Queensland
Family & Child
Commission

ANNUAL REPORT

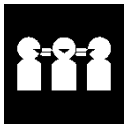
Deaths of children and young people Queensland

2017—18

Queensland
Government

About this Report

This report has been prepared under section 29 of the *Family and Child Commission Act 2014*. It describes information on the deaths of children and young people in Queensland registered in the period 1 July 2017 to 30 June 2018.



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We value the views of our readers and invite you to give us feedback on this report.

Contact for enquiries

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Queensland Government

Queensland
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31 October 2018

The Honourable Yvette D'Ath MP
Attorney-General and Minister for Justice
Leader of the House
1 William Street
BRISBANE QLD 4000

Dear Attorney-General

In accordance with section 29(1) of the *Family and Child Commission Act 2014*, I provide to you the Queensland Family and Child Commission's annual report analysing the deaths of Queensland children and young people.

The report analyses the deaths of all children and young people in Queensland registered in the period 1 July 2017 to 30 June 2018, with a particular focus on external (non-natural) causes.

I draw your attention to section 29(7) of the *Family and Child Commission Act 2014* which requires you to table this report in the Parliament within 14 sitting days.

Yours sincerely

Cheryl Vardon
Principal Commissioner
Queensland Family and Child Commission

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Acknowledgements

The Queensland Family and Child Commission (QFCC) acknowledges the unique and diverse cultures of Aboriginal and Torres Strait Islander peoples and notes, throughout this document, the term Aboriginal and Torres Strait Islander has been used to collectively describe two distinct groups of people. The QFCC respects the beliefs of the Aboriginal and Torres Strait Islander peoples and advises there is information regarding Aboriginal and Torres Strait Islander deceased people in this report.

The QFCC would like to thank the government departments and non-government organisations who contributed data and provided advice for this report. Particular appreciation is expressed to officers from the Registry of Births, Deaths and Marriages; the Office of the State Coroner; the Queensland Police Service; Queensland Health; the Department of Child Safety, Youth and Women (DCSYW); the Australian Bureau of Statistics (ABS); and Queensland Treasury. The Victorian Department of Justice and Regulation is also acknowledged as administrators of the National Coronial Information System.

The QFCC would like to acknowledge the researchers contributing to child death prevention research, including the following agencies and individuals whose research is referenced in this report:

- Royal Life Saving Australia
- Queensland Paediatric Quality Council, Infant Mortality Sub-Committee
- Queensland Sentencing Advisory Council
- Associate Professor James Scott
- Dr Samantha Batchelor
- Ms Leda Barnett.

The QFCC would also like to acknowledge the contribution of data from other Australian and New Zealand agencies and committees which perform similar child death review functions. This data has been compiled for an inter-jurisdictional overview representing further steps towards developing a nationally comparable child death review dataset. The overview is available online at https://www.qfcc.qld.gov.au/ on the child death reports and data page.

The contribution of officers from the QFCC's Family and Child Research team who maintained the Queensland Child Death Register, analysed the data and prepared the report is also acknowledged and appreciated.

Foreword

On behalf of the Queensland Family and Child Commission, I would like to extend my sincere condolences to the families, carers and friends of children and young people who have passed away. It is my hope that this report will contribute to an understanding of child deaths and how to prevent them.

The death of a child under any circumstances is a tragedy. The main focus of this report is on the circumstances and risk factors surrounding the deaths of the children and young people who lost their lives due to external causes of death, including transport incidents, drowning, suicide and non-accidental trauma. These provide the greatest opportunities to prevent future deaths.

The *Family and Child Commission Act 2014* requires the QFCC to maintain a register of information relating to child deaths in Queensland, and to classify, analyse and report on trends and patterns in child deaths each year. The register maintained by the QFCC contains information about the deaths of all children and young people in Queensland since 1 January 2004.

This report, the 14th in the series, found there were 385 child deaths in 2017–18, a rate of 33.8 per 100 000 children aged 0–17 years. Overall, the rate of deaths of children and young people has been in decline since reporting commenced in 2004, primarily due to a reduction in the number of natural cause deaths from diseases and morbid conditions, and to a lesser extent from decreases in transport fatalities. This year represents the lowest recorded number and annual rate since reporting commenced in 2004–05.

Themes we note this year include:

- Aboriginal and/or Torres Strait Islander children were consistently over-represented in child deaths, with the mortality rate of Indigenous children twice the rate for non-Indigenous children.
- Mortality rates of children known to the child protection system are several times higher than the mortality rate of all Queensland children for external causes of death, including for drowning, other non-intentional injury, suicide, fatal assault and sudden unexpected infant deaths.
- Twenty-four young people suicided. Suicide represented more than half of all deaths due to external causes for 10–17 year olds.
- The vulnerability of very young children to accidental death: in backyard swimming pools, driveways and carparks, and for infants in unsafe sleep environments.

Again this year, not one child drowned in a private swimming pool where the pool gate was properly latched and the fencing compliant. The regulation of pool fencing is truly a life-saver, and emphasises that we need to be vigilant every day about maintaining the fence, keeping climbable items away and, most importantly, keeping the gate securely closed.

Young children aged 1–4 years continue to be vulnerable to pedestrian deaths, particularly low-speed vehicle run-overs. These incidents tend to occur in non-traffic areas such as driveways or garages, and the vehicle is usually being operated by a family member. The rate of low-speed vehicle run-over deaths has remained relatively stable since reporting commenced in 2004–05. Any person moving a vehicle should make sure they know where young children are and check around the vehicle. As has been shown for safety around pools, fenced play areas and self-closing gates and doors (to driveways and garages) provide vital physical barriers to keep children out of harm's way.

A significant number of agencies are using QFCC's data as an evidence base for policy and program development and to inform campaigns aimed at preventing child deaths. During the year we responded to 27 requests for tailored child death data from external stakeholders. Our data has been used for a large number of purposes including informing suicide research, supporting the drowning research studies conducted by the Royal Life Saving Society of Australia, research into sudden unexpected deaths in infancy, as well as supporting a number of other research and prevention activities being conducted across Australia.

The QFCC is also legislated to make recommendations relating to laws, policies, practices and services to help reduce the likelihood of future deaths. In 2017–18 we used information on child fatalities in quad bike incidents to inform submissions to the Australian Competition and Consumer Commission's review of national standards for quad bikes and side-by-side vehicles.

We hope by collecting and sharing information on child deaths we can raise awareness of possible risks and better inform prevention activities. I look forward to working with stakeholders to further advance these endeavours in the year ahead. As Principal Commissioner of the QFCC I am committed to working with you to make sure all Queensland children, young people and their families are more than safe.

Cheryl Vardon
Principal Commissioner
Queensland Family and Child Commission

Executive summary

Child deaths in Queensland, findings in 2017–18 and trends since 2004

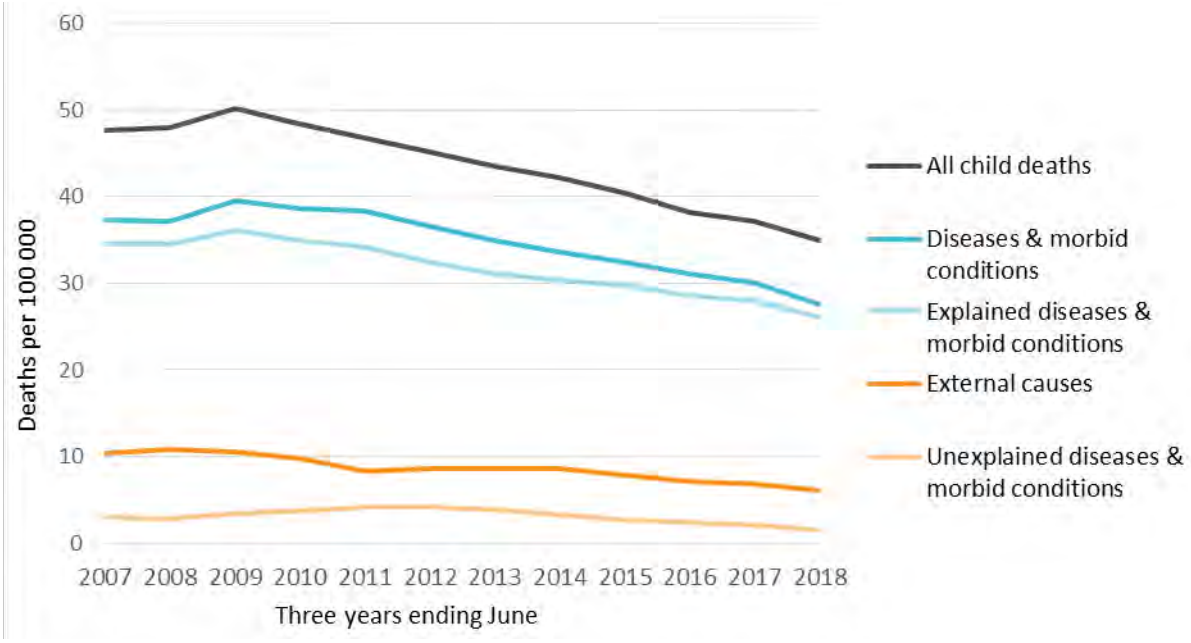
In the 12-month period from 1 July 2017 to 30 June 2018, the deaths of 385 children and young people were registered[1] in Queensland, a rate of 33.8 deaths per 100 000 children aged 0–17 years. The 385 deaths is a decrease (8.6%) from 421 child deaths in 2016–17, and the lowest number recorded since the Child Death Register commenced in 2004.

Infant mortality in Queensland was 3.9 per 1000 live births, down from 4.3 deaths per 1000 in 2016–17.

Child mortality rates over the period 2004 to 2018 are illustrated in Figure 1, using three-year rolling average rates to smooth out year-to-year changes. Key points to note:

- There has been a gradual decline in child mortality rates, from a high of around 50 per 100 000 dropping to rates below 40 per 100 000 in the last 3 years.
- The overall trend is driven by decreases in child mortality from explained diseases and morbid conditions, the two largest contributors of which are deaths from perinatal conditions[2] and congenital anomalies.
- Child mortality from unexplained disease and morbid conditions (i.e. from natural causes but the illness has not been identified) has shown some recent decreases, but does not indicate a strong overall trend. Almost all of this group are infant deaths classified as Sudden Infant Death Syndrome (SIDS) or undetermined causes.

Figure 1: Child deaths by major cause group (3-year rolling averages) 2004–18



Data source: Queensland Child Death Register (2004–18)

1. Rates (deaths per 100 000 population aged 0–17 years) are averaged over 3-year periods.

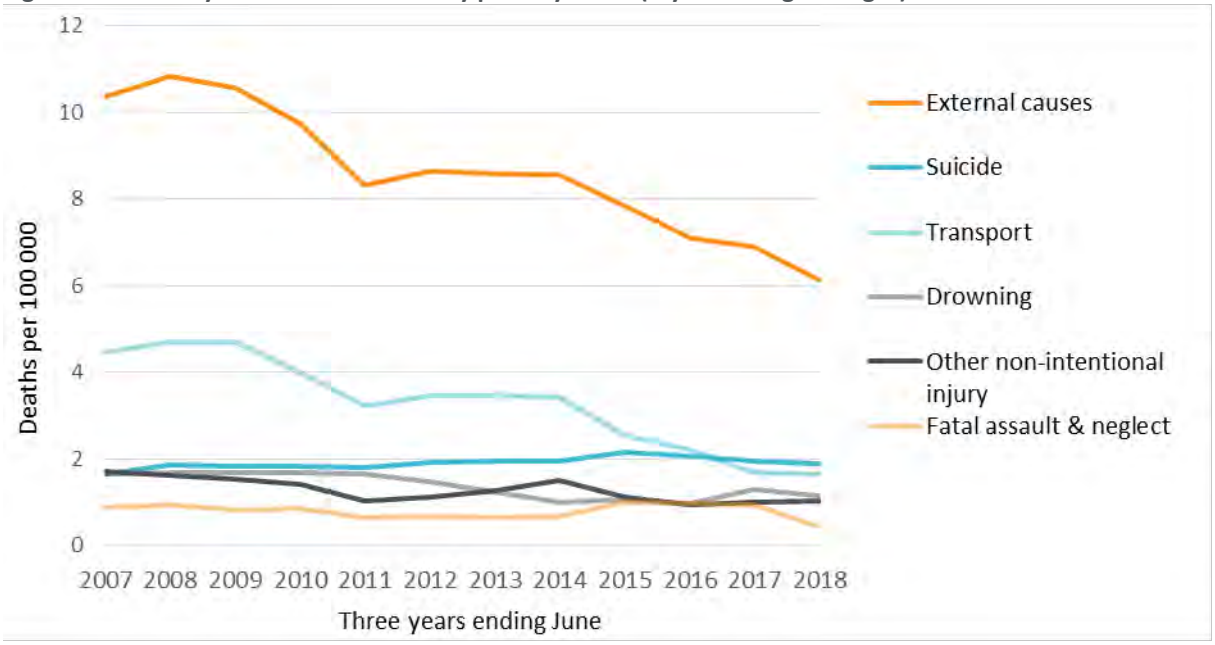
Child mortality from external (or non-natural) causes has generally decreased over the period, as illustrated in Figure 2. This group includes deaths from injuries, either non-intentional (accidental) injuries such as transport incidents or drowning, or from intentional injuries, which includes suicide and fatal assault and neglect. Due to the relatively small numbers involved, caution should be exercised in interpreting year-to-year changes.

