

2019 Childhood Injury Data Report

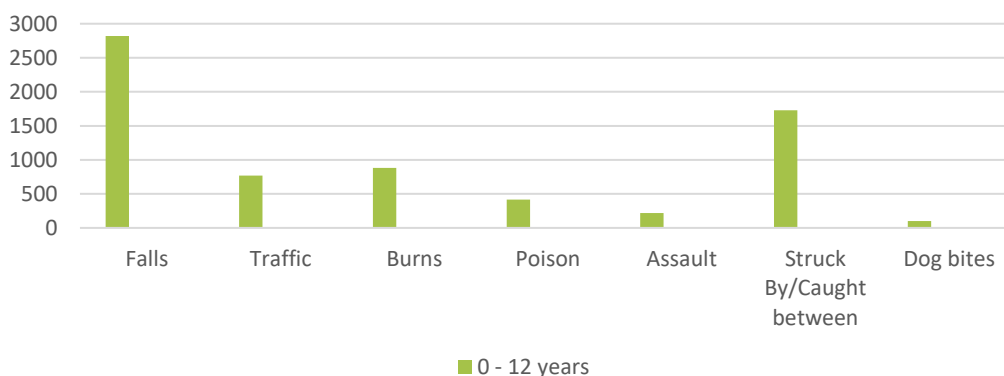
The collection of child injury data plays an important role in the development of strategies to prevent and minimise children's injuries. It relies on efficient and reliable data systems such as those of ChildSafe and the Poisons Information Centre at the Red Cross War Memorial Children's Hospital (RCWMCH). Through the analysis of data, injury trends can be noted as well as the effects of injury prevention programs. This report was compiled through a collaboration between ChildSafe, RCWMCH Trauma and Paediatric Units, and the Poisons Information Centre.

The World Report on Child Injury Prevention outlines that the five most common causes of injury amongst children worldwide are transport injuries, drowning, burns, falls and poisoning, which closely aligns with the injury statistics reported in this report. Injuries are a leading cause of death and disability among children in South Africa. During the study period, on average 18 children per day were attended to at the RCWMCH Trauma Unit, 6568 children were treated during this period, 1873 injuries required hospital admission and 6 children died of their injuries.

A close analysis of the most recent five-year study period shows an overall 15% reduction in the number of child injuries. The reduction excludes fall injuries though, which show a consistent annual increase of 2%.

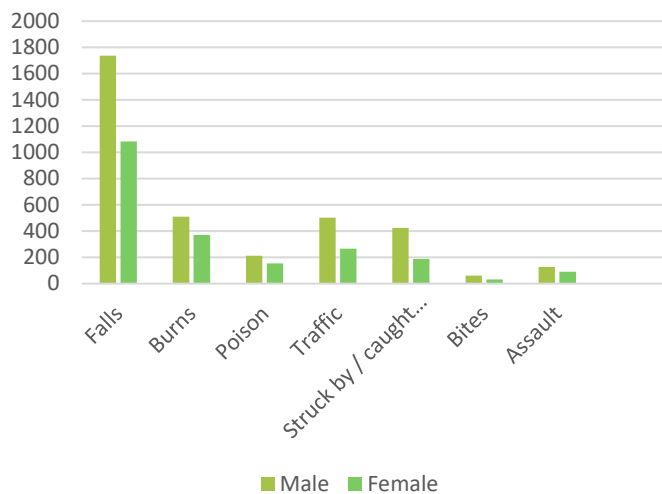
While this overall decrease is a cause for optimism, much work is still needed to reach decision makers, communities, caregivers/parents and children to raise awareness around child injury prevention. Data shows individual injury type numbers remain high.

2019 Injuries by cause for children aged 0 to 12 years



In 2019 fall injuries accounted for 43% of all injuries, children struck by or caught between objects for 28%, burns for 14%, traffic crash injuries at 12%, poisoning for 6%, assault, 4% and dog bites for 2%. The 15 locations with the highest child injury rates were all located in what is called the Cape Flats. Athlone had the highest number at 845 child injuries.

