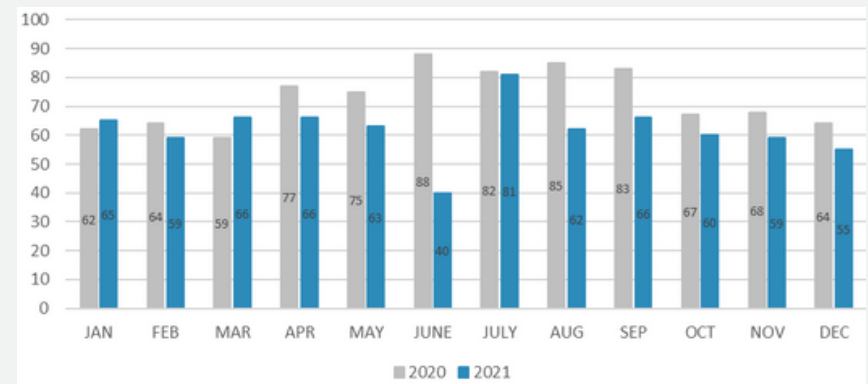
Of the under 5 years, 84% of burns were hot fluid burns. Overall, hot fluid burns accounted for 80% of all burn injuries across the age groups. All hot fluid burns happened in the home. Burn injuries occur most frequently during the winter season, between June and September when it is coldest.

Burn injuries were at their lowest in 2021 (742) with cases treated compared 880 & 874 cases treated in 2019 & 2020, respectively.

Cause of burns by age group



Burn injuries by time of year



742

Children were admitted for their burn injuries, representing 63% of all burn injuries treated

84%

Liquid burns accounted for 84% of all burns in children under 5 years

79%

Children under 5 years have the highest incidence of burn injuries

80%

Overall hot fluid burns accounted for 80% of all burn injuries across the age groups

Nearly all burns took place at home, especially in the kitchen, in children under 4 years

The severity of the burns was distributed as:

MINOR 64

MODERATE 650

SEVERE 26

MORTAL 2

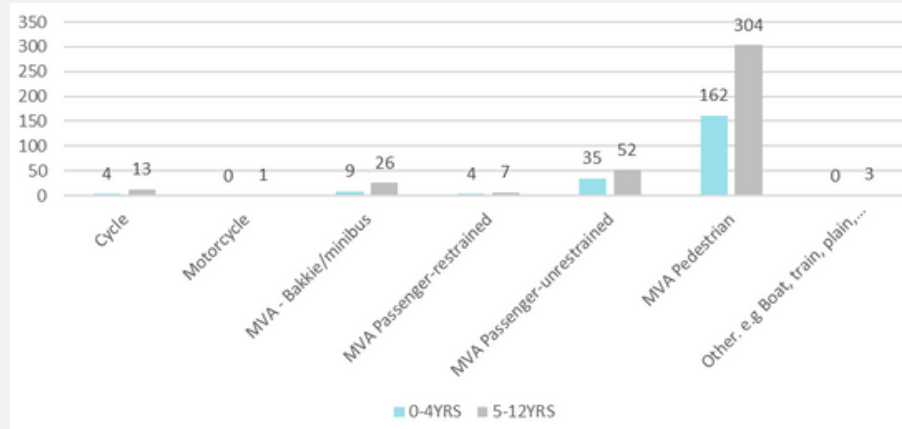
Prevention Strategies

- Using smoke alarms in all homes
- Reducing hot water temperatures to 50 degrees Celsius on hot water geysers
- Teaching parents and caregivers how to make homes burn injury free by:
 - Securing electric kettle cords out of children's reach
 - Turning pot and pan handles out of children's reach
 - Putting out the candle before leaving a room or going to sleep or using the safer candle
 - Keeping hot drinks out of children's reach
 - Keeping matches and lighters stored out of children's reach

Road Traffic Crashes

Road traffic injuries are the 4th leading cause of injury in children and account for 12% of all injuries

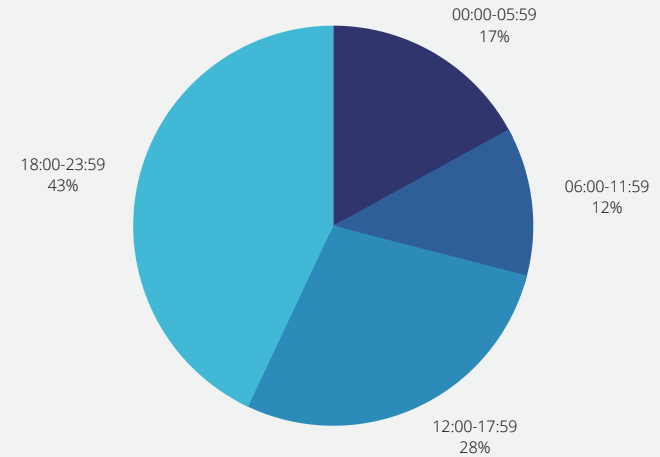
Traffic injuries by age



Pedestrian injuries amongst the 5 to 12 age group are almost 2 times the rate of injury in the under 5 age group. Most pedestrians under 5 years were injured while playing near home.