[1] The Queensland Child Death Register is based on death registrations recorded by the Queensland Registry of Births, Deaths and Marriages. Deaths in this Annual Report are counted by date of death registration and may therefore differ from child death data based on date of death.

[2] Diseases and conditions which originate during pregnancy or the neonatal period (first 28 days of life).

Transport-related child mortality rates declined, dropping by 64% over the period (or 5.4% per year). While there were changes over time in the number and rate of deaths from drowning, other non-intentional injury, suicide and fatal assault, the changes were not indicative of trends (changes were not statistically significant).

Figure 2: Externally caused child deaths by primary cause (3-year rolling averages) 2004–18



Data source: Queensland Child Death Register (2004–18)

1. Rates (deaths per 100 000 population aged 0–17 years) are averaged over 3-year periods.

Leading causes of child deaths

Key findings for 2017–18:

- Diseases and morbid conditions (natural causes) accounted for 72% of deaths of children (277 deaths), occurring at a rate of 24.3 deaths per 100 000 children. Deaths from natural causes are most likely to occur in the first days and weeks of life, with infants accounting for 77% of deaths from diseases and morbid conditions in 2017–18.
- Infant deaths from the two leading causes—conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities (188 deaths combined)—make up the largest proportion of all deaths of children and young people (68% of all 277 deaths from diseases and morbid conditions and 49% of the 385 deaths from all causes).
- Thirty-two infant deaths were sudden unexpected deaths in infancy (SUDI), a category where an infant dies suddenly with no immediately obvious cause.
- External or non-natural causes of death (transport, drowning, other non-intentional injury, suicide and fatal assault and neglect) accounted for 18% of child deaths, and occurred at a rate of 6.1 deaths per 100 000 children.
- Transport and suicide were the leading external causes of death (24 deaths each), representing rates of 2.1 deaths per 100 000 children.
- Six 1–4 year olds died in pedestrian incidents and six drowned in private swimming pools.
- No child deaths in 2017–18 were attributed to fatal assault and neglect, as at the time of reporting.

By age

The leading causes of death based on the last three years were as follows (see Table 1):

- **For infants under 1 year**—diseases and conditions that originate during pregnancy or the neonatal period (first 28 days of life) was the leading cause followed by congenital anomalies. Sudden Infant Death Syndrome (SIDS) and undetermined causes[3] (as a group) was the third leading cause of death in infants.
- **For 1–4 year olds**—drowning was the leading cause of death followed by transport and neoplasms (equal second). Of the 18 deaths of 1–4-year-olds in 2017–18, six were in pedestrian incidents and six drowned in private swimming pools.
- **For 5–9 year olds**—neoplasms (cancers) was the leading cause followed by congenital anomalies and diseases of the nervous system.
- **For 10–14 year olds**—neoplasms (cancers) was the leading cause followed by suicide and congenital anomalies.
- **For 15–17 year olds**—suicide was the leading cause followed by transport and neoplasms (cancers).

Table 1: Leading cause of death by age category 2015–16 to 2017–18 (annual average)

Age group	Rank	Leading cause	Rate
Under 1 year	1	Perinatal conditions	212.4
	2	Congenital anomalies	107.3
	3	SIDS & undetermined causes	22.4
1 4 years	1	Drowning	3.0
	2	Transport	2.1
		Neoplasms	
	3	Congenital anomalies	2.0
5 9 year			
	2	Congenital anomalies	0.9
	3	Diseases of the nervous system	0.7
10 14 years	1	Neoplasms	2.8
	2	Suicide	1.7
	3	Congenital anomalies	1.3
15 17 years			
	2	Transport	4.4
	3	Neoplasms	2.9

Data source: Queensland Child Death Register (2015–18)
SIDS - Sudden Infant Death Syndrome
1. Rates have been calculated for age categories per 100 000 children in Queensland using the Estimated Resident Population data as at June 2016. Rates are averaged over the three year period.

By sex

- In 2017–18, the mortality rate for males aged 0–17 years was higher than females, with a rate of 37.9 deaths per 100 000 males compared to 29.4 deaths per 100 000 females.
- Mortality rates for males were at least twice the rates for females in transport and other non-intentional injury deaths (rates averaged over a three-year period).

[3] SIDS are sudden unexpected infant deaths, apparently occurring during sleep, where the cause remains unexplained after thorough investigation. For undetermined causes, the cause of death is unexplained but the death does not meet the criteria for SIDS.

Aboriginal and Torres Strait Islander children

- Seventy-two Aboriginal and/or Torres Strait Islander children died in 2017–18, an increase from 57 deaths in 2016–17.
- Indigenous child mortality rates have decreased over the last decade. Based on 3-year averages, between 2004 and 2018 infant mortality for Indigenous children decreased from 11.7 to 6.9 deaths per 1000 live births. The mortality rate for Indigenous children aged 1–17 years decreased from 38.6 to 28.0 deaths per 100 000 children. Aboriginal and/or Torres Strait Islander child mortality, however, continues to be twice the rate for non-Indigenous children as decreases in Indigenous mortality have been matched by decreases in non-Indigenous mortality (3-year average of 67.8 deaths per 100 000 Indigenous children, compared to 32.2 deaths per 100 000 non-Indigenous children respectively).
- Over the past three years, mortality rates for Aboriginal and Torres Strait Islander children have been more than twice the non-Indigenous child mortality rates for:
  - transport-related deaths
  - drowning, and
  - suicide.
- The infant mortality rate for Aboriginal and/or Torres Strait Islander children was 6.9 deaths per 1000 live births compared to the non-Indigenous rate of 3.7 deaths per 1000 live births (3-year averages).
- Queensland's overall infant mortality rate is higher than the most recently available national average. In 2016, the national Indigenous infant mortality rate was 6.0 deaths per 1000 live births, while the non-Indigenous infant mortality rate was 3.0 deaths per 1000 live births.

Children known to the child protection system

- A child is deemed to have been known to the child protection system if, within one year before the child's death, the child was: in the custody or guardianship of the Department of Child Safety, Youth and Women[4] (DCSYW); or, DCSYW was aware of alleged harm or risk of harm; or, DCSYW took action under the *Child Protection Act 1999*; or, DCSYW was notified of concerns before the birth of a child and reasonably suspected the child to be in need of protection after their birth.
- Of the 385 children who died in 2017–18, 48 were known to the child protection system in the year before their death, representing a rate of 61.4 deaths per 100 000,[5] compared to 35.0 deaths per 100 000 for all Queensland children.
- The rates of death of children known to the Queensland child protection system have consistently been higher than all children, especially for deaths from external causes.
- Over the past three years, mortality rates for children known to the child protection system have been three or more times higher than the Queensland child mortality rates for:
  - drowning
  - other non-intentional injury
  - suicide
  - fatal assault and neglect, and
  - sudden unexpected deaths in infancy.

[4] The DCSYW administer the child protection system in Queensland.

[5] The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the one-year period prior to the reporting period.

Diseases and morbid conditions

- In 2017–18, the deaths of 277 children and young people were the result of diseases and morbid conditions, a rate of 24.3 deaths per 100 000 children and young people aged 0–17 years in Queensland.
- Deaths of children from diseases and morbid conditions are most likely to occur in the first days and weeks of life, with infants accounting for 77% of deaths from diseases and morbid conditions in 2017–18.
- Infant deaths from the two leading causes—conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities (188 deaths combined)—make up the largest proportion of all deaths of children and young people (68% of all 277 deaths from diseases and morbid conditions and 49% of the 385 deaths from all causes).
- The rate of mortality from diseases and morbid conditions for Aboriginal and/or Torres Strait Islander children was twice the rate for non-Indigenous children (3-year average of 50.2 deaths per 100 000 Indigenous children aged 0–17 years, compared to 25.6 deaths per 100 000 non-Indigenous children).
- Neoplasms (cancer) was the leading cause of death for the 5–9 and 10–14 year age groups, and was in the top three causes of death for 1–4 year olds and 15–17 year olds.
- SIDS and undetermined causes, as a group, was the leading official cause of death for post-neonate infants (aged ≥28 days) in 2016–17.
- Ten children and young people died with notifiable conditions in 2017–18, five of which were diseases potentially preventable by vaccines. Over the last three years, 11 children and young people died with diseases potentially preventable by vaccines, with the most common of these including influenza, invasive meningococcal disease and invasive pneumococcal disease. Vaccines are available for only selected strains of meningococcal disease, pneumococcal disease and influenza.

Transport-related deaths

- Twenty-four children and young people died in transport incidents during 2017–18, at a rate of 2.1 deaths per 100 000 children aged 0–17 years. This is up from 14 in 2016–17 and 18 in 2015–16.
- Overall the total number of transport deaths has decreased since reporting commenced in 2004. In the first 8 years there was on average 42 transport deaths each year, whereas in the last four years the average was 20.3 deaths.
- Fifteen deaths in 2017–18 were in motor vehicle crashes.
- Six pedestrian deaths were of children aged 1–4 years killed in driveway or carparks.
- Male children were more than twice as likely as female children to be involved in a transport-related fatality.
- Young people aged 15–17 years were the age group most likely to be involved in a transport-related fatality.

Drowning

- Eleven children and young people drowned in Queensland in 2017–18.
- Six children drowned in swimming pools, two in bathtubs, two in rural dams, and one in a creek.
- Children aged 1–4 years made up the largest group of drowning deaths (seven deaths), a pattern which has been found in all previous reporting periods, and an indication of the particular vulnerability of this age group.
- Drowning was the leading cause of death for 1–4 year olds. Six 1–4 year olds drowned in private swimming pools.
- Not one child drowned in a pool that had a compliant fence with the gate latched.
- Five of the 11 children who drowned were known to the child protection system in the year prior to their death. The drowning mortality rate for children known to the child protection system was six times the Queensland average.

- Pool fencing standards were introduced in 1991 and have been incrementally strengthened over time. The numbers of private pool drowning deaths of children aged under 5 have fluctuated from year to year; however, numbers before the introduction of pool fencing requirements were generally higher than those since the introduction of standards, and especially in the last two decades. This is an indication of the success of regulation and the importance of maintaining compliant pool fencing.

Other non-intentional injuries including fire

- In 2017–18, 10 children and young people died in non-intentional injury-related incidents, other than a drowning or transport incident, at a rate of 0.9 deaths per 100 000 children aged 0–17 years.
- Three deaths each were caused by accidental threats to breathing and exposure to smoke, fire and flames, and two were caused by non-intentional poisoning.
- Infants under one year had the highest rate of fatal non-intentional injuries over the last 14 years. The most common types of non-intentional injury were threats to breathing, exposure to fire, smoke and flames, and exposure to inanimate mechanical forces.

Suicide

- Twenty-four young people died of suspected or confirmed suicide in Queensland during 2017–18 at a rate of 2.1 deaths per 100 000 children aged 0–17 years (or 4.7 deaths per 100 000 children aged 10–17 years). The number of suicide deaths recorded over the 14 years since 2004 ranges from 15 to 26 with an average of 20.1 per year.
- Suicide was the equal leading external cause of death in 2017–18 (35% of external causes of death for all children). Suicide accounted for 59% of deaths by external causes among young people aged 10–17 years.
- Over the most recent 3-year period, the suicide rate for males was 1.3 times the rate for females.
- Of youth suicides, the highest numbers were in the oldest age group and generally decreased as age decreased.
- Over the most recent 3-year period, the suicide rate among Indigenous young people was more than twice the rate for their non-Indigenous peers.
- Young people may exhibit one or more suicidal or self-harm behaviours prior to suicide, as was the case for 16 of the 24 young people who suicided during 2017–18. However, there was no evidence of previous self-harm or suicidal behaviour for 8 young people.
- The suicide rate for young people known to the child protection system in the 12 months prior to their death was three times the Queensland average for all children.