All injuries by gender

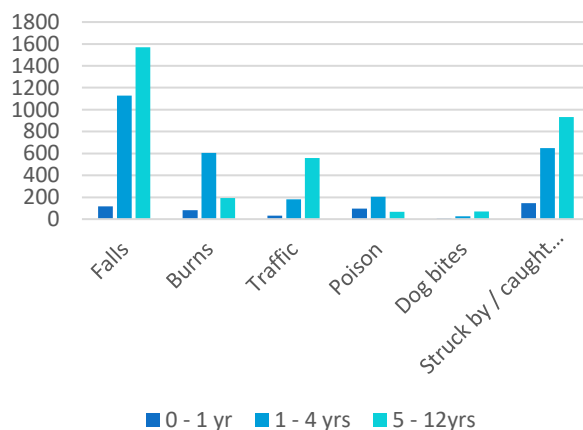


Boys were treated 1.5 times more than girls across all injury types, except sexual assault; in some cases, the ratio was as high as 2.5;

Girls accounted for all the sexual assault injuries.

Boys accounted for 60% (3992) of the 6568 children treated; their injuries were also more severe than those of girls.

All injury by age

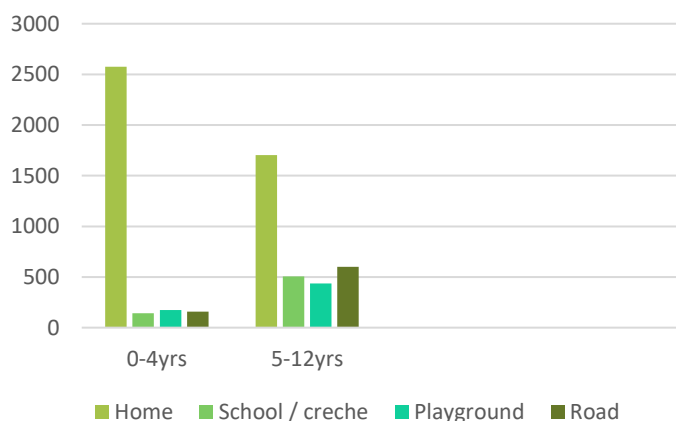


Children between the age of 5 and 12 years accounted for 52% of injuries.

Children aged 1 to 4 years accounted for 41% of children treated.

Children under 1 year accounted for 7% of injuries.

Location of injury by age



In children under 4 years, 85% of injuries occurred at home, followed by 3% at ECD / creche, 6% on the playground and 6% on the road.

For children between 5 and 12 years, 55% of injuries occur at home, followed by 20% on the road, 13% at school and school and 12% on the playground.

6 Children died due to preventable injuries

In 2019, 6 children died; 3 died of head injuries due to pedestrian crashes, 1 died of a firearm injury, 1 died after being struck by an object; and 1 was declared dead on arrival at the hospital.

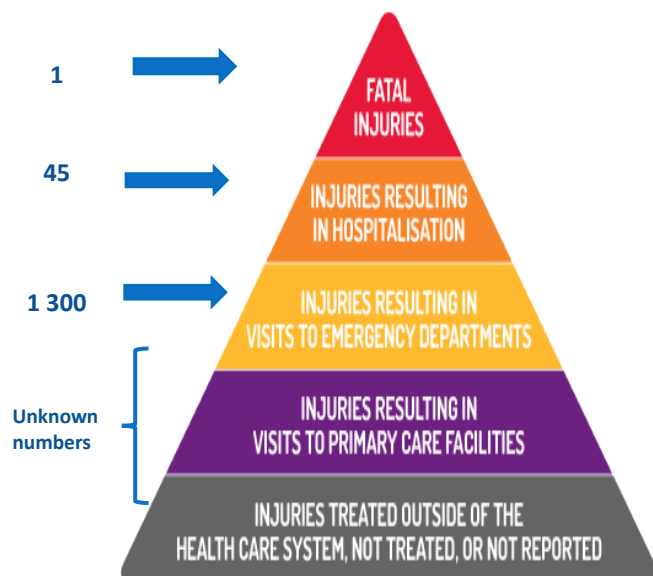
While the ChildSafe data show overwhelming numbers of child injuries for one hospital, it is worth bearing in mind that it is only the tip of the iceberg.

Pyramid of injury

Death is the most prominent measure of injury, but death is not the only outcome of injury, nor the most common one.

Injury is often represented as a pyramid, with the smallest outcome, death, at the top.

The Child Safety Network¹ showed that for every child who was fatality injured, 45 other children required hospitalization, further 1300 were seen in trauma units and countless others were treated outside the health care system or not treated at all.



Unicef² in 2008 further showed that for every death there are approx. 12 children permanently disabled.