Passenger injuries in age 5 to 12 years were 1.5 times more than the rate of such injury among children under 5 years.

Time of the day for MVA pedestrian injuries



620

In 2021, 620 children were treated for traffic-related injuries, down from 677 in 2020

65%

Pedestrians were aged between 5 and 12 years

35%

Pedestrians were aged under 4 years

12%

The lowest rate of injury occurs when the majority of children are in school. While the time immediately after children leave school, shows a significant increase.

16%

Passenger injuries were 16% of traffic injuries

364

Children injured while playing on the road / pavement

75%

Pedestrian injuries accounted for 75% of all traffic injuries and 9% other

89%

Of the child passengers treated at RCWMCH Trauma Unit, 89% were unrestrained

Prevention Strategies

We could improve pedestrian safety through:

- Reduction of speed limits in residential areas and school zones, and improving enforcement of regulations
- Separating pedestrian access paths from vehicle driveway
- Separating driveways from garden areas and play areas
- Training children to be safe on the road
- Continuous community awareness programmes around children as road users

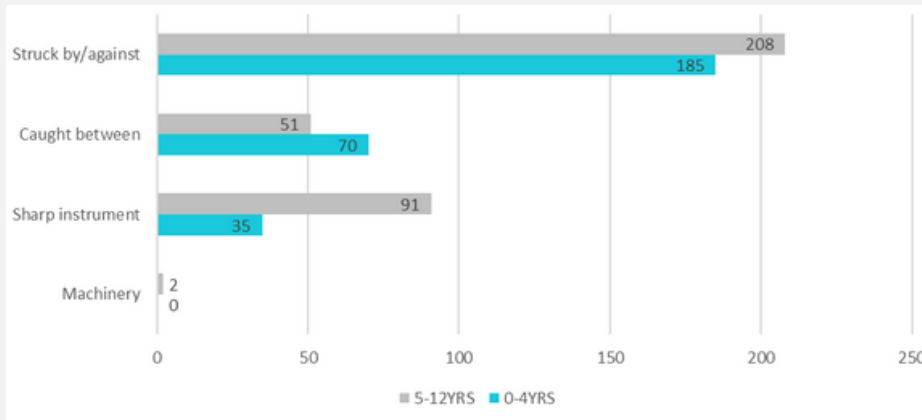
We could improve passenger safety through:

- Raising awareness of drivers of the need to use child restraints
- Amending legislation for use of child restraints until the child reaches the height of 148cm
- Encouraging drivers to become aware of their driving behaviour
- Enforcing alcohol limits for drivers
- Traffic calming measures on roads (speed bumps etc.)

* **MVA-Motor Vehicle Accident**

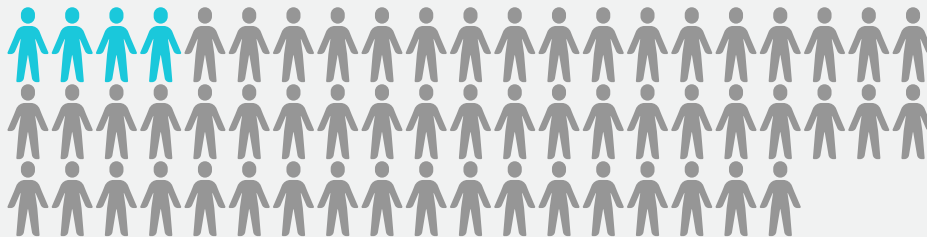
Mechanical Forces

Leading cause of mechanical injury by age group



642

Children were treated for mechanical force injuries at RCWMCH.