Fatal assault and neglect

- No child deaths were recorded as a result of suspected or confirmed assault and neglect in Queensland during 2017–18, based on information available to the QFCC at the time of reporting.
- There were 15 child deaths from assault and neglect in the two previous years (nine in 2015–16 and six in 2016–17).
- Infants under the age of one were over-represented in the rates of child death from assault and neglect over the 14 years since 2004.
- The Queensland Sentencing Advisory Council is undertaking a review of the sentencing outcomes for criminal offences relating to the death of a child.

Sudden unexpected death in infancy and SIDS

- Sudden unexpected death in infancy (SUDI) is a category of deaths where an infant (aged under one year) dies suddenly, usually during sleep, and with no immediately obvious cause. Deaths from SUDI are recorded as 'cause pending' until a post-mortem examination or coroner's investigation provide an official cause of death.
- There were 32 SUDI cases in 2017–18, a rate of 51.2 deaths per 100 000 infants. The number of SUDI deaths have fluctuated over the last 14 years; ranging between 29 and 55 deaths each year (average rate across the 14 years of 70.2 per 100 000).
- Aboriginal and/or Torres Strait Islander infants are over-represented in SUDI deaths. Over the last 3 years, Indigenous infants died suddenly and unexpectedly at more than twice the rate of non-Indigenous infants.
- Children known to the child protection system had SUDI rates more than four times those for all children over the last 3 years.
- Of the 32 SUDI cases in this reporting period, 11 were attributed an official cause of death. Of those 11 deaths, 6 were attributed to SIDS. Official causes of death were still pending for the remaining 21 deaths.
- Five of the SUDI deaths were found to have an explained cause of death. All five of these infants died as a result of infant illnesses or conditions unrecognised prior to their deaths.
- Risk factors for SUDI deaths include shared sleeping and unsafe sleep surfaces (such as soft surfaces, sofas, folding beds, other temporary bedding), as well as infant factors (prematurity, history of respiratory illness) and parental factors (smoking, high-risk lifestyles).

Child death prevention activities of the QFCC

Collecting, analysing and publishing information on the causes of child deaths is an important step in preventing child deaths and serious injuries. This year the QFCC's prevention activities included:

- the Seconds Count water safety campaign
- research summaries and community education fact sheets
- two submissions in relation to national safety standards for quad bikes
- a research forum in relation to youth suicide
- providing child death data to 27 stakeholders
- projects to improve the QFCC child death register database
- collaborating with the State Coroner, the Queensland Police Service and the Queensland Paediatric Quality Council to improve information collection and sharing
- participating in an all-of-government water safety roundtable and resulting prevention campaign.

Queensland Child Death Register access and data requests

Access to comprehensive child death data is available at no cost to organisations or individuals conducting genuine research or prevention activities. Child death register data requests which were actioned during the year are set out in Chapter 9. Stakeholders wishing to access the Queensland Child Death Register to support their research, policy or community education initiatives should email their request to child_death_prevention@qfcc.qld.gov.au.

Report structure

The report is divided into nine chapters as follows:

Chapter 1—Child deaths in Queensland

Chapter 2—Deaths from diseases and morbid conditions

Chapter 3—Transport-related deaths

Chapter 4—Drowning

Chapter 5—Other non-intentional injury-related deaths

Chapter 6—Suicide

Chapter 7—Fatal assault and neglect

Chapter 8—Sudden unexpected deaths in infancy

Chapter 9—Child death prevention activities

Appendices

Supplementary Information

The following information is available on the 2017–18 Child Death Annual Report page at https://www.qfcc.qld.gov.au/

- A collection of Australian and New Zealand Child Death Statistics for the year 2016
- The 2017–18 14-year tables

Chapter 1 — Child deaths in Queensland

This chapter provides an overview of child deaths in Queensland in 2017–18.

Key findings

- The deaths of 385 children and young people were registered in Queensland between 1 July 2017 and 30 June 2018, a rate of 33.8 deaths per 100 000 children aged 0–17 years, an 8.6% decrease from 421 child deaths in 2016–17.
- Generally, child deaths and mortality rates have declined, with the rates below 40 per 100 000 in the last 3 years compared to rates in the 40s ranging up to 52 per 100 000 in the 10 years to 2013–14.
- Infant mortality in Queensland was 3.9 per 1000 live births, down from 4.3 deaths per 1000 in 2016–17.
- Indigenous child mortality rates have decreased over the last decade. Aboriginal and/or Torres Strait Islander child mortality, however, continues to be twice the rate for non-Indigenous children as decreases in Indigenous mortality have been matched by decreases in non-Indigenous mortality.
- The infant mortality rate for Aboriginal and/or Torres Strait Islander children was 6.9 deaths per 1000 live births compared to the non-Indigenous rate of 3.7 deaths per 1000 live births (3-year averages).
- Queensland's infant mortality rates are higher than the most recently available national averages. In 2016, the national Indigenous infant mortality rate was 6.0 deaths per 1000 live births, while the non-Indigenous infant mortality rate was 3.0 deaths per 1000 live births.
- Diseases and morbid conditions (natural causes) accounted for 72% of deaths of children in 2017–18 (277 deaths), occurring at a rate of 24.3 deaths per 100 000 children.[6]
- External causes of death (transport, drowning, other non-intentional injury, suicide and fatal assault and neglect) accounted for 18% of child deaths, and occurred at a rate of 6.1 deaths per 100 000 children.
- No child deaths in 2017–18 were attributed to fatal assault and neglect, as at the time of reporting.
- Transport and suicide were the leading external causes of death (24 deaths each), representing rates of 2.1 deaths per 100 000 children.
- The leading causes of infant death were perinatal conditions followed by congenital anomalies.
- Unexplained conditions – SIDS and undetermined causes (as a group) – were the third leading cause of infant deaths.

[6] Cause-of-death information is subject to change once coronial findings are available for cases pending a cause at time of reporting – the majority of these findings are likely to be classified as unexplained diseases and morbid conditions.

Child deaths in Queensland 2015–18

An expanded version of Table 1.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 1.1: Summary of deaths of children and young people in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All deaths							
Deaths of children 0–17 years	390	34.6	421	37.0	385	33.8	35.0
Cause of death							
Diseases and morbid conditions	**323**	**28.7**	**341**	**30.0**	**277**	**24.3**	**27.6**
Explained diseases and morbid conditions	299	26.5	323	28.4	270	23.7	26.1
Unexplained diseases and morbid conditions	24	2.1	18	1.6	7	0.6	1.4
SIDS and undetermined causes (infants)	*20*	*1.8*	*15*	*1.3*	7	0.6	1.2
Undetermined causes (>1 year)	*4*	*0.4*	*3*	*	0	0.0	0.2
External causes	**66**	**5.9**	**74**	**6.5**	**69**	**6.1**	**6.1**
Transport	18	1.6	14	1.2	24	2.1	1.6
Drowning	9	0.8	19	1.7	11	1.0	1.1
Other non-intentional injury-related death	10	0.9	15	1.3	10	0.9	1.0
Suicide	20	1.8	20	1.8	24	2.1	1.9
Fatal assault and neglect	9	0.8	6	0.5	0	0.0	0.4
Cause of death pending	**1**	*	**6**	**0.5**	**39**	**3.4**	**1.3**
Sudden unexpected deaths in infancy (SUDI)							
Sudden unexpected infant deaths	29	46.7	30	48.0	32	51.2	48.6
Sex[a]							
Female	167	30.4	192	34.6	163	29.4	31.4
Male	223	38.6	229	39.3	221	37.9	38.5
Age category							
Under 1 year	235	378.5	269	430.7	242	387.4	398.1
1–4 years	41	16.0	53	20.8	41	16.1	17.6
5–9 years	23	7.1	27	8.2	21	6.4	7.2
10–14 years	38	12.6	35	11.4	31	10.1	11.3
15–17 years	53	29.2	37	20.2	50	27.2	25.4
Aboriginal and Torres Strait Islander status							
Indigenous	52	59.3	57	64.0	72	80.9	67.8
Non-Indigenous	338	32.5	364	34.7	313	29.8	32.2
Known to the child protection system							
Known to the child protection system	47	55.8	58	72.0	48	56.7	61.4

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

[a] Excludes deaths of children whose sex was indeterminate.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status) in Queensland each year. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for the 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. Rates for cause of death are calculated per 100 000 children aged 0–17 years in Queensland in each year, with the exception of SUDI, which is calculated per 100 000 children under the age of one year in Queensland.
4. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the 1-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the 1-year period prior to the reporting period.
5. Yearly average rates have been calculated using the ERP data as at June 2016.

Child deaths in Queensland: Findings 2017–18

Between 1 July 2017 and 30 June 2018, the deaths of 385 children and young people were registered in Queensland, representing a rate of 33.8 deaths per 100 000 children aged 0–17 years.[7] The 385 deaths recorded in 2017–18 represent a 14-year low since the register started in 2004. Generally, child deaths and mortality rates have declined, with the rates under 40 per 100 000 in the last 3 years compared to rates in the 40s ranging up to 52 per 100 000 in the 10 years to 2013–14.[8]

Infant mortality in Queensland was 3.9 per 1000 live births, down from 4.3 deaths per 1000 in 2016–17.

Cause of death

Table 1.1 broadly outlines the causes of death for the children and young people where their death was registered in the last 3 years.

Diseases and morbid conditions (natural causes) accounted for the majority of deaths of children and young people in 2017–18 (72%), occurring at a rate of 24.3 deaths per 100 000 children aged 0–17 years.

Sixty-nine deaths were from external causes (which can include transport, drowning, other non-intentional injury, suicide and fatal assault and neglect), a decrease from 74 in 2016–17. External causes accounted for 18% of child deaths, and occurred at a rate of 6.1 deaths per 100 000 children aged 0–17 years.

Transport and suicide were the leading external causes of death (24 deaths each), occurring at rates of 2.1 deaths per 100 000 children aged 0–17 years. No child deaths in 2017–18 were attributed to fatal assault and neglect, as at the time of reporting.

Over the 14 reporting periods since 2004, the leading external causes of death have generally been transport, suicide or drowning. Transport incidents were the leading external cause for the first 10 reports. Given a lower number of transport deaths, suicide has presented as a leading cause of child death in the last four years.

The cause may not be available for a number of child deaths until the outcomes of autopsy and coronial investigations are final. For this reason, the causes of a number of deaths are recorded as ‘pending’ in the year they are registered. Final outcomes are usually available within one to two years, at which point the child death register is updated to reflect the official cause. Of the 385 deaths of children and young people in 2017–18, 10% (39 deaths) were recorded as ‘cause of death pending’. The majority of ‘cause pending’ deaths are infant deaths and are most likely to be found to be from unexplained diseases and morbid conditions (based on outcomes in previous periods).

Sex

Males comprised 57% of child deaths registered in 2017–18, with a rate of 37.9 deaths per 100 000 male children aged 0–17 years. In comparison, females made up 42% of child deaths, with a rate of 29.4 deaths per 100 000 female children.

[7] For a summary of the population data used to calculate rates, see Appendix 1 Methodology.
[8] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au

Age

Table 1.2 indicates the leading causes of death in each age category by rate of death per 100 000, based on rates averaged over the 3-year period 2015–16 to 2017–18. The table uses categories from the International Classification of Diseases and Health Related Problems version 10 (ICD-10). Further detail on causes of death by age can be found in Appendix 3.

Under one year

Infants under one year of age accounted for 63% of all child deaths (242 of the 385 deaths).

Diseases and morbid conditions were the most frequent cause of death for infants in 2017–18, accounting for 88% of the deaths in this age category (214 of 242 deaths). There were three infant deaths from external causes. Thirty-two deaths were classified as sudden unexpected deaths in infancy (SUDI), a category of deaths where an infant dies suddenly with no immediately obvious cause.

Table 1.2 indicates the leading causes of infant death over the last 3 years were perinatal conditions followed by congenital anomalies. Unexplained conditions – SIDS and undetermined causes (as a group) – were the third leading cause of infant deaths.

1–4 years

Of the 41 deaths in 2017–18 of children aged 1–4 years, 18 were from external causes while 15 were from diseases and morbid conditions. Six deaths were pedestrian-related transport deaths and six deaths were from drownings in private swimming pools (as noted in the respective chapters).

Table 1.2 indicates that, over the last 3 years, the leading causes of death for children aged 1–4 years were drowning followed by transport and neoplasms (cancer).[9]

5–9 years

Of the 21 deaths in 2017–18 of children aged 5–9 years, 14 were from diseases and morbid conditions while seven were from external causes. The 5–9 years age group had the lowest child mortality rate of any group.