Head Injuries

In 2019, 763 head injuries were treated.

3 children died of head injuries.

Children under 5 years accounted for 55% (421) of the overall head injuries and 5 to 12 -year olds for 45% (342).

60% of the head injuries were as a result of falls, 27% due to traffic related injuries, 3% due to assault.

Boys (480) sustained head injuries at almost twice the rate than girls (283)

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 Innocenti Research Centre, 2007.

The report assessed data with a prevention approach by summarizing key injury data points, along with suggested prevention interventions for each injury. The rationale being that there are not enough child injury prevention practitioners, we must therefore use every opportunity to raise awareness and share strategies which works; and it is meaningless to publish data only, while strategies exist that have been show to work and can reduce the number of injuries.

The importance of a prevention approach

Improving child safety is far more complex than previously recognized. Rather than an overreliance on simple solutions, effective child injury prevention requires dynamic solutions that address the complex contexts in which children are injured. Therefore, multifaceted interventions are more effective in reducing injury.

ChildSafe's aim is to identify and focus on evidence-informed good practice and strategies most likely to reduce childhood injuries. Globally, there are seven proven and promising strategies to reduce intentional injuries:

1. Environmental modifications – to make the world more child and family friendly. This can include introducing traffic calming measures and reducing the speed limit.
2. Product modification – for example child-resistant caps on medication or containers of poisonous substances.
3. Legislation, regulation and enforcement – these are considered the most effective strategies, especially when enforced and used in combination with other strategies e.g. the law that requires mandatory child restraint use in passenger cars
4. Promoting safety devices – such as bike helmets or child restraints.
5. Home visits to families of young children, where information provided is age appropriate and combines with strategies such as provision of free safety equipment.
6. Community-based interventions – with a focus on changing community values and behaviours, along with the children's environment
7. Education and skills development – this can work well if combined with other strategies with a focus on targeted community interventions for children and parents, in health and education settings.

Falls

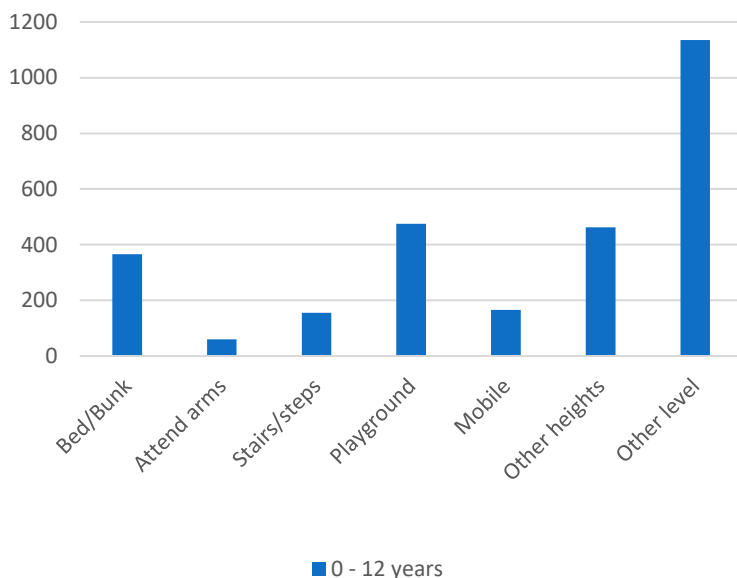
Summary

- Falls are by far the leading cause of child injury at the Red Cross Hospital.
- In 2019, 2 819 children were treated for falls, a 5% increase on 2018.
- Falls account for 47% of all injuries for this period, with approximately 8 children treated per day.
- Children aged 0 to 5 years were at greater risk of fall-related injuries.
- 64% of falls took place at home, 17% at playgrounds and 16% at schools. Children 0 to 4 were at greater risk of falls at home and age group 5 to 12 years was at greater risk of falling at school and on playgrounds.
- In both age groups the home rated the highest for place where fall injuries occurred. School and playgrounds showed the highest injury rates in the 5 to 12 age group.
- Injuries from tripping, slipping or stumbling on the same level accounted for 40% of fall injuries and occurred equally across age groups.
- Fall injuries due to playground equipment accounted for 17% of injuries, mainly in age group 5 to 9 years.
- More boys than girls were treated for fall related injuries.
- Falls accounted for 60% of head injuries.