Older children were more often injured from contact with glass or being struck against or by objects (e.g., doors and sports equipment)



Boys were injured twice as frequently as girls

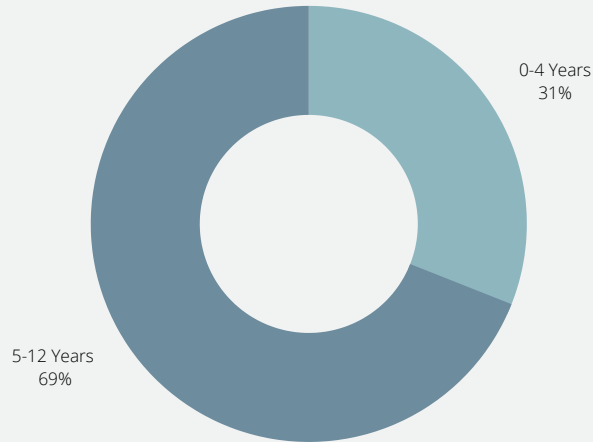
Prevention Strategies

- Using safety glass in homes in furniture, windows, and doors
- Home visitation programmes to support parents to create a safer home environment
- Spotting and removing sharp and pointed objects at home and play areas

Dog Bites

Dog bites were the 7th leading cause of injury in 2021

Dog bite injury by age group



Boys are 1.5 times more likely to be bitten by dogs compared to girls

20%

of children were admitted to hospital for injuries

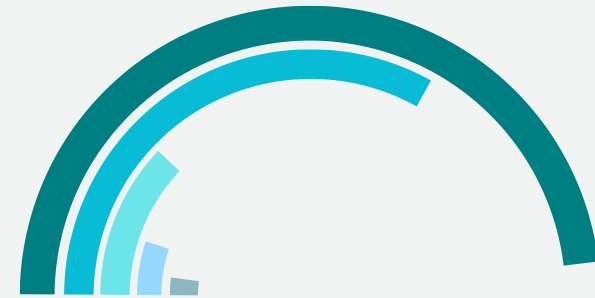
122

children were treated for dog bites

69%

Children between the ages of 5 and 12 years were more likely to be treated for dog bites, accounting for 69% of injuries due to dog bites

Dog bite injury by location



48%

Own home

33%

Other home

12%

Other

5%

Road/pavement

2%

Public place

The dog bite injuries happened at the child's home in 48% of the cases, at another home 33% of cases, and in a public place, a road, and other 19% of cases

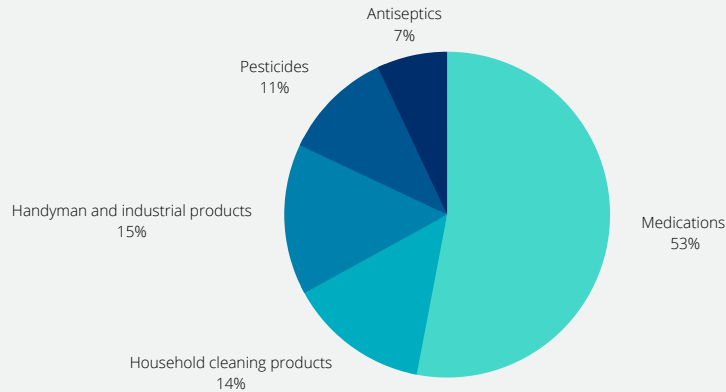
Prevention Strategies

- Never leave a small child alone with a dog, no matter, if it is the family dog, a dog that is known to you, or even a dog that you have been assured, is well behaved. Any dog can bite
- Educate families on neutering male dogs and spaying of female dogs. This will lessen the roaming tendencies
- Educate children on how to interact with unfamiliar and pet dogs
- Not allow children to play aggressive games with a dog, such as a tug-of-war or wrestling, as this can lead to bites
- Teach children to ask a dog owner for permission before petting any dog
- Take dogs for training and exercise
- Do not interfere with a dog having its meal or water
- Do not scream at dogs

Poisoning

The Poisons Information Helpline (PIH) is a 24/7 telephonic service available to give advice on how to treat acute poisoning. The PIH receives about 1,000 call per month from throughout South Africa, one third from the public and two-thirds from doctors and nurses.

Poisoning Type



344 children were treated for ingestion of poisonous substances in 2021



Poisoning is most frequently caused by the ingestion of various medicines, household cleaning materials, paraffin and pesticides.

The most common medicines swallowed were medicines meant to be used on the skin (e.g. scabies preparations and calamine) at 19%, pain medicines (14%), psychiatric medicines (14%), cold/flu remedies (10%) and vitamins (10%).