Neoplasms was the leading cause of death for children aged 5–9 years over the last 3 years.

10–14 years

Of the 31 deaths in 2017–18 of children aged 10–14 years, 21 were from diseases and morbid conditions and seven were from external causes. There were four suspected suicides and three deaths from transport incidents.

Neoplasms, followed by suicide, were the leading causes of death for children aged 10–14 years over the last 3 years.

15–17 years

Of the 50 deaths of young people aged 15–17 years during 2017–18, 34 were from external causes and 13 from diseases and morbid conditions. Nineteen deaths were suspected suicides. Ten deaths were transport-related; this is up from the low of five recorded in the previous year.

Suicide was the leading cause of death for young people aged 15–17 years over the last 3 years, followed by transport and neoplasms.

[9] The ICD-10 classification is neoplasms which includes malignant tumours (or cancer) and benign tumours. Almost all of the child deaths from neoplasms were from malignant tumours.

Table 1.2: Leading cause of death by age category 2015–16 to 2017–18 (annual average)

Rank	Under 1 year (*n* 746)	1 4 years (*n* 135)	5 9 years (*n* 71)	10 14 years (*n* 104)	15 17 years (*n* 140)
1	**Perinatal conditions** 212.4 per 100 000	**Drowning** 3.0 per 100 000	**Neoplasms** 1.5 per 100 000	**Neoplasms** 2.8 per 100 000	**Suicide** 8.5 per 100 000
2	**Congenital anomalies** 107.3 per 100 000	**Transport** **Neoplasms** 2.1 per 100 000	**Congenital anomalies** 0.9 per 100 000	**Suicide** 1.7 per 100 000	**Transport** 4.4 per 100 000
3	**SIDS & undetermined causes** 22.4 per 100 000	**Congenital anomalies** 2.0 per 100 000	**Diseases of the nervous system** 0.7 per 100 000	**Congenital anomalies** 1.3 per 100 000	**Neoplasms** 2.9 per 100 000
4	**Diseases of the nervous system** **Diseases of the respiratory system** 8.5 per 100 000	**Other non-intentional injury** 1.6 per 100 000	[a]	**Other non-intentional injury** 1.1 per 100 000	**Diseases of the nervous system** 1.8 per 100 000

Data source: Queensland Child Death Register (2015–18)

[a] The fourth ranked causes, with a rate of 0.6 per 100 000, were drowning, transport, diseases of the respiratory system and certain infectious and parasitic diseases.

1. Yearly average rates have been calculated for age categories per 100 000 children in Queensland using the ERP data as at June 2016.
2. This table uses 3-year average rates and *International Statistical Classification of Diseases and Related Health Problems*, tenth revision (ICD-10) chapter classifications for diseases and morbid conditions (rather than the broader categories of death reported elsewhere), and may therefore differ from other cause of death comparisons within the report.

Aboriginal and Torres Strait Islander status

Table 1.3 shows mortality data for Indigenous children and young people by cause of death and age category.

Forty-seven (65%) Aboriginal and/or Torres Strait Islander children died as a result of diseases and morbid conditions and 17 (25%) as a result of external causes. Seven deaths were transport-related and 5 were suicide.

The mortality rate for Indigenous children was twice the rate for non-Indigenous children (3-year average of 67.8 deaths per 100 000 Indigenous children aged 0–17 years, compared to 32.2 deaths per 100 000 non-Indigenous children).

Table 1.3: Aboriginal and Torres Strait Islander deaths by cause of death and age category 2015–18

	2015 16	2016 17	2017 18	Yearly average	Yearly average
	Total *n*	Total *n*	Total *n*	Rate per 100 000 Indigenous children	Rate per 100 000 non Indigenous children
Cause of death					
Diseases and morbid conditions	**41**	**46**	**47**	**50.2**	**25.6**
External causes	**11**	**11**	**17**	**14.6**	**5.4**
Transport	4	3	7	5.2	1.3
Drowning	2	3	2	2.6	1.0
Other non-intentional injury	1	1	3	1.9	1.0
Suicide	4	3	5	4.5	1.7
Fatal assault and neglect	0	1	0	*	0.4
Cause of death pending	**0**	**0**	**8**	**3.0**	**1.2**
Sudden unexpected deaths in infancy (SUDI)					
Sudden unexpected infant deaths	4	3	9	93.7	44.0
Age category					
Under 1 year	31	35	45	650.4	372.8
1–4 years	9	4	8	32.8	16.3
5–9 years	5	8	5	24.1	5.8
10–14 years	2	4	4	14.1	11.1
15–17 years	5	6	10	51.7	23.3
Total	**52**	**57**	**72**	**67.8**	**32.2**
Rate per 100 000 Indigenous children	**59.3**	**64.0**	**80.9**		
Rate per 100 000 non Indigenous children	**32.5**	**34.7**	**29.8**		

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Rates are calculated per 100 000 Aboriginal and Torres Strait Islander children aged 0–17 years in Queensland, and per 100 000 non-Indigenous children aged 0–17 years in Queensland. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for 2016–17, 2017–18 and the average over the three years use the ERP data as at June 2016.
2. Rates for age categories are calculated per 100 000 Indigenous/non-Indigenous children in each age category.
3. Sudden unexpected death in infancy (SUDI) is a research category applying to infants only, where the death was sudden with no immediately obvious cause. The category is not a cause of death (which will be counted within the relevant cause) and will not add to the total. Rates for SUDI are calculated per 100 000 Indigenous/non-Indigenous children aged under 1 year.

The average infant mortality rate for Indigenous children over the last three years was 6.9 deaths per 1000 Indigenous live births, compared to 3.7 deaths per 1000 non-Indigenous live births. As indicated in Table 1.4, Indigenous child mortality rates have decreased. Based on 3-year averages, between 2004 and 2018:

- Infant mortality for Indigenous children decreased from 11.7 to 6.9 deaths per 1000 live births.
- The mortality rate for Indigenous children aged 1–17 years decreased from 38.6 to 28.0 deaths per 100 000 children aged 1–17 years.

Queensland's infant mortality rates are higher than the most recently available national averages. In 2016, the national Indigenous infant mortality rate was 6.0 deaths per 1000 live births, while the non-Indigenous infant mortality rate was 3.0 deaths per 1000.[10]

[10] Australian Institute of Health and Welfare (2018), *Children's Headline Indicators*, downloaded September 2018.

Table 1.4: Child mortality rates by Aboriginal and Torres Strait Islander status by age category 2004–18 (selected years)

	3 years to June 2007	3 years to June 2010	3 years to June 2015	3 years to June 2018
	Rate	Rate	Rate	Rate
All child deaths 0 17 years	**47.8**	**48.4**	**40.4**	**35.0**
Indigenous	99.2	81.2	78.6	67.8
Non-Indigenous	44.1	45.6	37.2	32.2
Infant mortality (<1 year)	**5.7**	**5.0**	**4.6**	**4.0**
Indigenous	11.7	8.2	8.0	6.9
Non-Indigenous	5.3	4.7	4.3	3.7
Mortality 1 17 years	**19.0**	**18.9**	**15.0**	**13.9**
Indigenous	38.6	34.8	30.2	28.0
Non-Indigenous	17.6	17.6	13.7	12.8

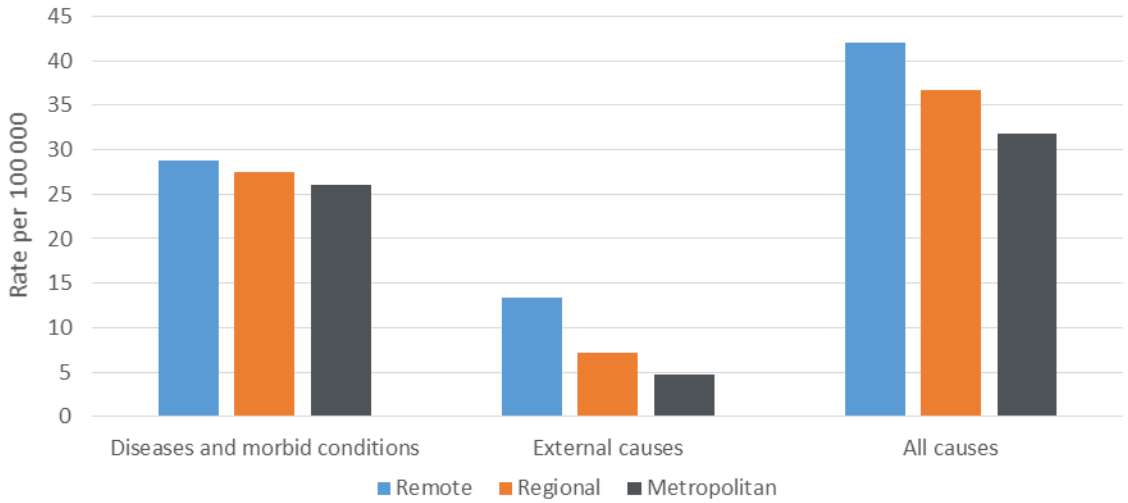
Data source: Queensland Child Death Register (2004–18)

1. Infant mortality rates are calculated per 1000 live births in Queensland, other mortality rates are per 100 000 children in the age/Indigenous status group.
2. Rates are based on the most up-to-date denominator data available.
3. Rates are averaged over 3-year periods.

Geographical area of usual residence (ARIA+)[11]

Figure 1.1 illustrates mortality data by geographical area of usual residence. The child mortality rate in remote areas of Queensland over the last three years was 42.1 per 100 000 children aged 0–17 years, compared to 36.7 in regional areas and 31.7 in metropolitan areas. The figure illustrates that child mortality rates increased as remoteness decreased across each of the categories, although the differences were not statistically significant.

Figure 1.1: Child mortality rate by geographical area of usual residence 2015–18



Data source: Queensland Child Death Register (2015–18)

1. Rates are calculated as deaths per 100 000 children in the ARIA+ region in Queensland as at June 2016, averaged over 3-year periods.
2. The deaths of children whose usual place of residence was outside Queensland are excluded.

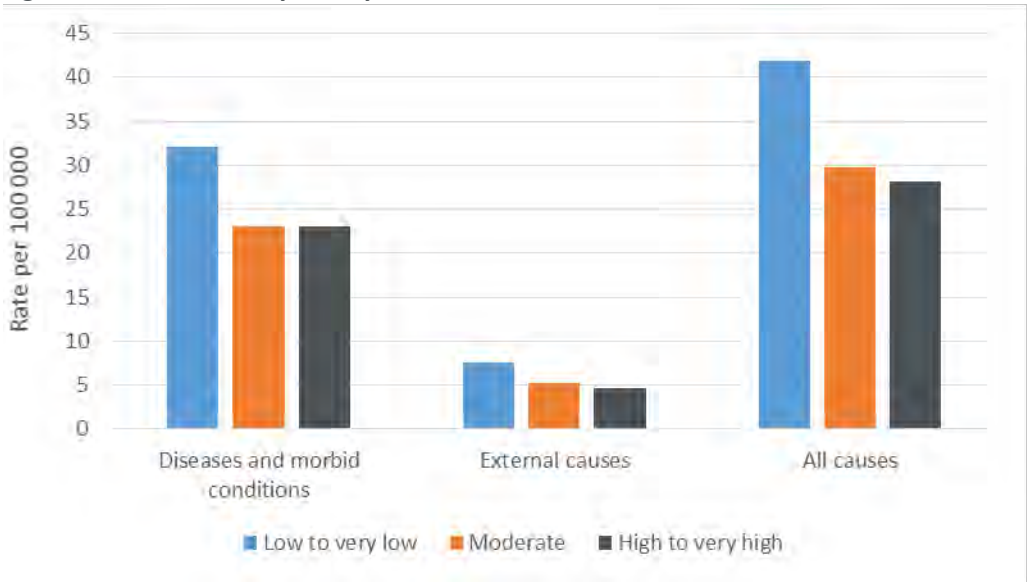
Socio-economic status of usual residence (SEIFA)

Figure 1.2 illustrates mortality data by the socio-economic status (SES) of the area of usual residence. Areas of Queensland with low to very low SES had the highest child mortality rate over the last three years (41.9 per 100 000 children aged 0–17 years), compared to moderate and high to very high SES areas (29.7 and 28.1 deaths per 100 000, respectively).

[11] Note the ARIA+ and SEIFA breakdowns exclude children whose usual residence was outside of Queensland, of which there were 14 in 2015–16, 10 in 2016–17 and 13 in 2017–18. Of the 2017–18 non-resident deaths, 12 died from diseases and morbid conditions and one was pending a cause of death.