We could reduce the burden of fall injuries through:

- Playground equipment height and surface standards and compliance – good evidence exists.
- Reducing exposure to falls from and within homes and buildings, e.g. through stair guards and window latches.
- Encouraging use of protective equipment such as helmets when using skateboards and scooters for example.
- Reducing the use of baby walkers.
- Reducing opportunities to fall from cots, beds and bunks

Leading cause of injury



Tripping and falling accounts for 40% of all fall injuries,

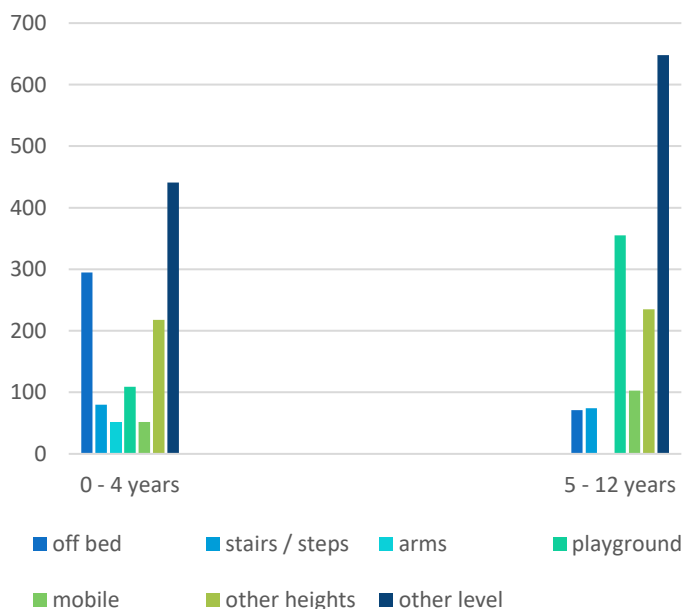
Playground equipment is second leading cause at 17% of injuries

Falling off heights accounted for 17% of fall injuries

Mobiles (walking rings) being used by young children under 2 years account for 6%

While falling downstairs for 5% and falling out of attendants arms account for 3%.

Leading cause of fall injury by age



Children aged 0 to 5 years were at greater risk of fall related injuries in the home; falling off beds and mobile was the highest amongst this age group.

Children between 5 and 12 years had the highest rates of playground injuries.

Across both age groups tripping and falling, and falling from heights, occurred with the same frequency.

Burns

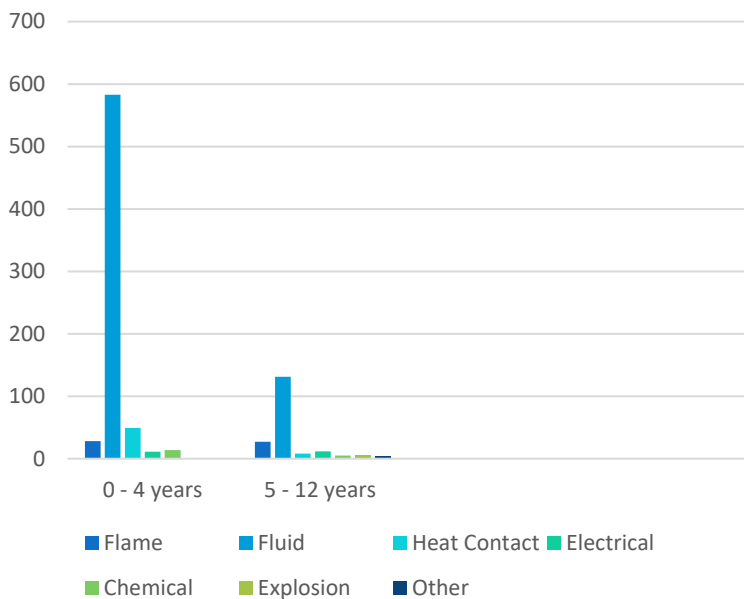
Summary

- Burns were the 3rd leading cause of injury in children (16%) treated at the hospital in 2019.
- Burn injuries were at their lowest in 2019 over a 5- year period at 880 cases treated, whereas 1117 were treated in 2018.
- 531 children were admitted for their burn injuries, representing 60% of all burn injuries treated.
- Boys were more affected than girls; 76% of children hospitalised for fire burn injuries were boys.
- Liquid burns accounted for 80% of all burns in children under 9 years.
- 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 (185), moderate (1283), severe (52).
- The winter period of June to September had highest number of burn cases.
- Boys and younger children are at higher risk of fire related injury.