53%

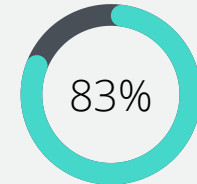
PIH calls were most frequently due to medicines

15%

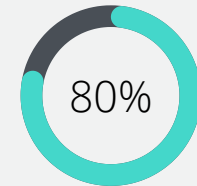
Handyman and industrial products

14%

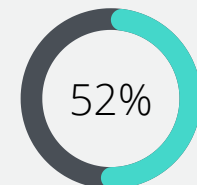
Household cleaning products



83% were asymptomatic or mildly symptomatic.



Poisoning disproportionately affects younger children; 80% were under 5 years.



Boys (52%) were treated more frequently than girls (48%).

Prevention Strategies

- Locking medications, industrial and cleaning materials away in cupboards, out of a child's reach
- Making use of child resistant packaging
- Storing toxic substances in their original packaging

Contact the Poison Information Helpline for expert information on 0861 555 777

Call to Action

The data recorded in this report informs the decisions around ChildSafe South Africa's programmatic interventions.

Much more educational interventions are needed to create greater awareness around accident prevention strategies. Support us in this important education!

[Email info@childsafe.org.za](mailto:info@childsafe.org.za) using **Data Report in the subject line**

ChildSafe programmes and interventions 2021/2022

- Home and Child Safety training
- Upskilling of Early Childhood Development (ECD) centre practitioners and teachers
- Training of ECD practitioners and teachers in Paediatric First Aid
- Encouraging safe and responsible driver behaviour through the Safe Travel to School programme
- Contributing to the United Nations Global Plan – Decade of Action for Road Safety 2021-2030 through the Walking Safely to school programme, through implementing Safe Systems Approach interventions for pedestrian safety and education
- Encourage and advocating for safer pedestrian, passenger and driver safety interventions through education working in a collaborative way with partners and stakeholders.

MySchool MyVillage MyPlanet

ChildSafe is a registered MySchool MyVillage MyPlanet beneficiary.

Please add us as a beneficiary on your card.



SnapScan

You can make a once off or recurring donation to us via Snap Scan.



Snap here to pay

 SnapScan

About ChildSafe

ChildSafe South Africa, an injury prevention unit based at the Red Cross War Memorial Children's Hospital is a non-profit organization that aims to reduce and prevent injuries of children through research, education and recommendations to legislation. We work with other non-profits, government, corporates and communities to achieve this. Our core focus though is the prevention of unintentional injuries that are usually regarded as accidents, such as, burns, falls, drowning, road traffic crashes, choking and poisoning.

**We are extremely grateful of our existing and loyal partners who believe in our "why".
With your ongoing support we will be able to see even greater impact this year!**

Medical Emergency: 10177

Emergency from Cell: 112

**Poison Information Helpline:
0861 555 777**

Enquiries: info@childsafesouthafrica.org.za

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Red Cross War Memorial Children's Hospital,
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NPO: 003-467 PBO Number: 18/11/13/4312



Growing Safely

Watch that child: children are not small adults



Don't handle hot drinks while holding baby.

0 to 6 months

- Needs 100% protection
- Rolls over
- Reaches for objects
- Puts objects in mouth



Car safety seats for newborns face to the back of the car.



Watch that child during bathing.



Read medicine labels and instructions carefully.

Babies roll over quickly - always watch them.



6 months to 1 year

- Sits up
- Crawls
- Pulls up to stand
- Takes first steps when holding on



Use a car safety seat correctly for every trip.



Empty buckets after use.



Keep handbags out of reach.



Use gates on stairs to prevent falls.



Keep electric cords out of reach.

1 to 2 years

- No idea of danger
- Walks and climbs
- Turns knobs and taps
- Imitates



Do not hold baby on your lap.



Turn pot handles to back of stove.



Be careful what you leave on the floor.



Safe-guard all windows.



Keep children safe near water.

2 to 3 years

- Quick and unpredictable
- Adventurous
- Jumps
- Runs
- Climbs



Have a safe play area away from traffic.



Watch that child near water.



Keep children away from flame stoves.



Use a bunk bed with safety rails.



Store paraffin bottles away from children.

3 to 6 years

- Fearless
- Explores with little thought of danger
- Fast
- Smart



Watch that child near the road.



Candles and matches are not toys - store safely.



Watch that child play safely.



Teach children to swim.



Keep household cleaning products up and out of reach.

Keep your family Savlon Safe
Johnson & Johnson



CHILD ACCIDENT PREVENTION FOUNDATION OF SOUTHERN AFRICA
CAPSA Tel: 021 6850208

Illustration by Ndebele Design and Illustration



Health Promotion (HDC) Programme Government of the Western Cape