The child mortality rate from diseases and morbid conditions was highest in areas with low to very low SES (32.1 deaths per 100 000 children), compared to moderate and high to very high SES areas (both with 23.0 deaths per 100 000).

Figure 1.2: Child mortality rate by socio-economic status of area of usual residence 2015–18



Data source: Queensland Child Death Register (2015–18)

1. Rates are calculated as deaths per 100 000 children in the SEIFA region in Queensland as at June 2016, averaged over 3-year periods.
2. The deaths of children whose usual place of residence was outside Queensland are excluded.

Children known to the child protection system

The Department of Child Safety, Youth and Women (DCSYW) administers the child protection system in Queensland. For the purpose of this report, a child is deemed to have been known to the child protection system if, within one year before the child's death:

- DCSYW was notified of concerns of alleged harm or risk of harm, or if
- DCSYW was notified of concerns before the birth of a child and reasonably suspected the child might be in need of protection after their birth, or if
- DCSYW took action under the *Child Protection Act 1999*, or if
- the child was in the custody or guardianship of DCSYW.

Prior to July 2014, a review was required if the department's last involvement with the child was in the 3 years prior to the child's death.

The population used as a denominator for 'children known to the child protection system' for the financial years since July 2014 is based on the number of children known to the department in the previous financial year who were subject to a child concern report, notification, investigation and assessment, ongoing intervention, child protection orders or placements provided by DCSYW.

Of the 385 children and young people who died in 2017–18, 48 were known to the Queensland child protection system. Table 1.5 shows the mortality data for children known to the child protection system by cause of death and age category.

Of the 48 deaths of children known to the child protection system, 22 (46%) died as a result of diseases and morbid conditions and 18 (38%) as a result of external causes. Six deaths of children known to the child protection system were from other non-intentional injury, five were transport-related and five were drowning.

The mortality rate for children known to the child protection system was 61.4 deaths per 100 000 children aged 0–17 years (3-year average), compared to 35.0 deaths per 100 000 for all Queensland children. For external causes of death, the mortality rate for children known to the child protection system was four times the rate for all children in Queensland (25.3 deaths per 100 000 children, compared to 6.1 deaths per 100 000 children).

The rates of death of children known to the child protection system have consistently been higher than the rates for all children, especially for deaths from external causes. This is explained, to an extent, by the significant disadvantage, abuse and neglect these children experience prior to coming to the attention of the child protection system, as well as the often multiple risk factors present in their families.

Over the past three years, mortality rates for children known to the child protection system have been three or more times higher than the Queensland child mortality rates for:

- drowning
- other non-intentional injury
- suicide
- fatal assault and neglect, and
- sudden unexpected deaths in infancy.

Table 1.5: Cause of death of children known to the child protection system by cause of death and age category 2015–18

	2015 16	2016 17	2017 18	Yearly average	Yearly average
	Total *n*	Total *n*	Total *n*	Rate per 100 000 in child protection system	Rate per 100 000 all Qld children
Cause of death					
Diseases and morbid conditions	**28**	**28**	**22**	**31.3**	**27.6**
External causes	**18**	**27**	**18**	**25.3**	**6.1**
Transport	2	2	5	3.6	1.6
Drowning	2	10	5	6.8	1.1
Other non-intentional injury	5	2	6	5.2	1.0
Suicide	5	8	2	6.0	1.9
Fatal assault and neglect	4	5	0	3.6	0.4
Cause of death pending	**1**	**3**	**8**	**4.8**	**1.3**
Sudden unexpected deaths in infancy (SUDI)					
Sudden unexpected infant deaths	11	7	10	219.7	48.6
Age category					
Under 1 year	20	15	20	431.6	398.1
1–4 years	11	18	11	74.1	17.6
5–9 years	3	9	5	22.1	7.2
10–14 years	6	6	3	20.3	11.3
15–17 years	7	10	9	71.2	25.4
Total	**47**	**58**	**48**	**61.4**	**35.0**
Rate per 100 000 in child protection system	**55.8**	**72.0**	**56.7**		
Rate per 100 000 all Qld children	**34.6**	**37.0**	**33.8**		

Data source: Queensland Child Death Register (2015–18)

1. The number of children known to the child protection system represents the number of children, whose deaths were registered in the reporting period, who were known to the DCSYW within the 1-year period prior to their death.
2. Rates of death for children known to the child protection system use as a denominator the number of children aged 0–17 years (in each age category) who were known to DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the 1-year period prior to the reporting period. For 2015–16, 2016–17 and 2017–18, the number of children known to DCSYW in the 1-year period to 30 June were, respectively, 84 262, 80 510 and 84 597.
3. Rates of death for all Queensland children are based on the number of children in each age category. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for 2016–17, 2017–18 and the average over the three years use the ERP data as at June 2016.
4. Sudden unexpected death in infancy (SUDI) is a research category applying to infants only, where the death was sudden with no immediately obvious cause. The category is not a cause of death (which will be counted within the relevant cause) and will not add to the total. Rates for SUDI are calculated per 100 000 children aged under 1 year in each category.

Children reported missing

Reporting on deaths where the child or young person had been reported missing arose from the QFCC review *When a child is missing: Remembering Tiahleigh—A report into Queensland's children missing from out-of-home care*.[12]

Of deaths registered in 2017–18, three children and young people had been reported missing to the police in relation to their death.[13] None of these children were known to the child protection system or in out-of-home care at the time of death.

[12] The State of Queensland (QFCC), 2016.

[13] In most cases when a child is noticed to be missing, initial searches are undertaken, after which the child is reported to the police as a missing person.

Chapter 2 — Deaths from diseases and morbid conditions

This chapter provides details of child deaths from diseases and morbid conditions, ranging from congenital anomalies and perinatal conditions through to neoplasms (cancers) and infections.

Key findings

- In 2017–18, the deaths of 277 children and young people were the result of diseases and morbid conditions, a rate of 24.3 deaths per 100 000 children and young people aged 0–17 years in Queensland.
- Deaths of children from diseases and morbid conditions are most likely to occur in the first days and weeks of life, with infants accounting for 77% of deaths from diseases and morbid conditions in 2017–18.
- Infant deaths from the two leading causes—conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities (188 deaths combined)—make up the largest proportion of all deaths of children and young people (68% of all 277 deaths from diseases and morbid conditions and 49% of the 385 deaths from all causes).
- The rate of mortality from diseases and morbid conditions for Aboriginal and/or Torres Strait Islander children was twice the rate for non-Indigenous children (3-year average of 50.2 deaths per 100 000 Indigenous children aged 0–17 years, compared to 25.6 deaths per 100 000 non-Indigenous children).
- Neoplasms (cancer) was the leading cause of death for the 5–9 and 10–14 year age groups, and was in the top three causes of death for 1–4 year olds and 15–17 year olds.
- SIDS and undetermined causes, as a group, was the leading official cause of death for post-neonate infants (aged ≥28 days) in 2016–17.
- Over the last 3 years, 24 children and young people died with notifiable conditions, 11 of which were diseases potentially preventable by vaccines (with the most common of these including influenza, invasive meningococcal disease and invasive pneumococcal disease).[14]

[14] Vaccines are available for only selected strains of meningococcal disease, pneumococcal disease and influenza.

Deaths from diseases and morbid conditions 2015–18

An expanded version of Table 2.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 2.1: Summary of deaths from diseases and morbid conditions of children and young people in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All deaths from diseases and morbid conditions							
Diseases and morbid conditions	**323**	**28.7**	**341**	**30.0**	**277**	**24.3**	**27.6**
Explained diseases and morbid conditions	299	26.5	323	28.4	270	23.7	26.1
Unexplained diseases and morbid conditions	24	2.1	18	1.6	7	0.6	1.4
SIDS and undetermined < 1 year	*20*	1.8	*15*	1.3	*7*	0.6	1.2
Undetermined > 1 year	*4*	0.4	*3*	*	*0*	0.0	0.2
Sex[a]							
Female	144	26.2	164	29.6	122	22.0	25.8
Male	179	31.0	177	30.3	154	26.4	29.1
Age category							
Under 1 year	232	373.7	258	413.1	214	342.6	375.7
1–4 years	25	9.8	30	11.8	15	5.9	9.1
5–9 years	20	6.1	20	6.0	14	4.2	5.4
10–14 years	24	7.9	17	5.5	21	6.9	6.7
15–17 years	22	12.1	16	8.7	13	7.1	9.3
Aboriginal and Torres Strait Islander Status							
Indigenous	41	46.7	46	51.7	47	52.8	50.2
Non-Indigenous	282	27.1	295	28.1	230	21.9	25.6
Geographical area of usual residence (ARIA+)							
Remote	14	27.6	21	42.1	8	16.0	28.7
Regional	116	29.0	115	28.7	99	24.7	27.5
Metropolitan	184	27.2	196	28.5	158	23.0	26.1
Socio economic status of usual residence (SEIFA)							
Low to very low	144	31.5	170	37.3	126	27.6	32.1
Moderate	60	25.9	55	23.5	47	20.0	23.0
High to very high	110	25.1	107	23.9	92	20.6	23.0
Known to the child protection system							
Known to the child protection system	28	33.2	28	34.8	22	26.0	31.3

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
Perinatal conditions							
Perinatal conditions	121	194.9	153	245.0	130	208.1	215.6
Indigenous	22	398.6	22	386.7	22	386.7	386.7
Congenital anomalies							
Congenital anomalies	85	7.5	87	7.6	68	6.0	7.0
Indigenous	*7*	*8.0*	*12*	*13.5*	*10*	*11.2*	*10.9*
Neoplasms							
Neoplasms	32	2.8	29	2.5	20	1.8	2.4
Indigenous	*2*	*	*3*	*	*2*	*	*2.6*
Infections[b]							
Infections	22	2.0	19	1.7	19	1.7	1.8
Indigenous	*5*	*5.7*	*2*	*	*5*	*5.6*	*4.5*

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

[a] Excludes the death of 1 infant of indeterminate sex in 2017–18.

[b] 'Infections' is a hybrid category composed of ICD-10 Chapter I, Certain infectious and parasitic diseases; ICD-10 Chapter VI, Diseases of the nervous system, codes G00–G09 only; ICD-10 Chapter X, Diseases of the respiratory system, codes J00–J22 only.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/ARIA+ region/SEIFA region categories) in Queensland each year. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for the 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. Rates for the various types of diseases and morbid conditions are calculated per 100 000 children aged 0–17 years in Queensland in each year, with the exception of 'Perinatal conditions', which is calculated per 100 000 children under the age of one year in Queensland.
4. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the 1-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the 1-year period prior to the reporting period.
5. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
6. Yearly average rates have been calculated using the ERP data as at June 2016.

Deaths from diseases and morbid conditions: Findings 2017–18

During 2017–18, there were 277 deaths of children and young people from diseases and morbid conditions registered in Queensland, at a rate of 24.3 deaths per 100 000 children aged 0–17 years. This is consistent with the general number and rate of deaths from diseases and morbid conditions since reporting commenced in 2004. The number of deaths from diseases and morbid conditions since 2004 ranges from 277 to 420 per year, with an average of 363 per year.[15] It should be noted 39 deaths were still pending a cause of death at the time of reporting and, based on previous years, a large proportion of these deaths are likely to be found to be from unexplained diseases and morbid conditions.

Diseases and morbid conditions were the leading cause of death in 2017–18, accounting for 72% of the 385 deaths.

The leading causes of mortality from diseases and morbid conditions were conditions originating in the perinatal period (130 deaths) and congenital malformations, deformations and chromosomal abnormalities (68 deaths). Together, these causes accounted for 71% of all deaths from diseases and morbid conditions.

Sex

During 2017–18, there were 154 deaths of male children from diseases and morbid conditions, compared to 122 female children, representing mortality rates of 26.4 deaths per 100 000 male children and 22.0 deaths per 100 000 female children.

Child mortality from diseases and morbid conditions is marginally higher for males compared to females, with the male mortality rate over the last 14 years being about 1.1 times the rate for females (29.1 deaths per 100 000 male children and 25.8 deaths per 100 000 female children).

Age

Table 2.2 provides counts of the causes of death from diseases and morbid conditions, for each age category.

Infants (under one year)

Children are significantly more likely to die from diseases and morbid conditions in the first year of life than at any other age. Infants under one year accounted for 77% of deaths due to diseases and morbid conditions during 2017–18 (214 of 277 deaths), at a rate of 342.6 deaths per 100 000 infants. The infant mortality rate from diseases and morbid conditions (using live births as the denominator) is 3.5 deaths per 1000 live births.

Infant deaths from the two leading causes—conditions originating in the perinatal period (129 deaths) and congenital malformations, deformations and chromosomal abnormalities (59 deaths)—represent 68% of all 277 deaths from diseases and morbid conditions and 49% of all 385 child deaths.