We can reduce the burden of burn injuries through:

- 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.
- Securing electric kettle cords out of children's reach
- Turning pot and pan handles out of children's reach
- Putting out candles before leaving a room or going to sleep
- Keeping hot drinks out of children's reach
- Keeping matches and lighters stored out of children's reach

Cause of burns by age group



Children under 5 years have highest incidence of burn injuries (89%).

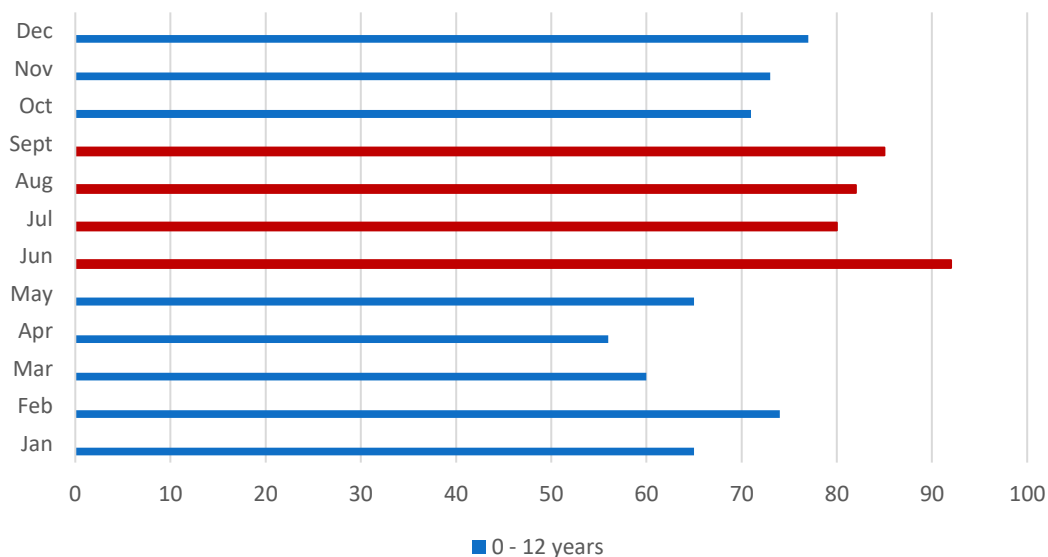
Of the under 5 years, 85% of burns were hot fluid burns

Overall hot fluid burns accounted for 83% of all burn injuries across the age groups

All hot fluid burns happened in the home

Burn injuries by time of year

Burn injuries occur most frequently during the winter season (green), between June and September, when it is coldest.



Road traffic crashes

Summary

- Road traffic injuries are the 4th leading cause of injury in children and account for 14% of all injuries.
- In 2019, 771 children were treated for traffic related injuries, down from 892 in 2018.
- Pedestrian injuries accounted for 72% of all traffic injuries.
- 71% of pedestrians were aged between 5 and 12 years, and 39% under 4 years.
- Passenger injuries were 24% of traffic injuries.
- Other 4% made up of cycle, motorcycle, etc.
- Of the child passengers treated, only 13% were in car seats.

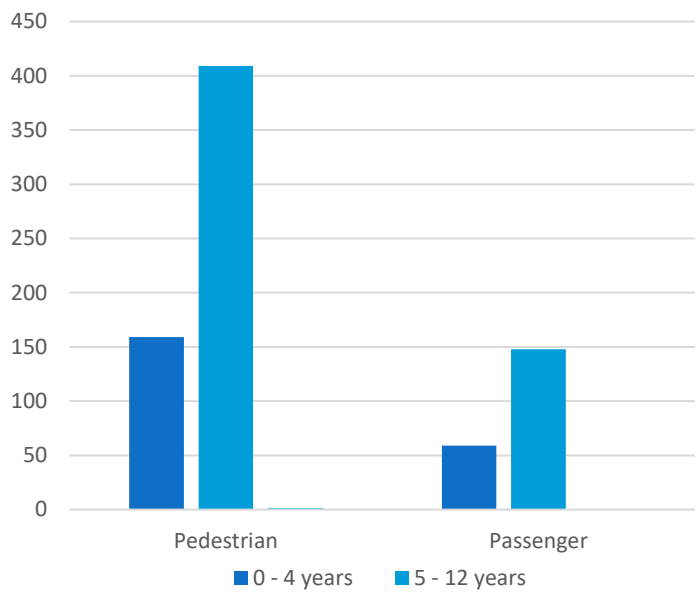
We could improve pedestrian safety through:

- Reduction of speed limits in residential areas and school zones, and improving enforcement of regulations
- Separating pedestrian access paths from vehicle driveways.
- 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 reduce the child injury burden from motor vehicle crashes through:

- Raising awareness of drivers of the need to use child restraints.
- Correct use of child restraints.
- Enforcing alcohol limits for drivers.
- Traffic calming techniques.
- Amending legislation for the mandatory use of child restraints until the child reaches 148cm in height.

Traffic injuries by age



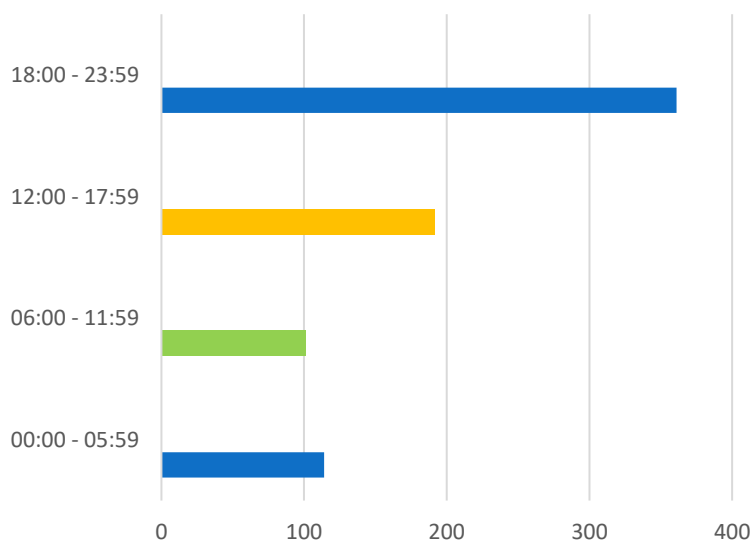
Pedestrian injuries were highest amongst the 5 to 12 age group and over 2.5 times the rate of injury in the under 5 group.

Pedestrians under 4 years were all injured while playing near home.

120 children injured while playing outside home, motor vehicle injury sustained in the yard – eg when car reverse without seeing child playing in driveway, 2 were under the age of 1

Passenger injuries in age 5 to 12 years were 3 times the rate of children under 5 years.

Time of day for traffic injuries



The time of day when majority of children are in school has the lowest rate of injury (in green),

The time immediately when children leave school, shows a significant increase (orange)