Table 2.3 shows the age and causes of infant deaths in major groups. Infant deaths are divided into neonatal and post-neonatal periods. Neonatal deaths are those which occur in the first 28 days after birth (0–27 days), while post-neonatal deaths occur during the remainder of the first year (28–364 days). The overall number of deaths from diseases and morbid conditions decreases significantly in the post-neonatal period.

[15] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au

Table 2.2: Deaths from diseases and morbid conditions by ICD-10 chapter level classification 2017–18

Cause of death	Under 1 year *n*	1 4 years *n*	5 9 years *n*	10 14 years *n*	15 17 years *n*	Total		Rate per 100 000
						n	%	
	129	1	0	0	0	130	46.9	11.4
	59	2	2	4	1	68	24.5	6.0
	1	3	5	6	5	20	7.2	1.8
	8	2	2	1	2	15	5.4	1.3
	2	5	2	3	0	12	4.3	1.1
	3	1	1	2	1	8	2.9	0.7
SIDS and undetermined causes (R95–R99)	7	0	0	0	0	7	2.5	0.6
	3	0	0	2	1	6	2.2	0.5
	2	0	1	1	1	5	1.8	0.4
Diseases of the blood and blood forming	0	1	0	1	0	2	0.7	*
	0	0	1	0	1	2	0.7	*
Diseases of the digestive system	0	0	0	1	0	1	0.4	*
Diseases of the musculoskeletal system and connective tissue (M00–M99)	0	0	0	0	1	1	0.4	*
Total	**214**	**15**	**14**	**21**	**13**	**277**	**100.0**	**24.3**
Rate per 100 000	**342.6**	**5.9**	**4.2**	**6.9**	**7.1**	**24.3**		

Data source: Queensland Child Death Register (2017–18)

* Rates have not been calculated for numbers less than four.

1. Rates by cause of death have been calculated per 100 000 children aged 0–17 years in Queensland or relevant age group. Rates for the 2017–18 period use the ERP data as at June 2016.

Neonatal period (0–27 days)

Of the 214 infant deaths due to diseases and morbid conditions during 2017–18, 167 deaths (78%) occurred in the neonatal period, at a rate of 2.7 neonatal deaths per 1000 live births. Of the 167 neonatal deaths, 99 deaths (59%) occurred on the day of birth and a further 33 deaths (20%) had occurred by the end of the first week.

The two leading causes—conditions originating in the perinatal period (118 deaths) and congenital malformations, deformations and chromosomal abnormalities (45 deaths)—represent 98% of the neonatal deaths from diseases and morbid conditions and 42% of all 385 child deaths from all causes. Four neonatal deaths were pending a cause at the time of reporting.

Post-neonatal period (28–364 days)

During 2017–18 there were 47 deaths from diseases and morbid conditions during the post-neonatal period, at a rate of 0.8 deaths per 1000 live births.

The leading causes of death in the post-neonatal period were congenital malformations, deformations and chromosomal abnormalities (14 deaths) and conditions originating in the perinatal period (11 deaths). Twenty-one infant deaths were pending a cause at the time of reporting.

Table 2.3: Age and cause of infant deaths from diseases and morbid conditions 2017–18

Age		Cause of death				
		Perinatal conditions (P00 P96) *n*	Congenital anomalies (Q00 Q99) *n*	SIDS and undetermined causes (R95 R99) *n*	Other diseases and morbid conditions[a] *n*	Total *n*
Neonatal (age in days)	<1	70	28	0	1	**99**
	1–6	19	12	0	2	**33**
	7–27	29	5	0	1	**35**
Neonatal total		**118**	**45**	**0**	**4**	**167**
Post neonatal (age in months)	1*	8	5	1	2	**16**
	2	2	3	1	5	**11**
	3	0	2	0	3	**5**
	4	1	0	3	1	**5**
	5	0	1	1	1	**3**
	6	0	1	0	0	**1**
	7	0	0	1	1	**2**
	8	0	0	0	0	**0**
	9	0	1	0	1	**2**
	10	0	1	0	0	**1**
	11	0	0	0	1	**1**
Post neonatal total		**11**	**14**	**7**	**15**	**47**
Total infants		**129**	**59**	**7**	**19**	**214**

Data source: Queensland Child Death Register (2017–18)

* 28 days to two months.

[a] Includes certain infectious and parasitic diseases (A00–B99), neoplasms (C00–D48), diseases of the blood-forming organs and certain disorders involving the immune mechanism (D50–D89), endocrine, nutritional and metabolic diseases (E00–E90), diseases of the nervous system (G00–G99), diseases of the circulatory system (I00–I99) and diseases of the respiratory system (J00–J99).

Children aged 1–17 years

For children aged 1–17 years, the following findings were evident in Table 2.2:

- **Children aged 1–4 years** died from diseases and morbid conditions at a rate of 5.9 deaths per 100 000 children (15 deaths). Certain diseases and infectious conditions were the leading cause of death (5 deaths).
- **Children aged 5–9 years** died from diseases and morbid conditions at a rate of 4.2 deaths per 100 000 children (14 deaths). Neoplasms were the leading cause of death (5 deaths).
- **Children aged 10–14 years** died from diseases and morbid conditions at a rate of 6.9 deaths per 100 000 children (21 deaths). Neoplasms were the leading cause of death (6 deaths).
- **Young people aged 15–17 years** died from diseases and morbid conditions at a rate of 7.1 deaths per 100 000 children (13 deaths). Neoplasms were the leading cause of death (5 deaths).

Aboriginal and Torres Strait Islander status

Of the 277 deaths from diseases and morbid conditions during 2017–18, 47 were of Aboriginal and/or Torres Strait Islander children. The rate of mortality from diseases and morbid conditions for Indigenous children was twice the rate for non-Indigenous children (3-year average of 50.2 deaths per 100 000 Indigenous children aged 0–17 years, compared to 25.6 deaths per 100 000 non-Indigenous children).

Indigenous children have been over-represented in deaths from diseases and morbid conditions since reporting commenced in 2004, with mortality rates generally twice the rates for non-Indigenous children.

Geographical area of usual residence (ARIA+)

Over the last 3 years, the child mortality rate for diseases and morbid conditions in remote areas was 28.7 per 100 000, while the rate was 27.5 per 100 000 in regional areas and 26.1 per 100 000 in metropolitan areas.

Socio-economic status of usual residence (SEIFA)

Over the last 3 years, the child mortality rate for diseases and morbid conditions was highest in areas of low to very low SES with 32.1 deaths per 100 000 children, compared to 23.0 per 100 000 in moderate-SES areas and 23.0 per 100 000 in areas of high to very high SES. Higher child mortality rates in areas of low to very low SES has been a consistent pattern across the 14 years of the child death register.

Children known to the child protection system

Of the 277 deaths from diseases and morbid conditions during 2017–18, 22 (8%) were of children known to the Queensland child protection system within the year before their death.

The 2017–18 mortality rate from diseases and morbid conditions for children known to the Queensland child protection system was just above the rate for all Queensland children (26.0 deaths per 100 000 children known to the child protection system, compared to 24.3 deaths per 100 000 children aged 0–17 years).

Major causes

Perinatal conditions

During 2017–18 there were 130 child deaths from perinatal conditions, at a mortality rate of 208.1 deaths per 100 000 infants.[16]

Perinatal conditions are diseases and conditions which originate during pregnancy or the neonatal period (first 28 days of life), even though death or morbidity may occur later. During 2017–18, one of the 130 deaths due to perinatal conditions occurred after infancy (the first 12 months).

Perinatal conditions include maternal conditions which affect the newborn, such as complications of labour and delivery, disorders relating to foetal growth, length of gestation and birth weight, as well as disorders specific to the perinatal period such as respiratory and cardiovascular disorders, infections, and endocrine and metabolic disorders.

As shown in Table 2.4, the majority of infant deaths due to perinatal conditions resulted from the foetus and/or newborn being affected by maternal factors or complications of pregnancy, labour and delivery (53%, 69 deaths), followed by disorders related to the length of gestation and foetal growth (17%, 22 deaths). Together, these causes accounted for 71% of all deaths due to perinatal conditions (91 of 129 deaths).

[16] Includes the death of 1 child over one year of age.

Table 2.4: Infant deaths due to perinatal conditions by sex 2017–18

Cause of death	Female *n*	Male *n*	Total *n*	Rate per 100 000
Foetus and newborn affected by maternal factors and by	27	42	69	110.5
Disorders related to length of gestation and foetal growth	10	12	22	35.2
Respiratory and cardiovascular disorders specific to the perinatal	5	7	12	19.2
Digestive system disorders of foetus and newborn (P75–P78)	5	4	9	14.4
	3	4	7	11.2
	2	3	5	8.0
Haemorrhagic and haematological disorders of foetus and	3	1	4	6.4
Conditions involving the integument and temperature regulation of foetus and newborn (P80–P83)	0	1	1	*
Total	**55**	**74**	**129**	**206.5**
Rate per 100 000	**88.1**	**118.5**	**206.5**	

Data source: Queensland Child Death Register (2017–18)

* Rates have not been calculated for numbers less than four.

1. Rates are calculated per 100 000 children under the age of one year in Queensland. Rates for the 2017–18 period use the ERP data as at June 2016.
2. One death due to perinatal conditions is not included in this table as the child was over one year of age.

Congenital anomalies

During 2017–18 there were 68 child deaths from congenital anomalies, at a rate of 6.0 deaths per 100 000 children aged 0–17 years.

Congenital anomalies are mental and physical conditions present at birth which are either hereditary or caused by environmental factors.[17]

As shown in Table 2.5, the leading causes of death due to congenital anomalies were malformations of the circulatory system (24%, 16 deaths), congenital abnormalities not elsewhere classified (18%, 12 deaths) and congenital malformations of the nervous system (16%, 11 deaths). Together, these causes accounted for 57% of all deaths due to congenital anomalies (39 of 68 deaths).

Table 2.5: Deaths due to congenital anomalies by sex 2017–18

Cause of death	Female *n*	Male *n*	Total *n*	Rate per 100 000
Congenital malformations of the circulatory system (Q20–Q28)	8	8	16	1.4
Chromosomal abnormalities, not elsewhere classified (Q90–Q99)	9	3	12	1.1
Congenital malformations of the nervous system (Q00–Q07)	3	8	11	1.0
	2	8	10	0.9
Other congenital malformations (Q80–Q89)[a]	3	4	8	0.7
	3	3	6	0.5
Other congenital malformations of the digestive system (Q38–Q45)	1	2	3	*
Congenital malformations of the respiratory system (Q30–Q34)	2	0	2	*
Total	**31**	**36**	**68**	**6.0**
Rate per 100 000	**5.6**	**6.2**	**6.0**	

Data source: Queensland Child Death Register (2017–18)

* Rates have not been calculated for numbers less than four.

[a] The death of one infant whose sex was indeterminate is included in the total.

1. Rates are calculated per 100 000 children and young people aged 0–17 years in Queensland. Rates for the 2017–18 period use the ERP data as at June 2016.

[17] ICD-10 Chapter XVII, Congenital malformations, deformations and chromosomal abnormalities.

Neoplasms (cancers and tumours)

Although these terms are not synonymous, the term 'neoplasm' is often used interchangeably with words such as 'tumour' and 'cancer'.[18] Cancer includes a range of diseases in which abnormal cells proliferate and spread out of control. Normally, cells grow and multiply in an orderly way to form organs which have a specific function in the body. However, occasionally cells multiply in an uncontrolled way after being affected by a carcinogen, or after developing a random genetic mutation. They may form a mass called a tumour or neoplasm. A 'benign neoplasm' refers to a non-cancerous tumour, whereas a 'malignant neoplasm' usually refers to a cancerous tumour (that is, cancer). Benign tumours do not invade other tissues or spread to other parts of the body, although they can expand to interfere with healthy structures.

Twenty children and young people died from cancers and tumours, at a rate of 1.8 deaths per 100 000 children aged 0–17 years. The most common types were of malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (8 deaths), followed by neoplasms of the eye, brain and other parts of the central nervous system (7 deaths).

Neoplasms was the leading cause of death for the 5–9 and 10–14 year age groups, as noted in Chapter 1, and was in the top three causes of death for 1–4 year olds and 15–17 year olds.

Infections

'Infections' is a hybrid category composed of certain infections and parasitic diseases, diseases of the nervous system and diseases of the respiratory system.[19] Nineteen children and young people died from infections, a rate of 1.7 per 100 000 children aged 0–17 years. The highest number of infections were caused by other bacterial diseases (7 deaths) followed by influenza and pneumonia (4 deaths).