The time when homebound traffic increases, is also an increase in injuries

Poisoning

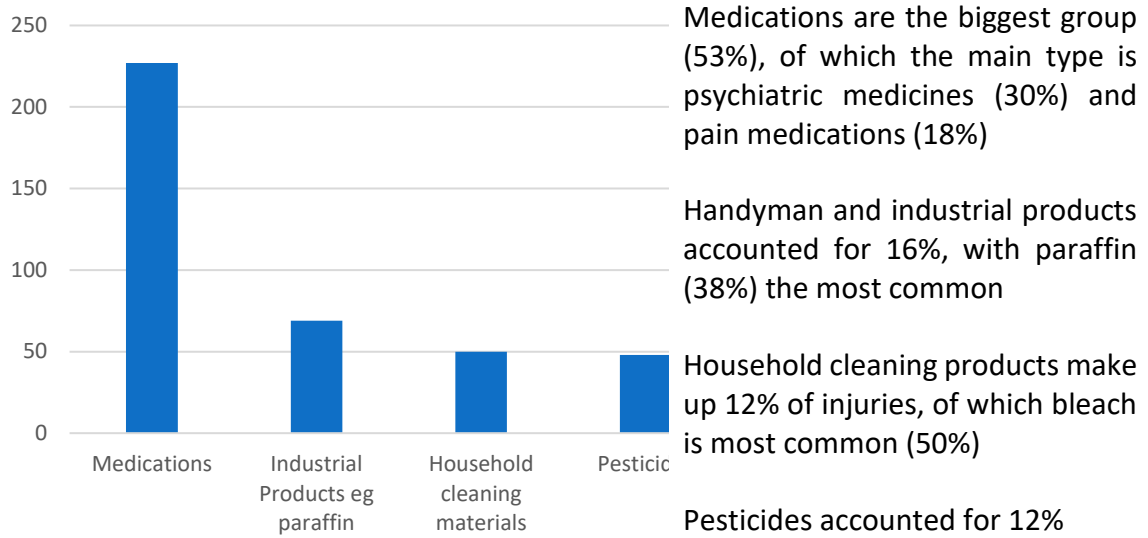
Summary

- Poisoning is the 5th leading cause of injury in children aged 0 to 12 years.
- In 2019, 417 children were treated for ingestion of poisonous substances
- The majority (83%) were asymptomatic or mild symptoms; 21 (6%) cases were severe, of which 33% were due to pesticides
- Poisoning disproportionately affects younger children; 80% were under 5 years.
- Boys were treated 1.5 times more frequently than girls.
- Poisoning is most frequently caused by the ingestion of various medicines, household cleaning materials, paraffin and pesticides.
- The Poison Information Helpline (PIH), run partly by the Poisons Information Centre at RCWMCH, received 12,013 calls from across the country in 2019 of which 43% (5,152 calls) concerned children under 5 years. Children between 5-12 years accounted for another 7% (871 calls) resulting in 50% of all calls being about children up to 12 years. PIH data for children 12 years and younger showed that 86% were under 5 years.
- PIH calls were most frequently due to medicines (39%), household products (15%) and pesticides (12%).
- On the PIH, 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%).

We could reduce the burden of poisoning in young children through:

- Locking medications, industrial and cleaning materials away in cupboards, out of child 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.

Poisoning by type



Mechanical forces – crushing, cutting, piercing, jamming injuries from objects

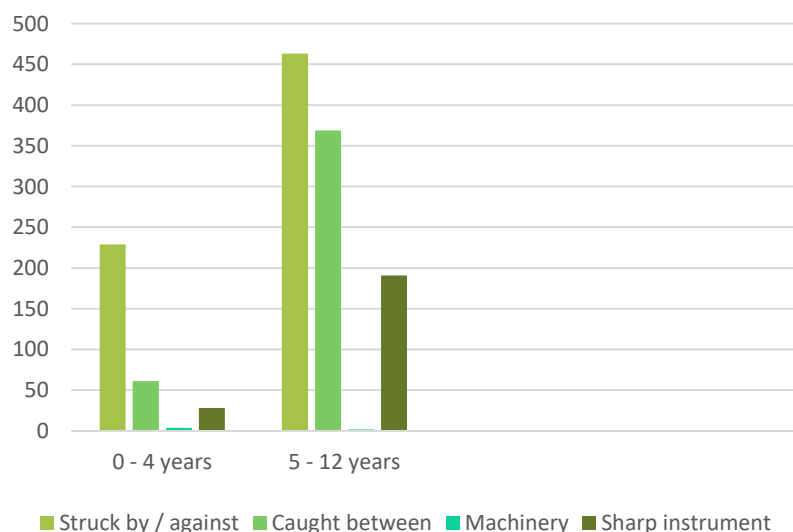
Summary

- This is the 2nd leading cause of injury in children.
- 1 730 children were treated for mechanical force injuries.
- Children under 5 years have the highest rate of mechanical force injury and are especially prone to being caught, crushed, jammed, or pinched between objects.
- Older children were more often injured from contact with glass or being struck against or by objects (eg sports equipment).
- Boys were injured 1.5 times as frequently as girls.

We can help prevent mechanical force injuries in children by:

- 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.

Leading cause of injury by age group



Children 5 to 12 years were injured 1.5 times more than younger children

Nearly 50% of injuries in under 4 years were caused by being struck by an object, pinched or jammed between objects

Contact with sharp instruments and objects were 5 times higher in children 5 years and older, than the younger group

Dog bites

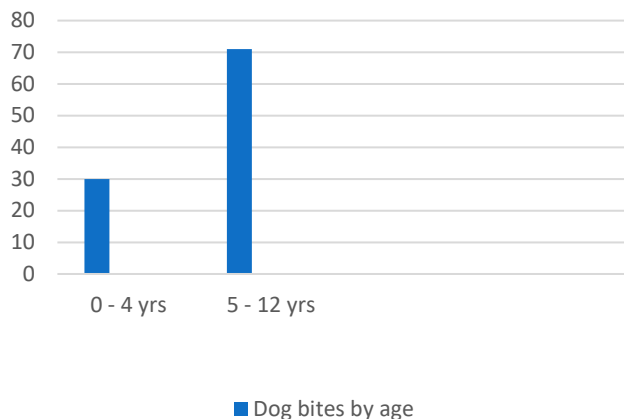
Summary

- Dog bites were the 7th leading cause of injury in 2019.
- In 2019, 101 children were treated for dog bites.
- Children between the ages of 5 and 12 years were twice as likely to be treated for dog bites, accounting for 70% of all the dog bites.
- The dog bite injuries happened at the child's home in 70% of the cases, at another home in 11% of cases, and in a public place or a road in 19% of cases.
- Boys were injured through dog bites at twice the rate of girls.
- 42% of children were bitten on the lower body, thighs, hips, knees and ankles.
- 30% of children were bitten in the face, scalp and neck. Majority of these children were under 5 years. 20% had upper body, including the arm, injuries.
- 26% of children were admitted to hospital for injuries.

To help prevent dog bite injuries in children we should:

- 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 avoid choosing unsafe breeds as pets.
- Educate children on how to interact with unfamiliar and pet dogs
- Not allow children to play aggressive games with a dog, such as tug-of-war or wrestling, as this can lead to bites.
- Teach children to ask a dog owner for permission before petting any dog.

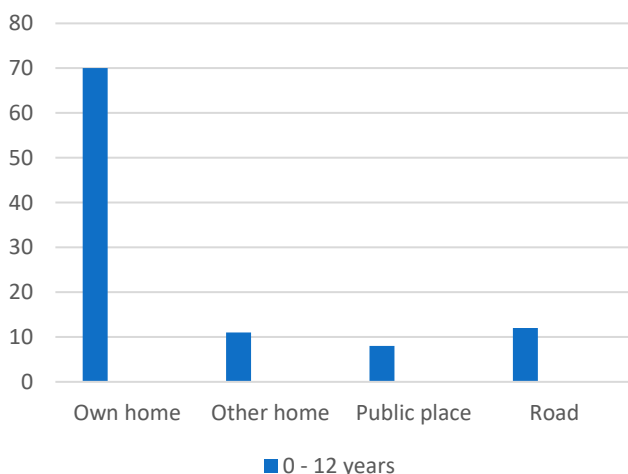
Dog bite injury by age



Children between the ages of 5 and 12 years are over twice as frequently injured through dog bites than younger children.

Children in general are most frequently bit in the face, neck and head.

Dog bite injury by location



Dog bite injuries happened at the child’s home in 70% of the cases, which indicates that the that the dog was likely known to the child,

11% of injuries happened at another home,

19% of cases were in a public place or on a road.

Conclusion

While children can never be entirely protected from injury, research has shown that a significant portion of unintentional injuries are preventable. It is ChildSafe's hope that routine data sharing of child injury can illustrate the importance of data collection, standardization and quality. Data on the circumstances of injury, location and community details, can all work toward a systematic surveillance of child injury to inform our prevention and response interventions. Quality, routine data can also highlight the importance of adequately resourcing policies and programs to reduce the burden that child injuries place on the government system.

Prevention guided by strong data is critical. Prevention safety strategies designed specifically for children which consider various developmental issues, risk taking behaviours, levels of activity and the child's degree of dependence are important for success. If we simply replicate safety strategies designed for adults, we cannot provide adequate protection for children. The most effective programs for reducing childhood deaths and hospitalisations are those that consider childhood vulnerabilities and use a multidisciplinary approach.

The World Report on Child Injury Prevention advises that there is no single strategy for success, but six basic principles that when done together can be successful in preventing child injuries:

1. Legislation and regulations, and their enforcement
2. Product modification
3. Environmental modification
4. Supportive home visits
5. The promotion of safety devices
6. Education and the teaching of skills.

We need to continue to focus on evidence-based interventions and sustained investment in injury prevention and control for children. Injury prevention strategies need to be designed to target the specific needs of different groups where injury rates are significantly higher and ensure that there is ongoing community engagement with the communities.

We also need to consider the general population and ensure that we continue to focus on providing contemporary programs and interventions for all new parents to ensure the safety of generations to come.

While still allowing children to grow, develop, take risks and play, we can achieve a greater reduction in injuries and a reduced burden on the health system and emotional toll on families who must deal with the loss/serious injuries of a child.