Deaths from notifiable conditions

A disease may be notifiable to state health authorities if there is potential for its control or if there is a demonstrated public interest in a condition.[20] Key factors considered when deciding if a condition should be notifiable include the overall impact of the disease on morbidity and mortality, and the availability of control measures. Notification allows authorities to detect outbreaks early and take rapid public health action, if necessary, and to plan and monitor these efforts. It also provides information on the occurrence of disease.

Twenty-four children and young people died from a notifiable condition over a three-year period as shown in Table 2.6. Eleven of the 24 deaths due to notifiable conditions were the result of potentially vaccine-preventable conditions, with the most common of these being influenza, invasive meningococcal disease and invasive pneumococcal disease.[21] [22]

[18] ICD-10 Chapter II, Neoplasms.

[19] ICD-10 references: Chapter I, Certain infectious and parasitic diseases; Chapter VI, Diseases of the nervous system, codes G00–G09 only; Chapter X, Diseases of the respiratory system, codes J00–J22 only.

[20] For the complete Queensland Notifiable Conditions Schedule contained in the *Public Health Regulation 2018*, see Appendix 4 – Notifiable diseases.

[21] In Australia, publicly funded immunisation programs are administered by state and territory governments. The current National Immunisation Program Schedule (valid from July 2018) includes vaccinations against the following diseases: hepatitis B, diphtheria, tetanus, pertussis (whooping cough), poliomyelitis, invasive *Haemophilus influenzae* type b (Hib), invasive pneumococcal disease, rotavirus, measles, mumps, rubella, invasive meningococcal ACWY disease, varicella (chicken pox), influenza and human papillomavirus (HPV).

[22] Vaccines are available for only selected strains of meningococcal disease, pneumococcal disease and influenza.

Table 2.6: Child deaths with notifiable conditions 2015–18

Cause of death	2015 16 *n*	2016 17 *n*	2017 18 *n*	Total *n*
Cryptosporidiosis	1	0	0	1
Haemophilus influenzae type b infection (invasive)[a]	0	0	1	1
Influenza[a]	4	1	1	6
Invasive group A streptococcal infection	3	2	1	6
Listeriosis	0	1	0	1
Melioidosis	0	0	2	2
Meningococcal disease (invasive)[a]	0	0	2	2
Pneumococcal disease (invasive)[a]	0	1	1	2
Syphilis (including congenital syphilis)	1	0	1	2
Tuberculosis	0	0	1	1
Total	**9**	**5**	**10**	**24**

Data source: Queensland Child Death Register (2015–18)

[a] Potentially vaccine-preventable condition. Vaccines are available for selected strains of meningococcal, *Haemophilus influenzae* type b, seasonal influenza and selected serotypes of pneumococcal disease. Serotyping information in relation to meningococcal, influenza and pneumococcal-related deaths is not available to the QFCC, and so deaths are reported as being potentially vaccine-preventable only.

1. The child deaths with notifiable conditions in this report may differ from communicable disease reports which use date of notification or date of onset of disease to define the reporting period. The deaths reported by QFCC use date of death registration to define the reporting period, which may occur sometime after the notification of disease.

SIDS and undetermined causes

Sudden unexpected death in infancy (SUDI) is a category of deaths where an infant (aged under one year) dies suddenly with no immediately obvious cause. In these instances, it may take 1–2 years before a cause of death is determined through autopsy and coronial investigations. Consequently, reliable data about SIDS and deaths from undetermined causes in infancy in 2017–18 is not yet available (21 infant deaths were pending a cause at the time of reporting). More complete cause of death information is available for the 2016–17 period, for which only three infant deaths were pending a cause. As indicated in Table 2.7, deaths from SIDS and undetermined causes (14 deaths) was the leading official cause of death for post-neonatal infants (aged 28 days or more) in 2016–17.

Chapter 8 in this report provides more information on SUDI.

Table 2.7: Age and cause of infant deaths from diseases and morbid conditions 2016–17

Age	Cause of death				
	Perinatal conditions (P00 P96) *n*	Congenital anomalies (Q00 Q99) *n*	SIDS and undetermined causes (R95 R99) *n*	Other diseases and morbid conditions[a] *n*	Total *n*
Neonatal (1–27 days) total	138	59	1	3	201
Post-neonatal (≥28 days) total	12	12	14	19	57
Total infants	**150**	**71**	**15**	**22**	**258**

Data source: Queensland Child Death Register (2016–17)

[a] Includes certain infectious and parasitic diseases (A00–B99), neoplasms (C00–D48), endocrine, nutritional and metabolic diseases (E00–E90), diseases of the nervous system (G00–G99), disease of the circulatory system (I00–I99) and diseases of the respiratory system (J00–J99).

Chapter 3 — Transport-related deaths

This chapter provides details of child deaths from injury as a result of transport incidents.

Key findings

- Twenty-four children and young people died in transport-related incidents in Queensland during 2017–18, at a rate of 2.1 deaths per 100 000 children aged 0–17 years. This is up from 14 in 2016–17 and 18 in 2015–16.
- Fifteen deaths were in motor vehicle crashes, six children died as pedestrians.
- All six pedestrian deaths were of children aged 1–4 years killed in driveway or carpark run-overs.
- Male children were more than twice as likely as female children to be involved in a transport-related fatality.
- Young people aged 15–17 years were the most likely age group to be involved in a transport-related fatality.
- Aboriginal and/or Torres Strait Islander children and children from remote and regional areas are over-represented in transport-related deaths, based on the last 3 years of data.
- Overall the total number of transport deaths has decreased since reporting commenced in 2004. In the first 8 years there was on average 42 transport deaths each year, whereas in the last four years the average was 20.3 deaths.
- Motor vehicle incidents made up 57% of all transport-related child deaths since reporting commenced in 2004 (272 out of 478 deaths). The highest risk group are young people aged 15–17 years, which make up 57% of all child deaths in motor vehicle incidents (157 out of 272 deaths). The number of 15–17 year olds involved in transport-related deaths has decreased across the entire reporting period.
- Children under the age of 5 are also at high risk of transport-related death. The number of deaths involving children in the age group has remained relatively stable since reporting commenced in 2004.
- Children under the age of 5 are predominantly involved in motor vehicle incidents and pedestrian incidents. Of the pedestrian related incidents, 84% were low-speed vehicle run-overs (41 out of 59 deaths across the entire reporting period).
- A total of 15 children had died in quad bike or side-by-side vehicle incidents between 2004 and 2017. The Australian Competition and Consumer Commission (ACCC) has a product safety priority on improving the safety of quad bikes. Two consultation papers, the *Quad Bike Safety Issues Paper*[23] and the *Quad Bike Safety Consultation Regulation Impact Statement*,[24] were released setting out the issues and proposing options to make quad bikes safer.
- The QFCC provided two submissions in response to the ACCC consultations supporting options that offered the highest level of protections. This included incorporating a mandatory safety standard in relation to general use quad bikes and side-by-side vehicles.

[23] Australian Competition and Consumer Commission. 2017. *Quad Bike Safety Issues Paper*. https://consultation.accc.gov.au/product-safety/quad-bike-safety-investigation/supporting_documents/ACCC%20Quad%20Bike%20Safety%20Issues%20Paper.pdf.

[24] Australian Competition and Consumer Commission. 2018. *Quad bike safety Consultation Regulation Impact Statement*. https://consultation.accc.gov.au/product-safety/quad-bike-safety-draft-regulation-impact-statement/supporting_documents/Quad%20Bike%20Safety%20%20Consultation%20Regulation%20Impact%20Statement.PDF

Transport-related deaths 2015–18

An expanded version of Table 3.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 3.1: Summary of transport deaths of children and young people in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All transport deaths							
Transport	18	1.6	14	1.2	24	2.1	1.6
Incident type							
Motor vehicle	10	0.9	4	0.4	15	1.3	0.8
Pedestrian	5	0.4	5	0.4	6	0.5	0.5
Low-speed vehicle run-over	*4*	*0.4*	*3*	*	*5*	*0.4*	*0.4*
Motorcycle	1	*	2	*	0	0.0	*
Watercraft	0	0.0	1	*	1	*	*
Bicycle	0	0.0	1	*	1	*	*
Other	2	*	1	*	1	*	0.1
Sex							
Female	4	0.7	3	*	7	1.3	0.8
Male	14	2.4	11	1.9	17	2.9	2.4
Age category							
Under 1 year	0	0.0	1	*	1	*	*
1–4 years	5	2.0	4	1.6	7	2.7	2.1
5–9 years	1	*	2	*	3	*	0.6
10–14 years	3	*	2	*	3	*	0.9
15–17 years	9	5.0	5	2.7	10	5.4	4.4
Aboriginal and Torres Strait Islander status							
Indigenous	4	4.6	3	*	7	7.9	5.2
Non-Indigenous	14	1.3	11	1.0	17	1.6	1.3
Geographical area of usual residence (ARIA+)							
Remote	2	*	4	8.0	4	8.0	6.7
Regional	10	1.5	5	1.2	13	3.2	2.3
Metropolitan	4	0.6	5	0.7	7	1.0	0.8
Socio economic status of usual residence (SEIFA)							
Low to very low	8	1.8	7	1.5	16	3.5	2.3
Moderate	0	0.0	6	2.6	2	*	1.1
High to very high	8	1.8	1	*	6	1.3	1.1
Known to the child protection system							
Known to the child protection system	2	*	2	*	5	5.9	3.6

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/ARIA+ region/SEIFA region categories) in Queensland each year. Rates for the 2015–16 use ERP data as at June 2015. The 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the 1-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the 1-year period prior to the reporting period.
4. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
5. Yearly average rates have been calculated using the ERP data as at June 2016.
6. Low-speed vehicle run-over is a subset of the 'pedestrian' category; hence, summing categories will exceed the total.
7. The 'other' incident type category includes deaths involving specialised industrial vehicles and All-Terrain Vehicles.

Transport-related deaths: Findings 2017–18

During 2017–18, the deaths of 24 children and young people from transport-related incidents were registered in Queensland, at a rate of 2.1 deaths per 100 000 children aged 0–17 years. The number of transport-related fatalities ranges from 14 to 53 per year, with an average of 34.1 per year.[25]

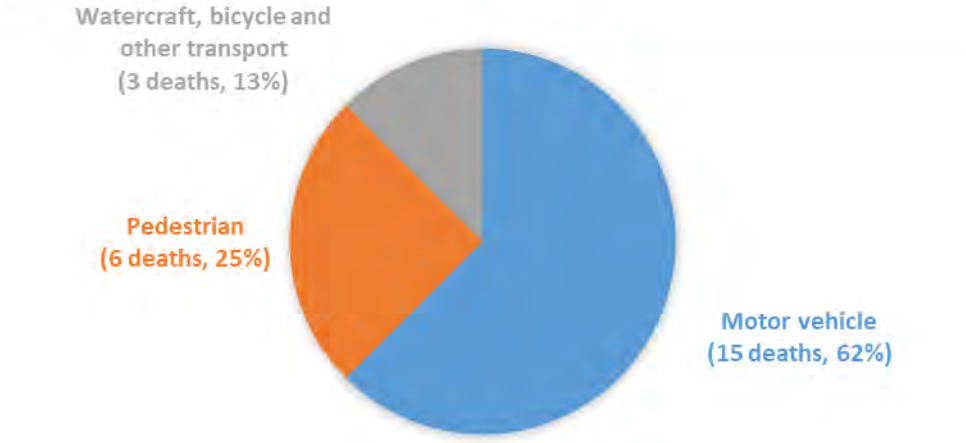
Overall the total number of transport deaths has decreased since reporting commenced in 2004. In the first 8 years there was on average 42 transport deaths each year, whereas in the last four years the average was 20.3 death.

The total number of 15–17 year olds involved in transport-related deaths has deceased across the entire reporting period, while the number of deaths involving children under the age of five has remained relatively stable. Children in this age group are predominantly involved in motor vehicle incidents and pedestrian incidents. Of the pedestrian related incidents, 84% of these were low-speed vehicle run-overs (41 out of 59 deaths across the entire reporting period).

Nature of transport incidents

As illustrated in Figure 3.1, the majority of transport-related fatalities during 2017–18 were motor vehicle deaths (62%) followed by pedestrian deaths (25%).

Figure 3.1: Nature of transport fatalities 2017–18



Data source: Queensland Child Death Register (2017–18)

Sex

During 2017–18, seven female children died from transport-related incidents, compared to 17 male children.

Over the last three reporting periods, the average annual transport-related mortality rate for males was more than twice the rate for females (2.4 deaths per 100 000 male children aged 0–17 years, compared to 0.8 deaths per 100 000 female children). Research has established higher rates of death for males can, in part, be attributed to greater risk-taking behaviours displayed by young males—this includes risk-taking behaviours of male drivers.[26]

[25] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au

[26] Australian Institute of Health and Welfare (2011). *Young Australians: Their health and wellbeing*. Cat no PHE 140, Australian Institute of Health and Welfare, Canberra.

Age

Of the 24 transport-related fatalities during 2017–18, one was of a child under one year, seven were of children aged 1–4 years, three were of children aged 5–9 years, three were of children aged 10–14 years and 10 were of children aged 15–17 years. All six deaths in pedestrian incidents were children aged 1–4 years killed in driveway or carpark run-overs.

Over the last 3 years, the average annual transport-related mortality rate for children aged 15–17 years was more than twice the rate for children from each other age category (4.4 deaths per 100 000 children aged 15–17 years, compared 2.1 deaths per 100 000 children aged 1–4 years which is the next highest age group).

Aboriginal and Torres Strait Islander status

Of the 24 transport-related fatalities during 2017–18, seven were of Aboriginal and/or Torres Strait Islander children.

Over the last three reporting periods, the average annual transport-related mortality rate for Indigenous children was four times the rate for non-Indigenous children (5.2 deaths per 100 000 Indigenous children aged 0–17 years, compared to 1.3 deaths per 100 000 non-Indigenous children).

Geographical area of usual place of residence location (ARIA+)

Four deaths were of children who resided in remote areas of Queensland, 13 were of children from regional areas and seven were of children from metropolitan areas.

Over the last 3 years, the average annual transport-related mortality rate for children from remote areas was three or more times other rates (6.7 deaths per 100 000 children aged 0–17 years from remote areas, compared to 2.3 deaths per 100 000 children from regional areas and 0.8 deaths per 100 000 children from metropolitan areas).

A combination of factors including speed, poorer road conditions and fatigue due to driving long distances is suggested to explain a higher risk of fatalities on rural and remote roads.[27]

Socio-economic status of usual place of residence location (SEIFA)

Of the 24 transport-related fatalities during 2017–18, 16 were of children residing in areas with low to very low SES, two were of children from moderate SES areas and six were of children from areas of high to very high SES.

Over the last 3 years, the average annual transport-related mortality rate for children from areas of low to very low SES was twice the rate for children from areas of moderate SES and high to very high SES (2.3 deaths per 100 000 children aged 0–17 years from areas of low to very low SES, compared to 1.1 deaths per 100 000 children from areas of moderate and high to very high SES).

Children known to the child protection system

Of the 24 transport-related fatalities during 2017–18, five were of children known to the Queensland child protection system within the year before their death.

Transport-related characteristics

This section provides information about specific types of transport-related incidents and an overview of charges and criminal proceedings in relation to transport-related fatalities in Queensland.

Motor vehicle incidents

Motor vehicle incidents made up 57% of all transport-related child deaths since reporting commenced in 2004 (272 out of 478 deaths). The highest risk group are young people aged 15–17 years, which make up 57% of all child deaths in motor vehicle incidents (157 out of 272 deaths).

[27] Australasian College of Road Safety (2012). *Rural and Remote Road Safety: Fact Sheet*.

Table 3.2 illustrates the role of the child or young person in motor vehicle fatalities during 2017–18. Five fatalities were of 15–17 year olds where the young person was the driver, and a further four 15–17 year olds died as passengers.

Table 3.2: Motor vehicle incidents by role and age category 2015–18

Age category	2015 16 *n*	2016 17 *n*	2017 18 *n*	2017 18 Rate per 100 000	Yearly average Rate per 100 000
Drivers					
15–17 years	3	1	5	2.7	2.7
Passengers					
Under 5 years	1	1	1	*	*
5-14 years	0	1	5	2.0	0.3
15–17 years	6	1	4	2.2	2.0
Total	**10**	**4**	**15**	**1.3**	**0.8**

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the age category) in Queensland each year. Rates for the 2017–18 period use the ERP data as at June 2016.

The numbers of transport-related fatalities involving young people aged 15–17 has decreased since 2004. In the first five years (to 2008–09), the number of deaths of young people aged 15–17 was in the 20s each year. In the last 5 years there have been fewer than 11 deaths each year.

Major changes in driver licensing may have contributed to fewer fatalities in the 15–17 age group. Increases in the use of ride-sharing applications such as Uber may also have contributed to a reduction in deaths resulting from drink driving and other transport-related deaths.[28]

Table 3.3 outlines the changes to the learner and provisional licensing laws that were introduced in Queensland in 2007.

Table 3.3: Queensland Learner and Provisional Licensing and driver restrictions[29]

Pre 2007	Post 2007
Minimum age to obtain a learner licence 16.5 years	Minimum age to obtain a learner licence 16 years
6 month learner licence period (minimum)	12 month learner licence period (minimum)
No requirement for supervised hours of driving experience	100 hours of supervised driving experience, logged in a log book, for learner drivers under the age of 25
Two phased P1 and P2 licences, no requirement for P-plates to be displayed	Two phased P1 and P2 licences, P-plates must be displayed
No testing requirement to move from a P1 to a P2 or open licence	Drivers must pass a hazard perception test to progress from a P1 to a P2 or open licence
No peer passenger restrictions on provisional licence holders	Peer passenger restrictions for P1 licence holders aged under 25: Only one passenger aged under 21 between 11pm–5am (excluding immediate family members)
No high powered vehicle restrictions	High powered vehicles restricted for provisional licence holders
Zero blood alcohol content for drivers on learner and provisional licences	Zero blood alcohol content for drivers on learner and provisional licences
No restrictions preventing provisional licence holders using hands free mobile phone devices	Ban on all mobile phone use while driving for learner licence holders and P1 licence holders

[28] Greenwood, Brad and Sunil Wattal. 2017. "Show me the way to go home: An empirical investigation of ride-sharing and alcohol related motor vehicle fatalities." *MIS Quarterly 41(1): 163-187*.

[29] Dixon, N (2007). 'Restrictions on young drivers under the Transport Legislation and Another Act Amendment Act 2007 (QLD)' *Queensland Parliamentary Library Research Brief No 2007/12;* Department of Transport and Main Roads, Queensland (2017). 'Steps from a learner to a provisional licence' https://www.qld.gov.au/transport/licensing/getting/steps. Department of Transport and Main Roads, Queensland (2017). 'Young drivers: The graduated licensing system' https://www.tmr.qld.gov.au/Licensing/Learning-to-drive/Young-drivers.

Pedestrians

Six children and young people died as pedestrians during 2017–18, with five fatalities resulting from low-speed vehicle run-over. The remaining fatality was from the category other pedestrian type not elsewhere classified (NEC), which includes incidents involving bicycles, motorised go-carts, horse-riding incidents and specialised industrial vehicles.

'Low-speed vehicle run-over' is a term used to describe incidents where a pedestrian is injured or killed by a slow-moving vehicle in a non-traffic area or whilst entering or exiting a traffic area. Most of these incidents involve children 1–4 years of age. Drivers tend to be family members, with vehicles reversing at the time of impact. The number of low-speed vehicle run-overs has remained relatively stable across the last decade, with between two and seven deaths reported each year since 2004–05. Over the last three years, the rate of pedestrian deaths of children aged 1–4 years (1.6 deaths per 100 000 children) was eight times that of the next highest age groups of children aged 5–9 years and children aged 15–17 (0.2 deaths per 100 000 children).

Motorcycles and quad bikes

There was one death of a child in a quad bike incident in 2017–18 and no deaths of children in motorcycle-related incidents. Over the 14 years since 2004 there have been 15 quad bike fatalities in total.

Multiple fatalities

Of the 13 motor vehicle incidents where young people died in 2017–18, four involved multiple fatalities. Three of these four incidents involved the deaths of both adults and children, with three adults also losing their lives. Two incidents resulted in two child deaths each, meaning there were 15 individual child deaths from 13 separate motor vehicle incidents in 2017–18.

Highway fatalities

Of the 15 children and young people who died in motor vehicle incidents, nine died on highways (speed limit greater than or equal to 100 kilometres per hour).

Off-road fatalities

Nine children died in off-road transport environments in Queensland during 2017–18. Six incidents were pedestrian incidents, one occurred on a farming property, one involved a water craft, and one involved a motor vehicle in an off-road environment. The deaths of children and young people occurring in off-road environments are not included in the official road toll.

Charges and criminal proceedings

Of the 24 transport-related fatalities in 2017–18, none resulted in driving-related charges (based on information available at the time of reporting). Over the last three years, six out of the 56 transport incidents resulted in driving-related charges.

Risk factors

The most prevalent risk factors for children and young people in transport-related fatalities in Queensland during 2017–18 were:[30]

- excessive speed (12 cases)
- driver or operator who was aged 21 years or younger (7 cases)
- lack of driver ability (6 cases)
- drug and/or alcohol use (5 cases)
- reckless use of a vehicle or dangerous driving (1 case)
- failure to drive to the conditions (1 case), and
- fatigue (1 case).

[30] It should be noted individual transport-related fatalities may have had multiple risk factors present.

Quad bike safety

- The Australian Competition and Consumer Commission (ACCC) has a product safety priority on improving the safety of quad bikes. Two consultation papers, the *Quad Bike Safety Issues Paper*[31] and the *Quad Bike Safety Consultation Regulation Impact Statement*,[32] were released setting out the issues and proposing options to make quad bikes safer.
- The purpose of the Regulatory Impact Statement was to explain the current regulatory environment and outline a number of available policy options to increase quad bike safety. The ACCC noted there are currently no safety standards made under Australian Consumer Law in respect of quad bikes. In the Regulatory Impact Statement, the ACCC reviewed a number of options including design and solutions to improve the stability and handling of quad bikes in the Australian environment.
- This was in response to 114 deaths that occurred in Australia between 2011 and October 2017. Seventeen of these deaths were children under the age of 16 years. The majority of the child-related incidents involved a child operating an adult-sized quad bike and experiencing a rollover incident. Almost half of all deaths occurred during work-related activities, the 54 workers who died were almost exclusively employed in agricultural or rural businesses and the incidents occurred mostly on rural properties.
- The QFCC provided two submissions in response to the ACCC consultations and noted that a total of 15 children had died in quad bike or side-by-side vehicle incidents between 2004 and 2017. The Queensland Deputy Coroner conducted an inquest into nine quad bike deaths, including those of four children and young people. The Deputy State Coroner made 15 recommendations, one of which specifically related to the appropriate usage of quad bikes by children and young people. In response to the Regulatory Impact Statement the QFCC supported options that offered the highest level of protections. This included incorporating a mandatory safety standard in relation to general use quad bikes and side-by-side vehicles.
- The QFCC supported the general consensus that children should not ride, or be passengers on, adult-sized quad bikes and that this be reinforced with product warnings. The QFCC submitted that Australian state and territory governments investigate the feasibility and impact of introducing bans on children under 16 years operating or riding adult-sized quad bikes. Until legislation is introduced throughout Australia banning children under the age of 16 operating or riding adult-sized quad bikes, it is unlikely there will be any significant cultural change in community perceptions regarding the suitability of access by children of adult-sized quad bikes. It was suggested that child-resistant start mechanisms may mitigate the risk of access to adult-sized quad bikes by children.

[31] Australian Competition and Consumer Commission. 2017. *Quad Bike Safety Issues Paper*. https://consultation.accc.gov.au/product-safety/quad-bike-safety-investigation/supporting_documents/ACCC%20Quad%20Bike%20Safety%20Issues%20Paper.pdf.

[32] Australian Competition and Consumer Commission. 2018. *Quad bike safety Consultation Regulation Impact Statement*. https://consultation.accc.gov.au/product-safety/quad-bike-safety-draft-regulation-impact-statement/supporting_documents/Quad%20Bike%20Safety%20%20Consultation%20Regulation%20Impact%20Statement.PDF

Chapter 4 — Drowning

This chapter provides details of child deaths from drowning.

Key findings

- Eleven children and young people drowned in Queensland in 2017–18 (rate of 1.0 per 100 000 children aged 0–17 years) compared to 19 in 2016–17 and 9 in 2015–16.
- Six children drowned in swimming pools in 2017–18, two in bathtubs, two in rural dams, and one in a creek.
- Children aged 1–4 years made up the largest group of drowning deaths (7 deaths), a pattern which has been found in all previous reporting periods, and an indication of the particular vulnerability of this age group.
- Drowning was the leading cause of death for 1–4 year olds. Six 1–4 year olds drowned in private swimming pools in 2017–18 and for all of these pool fencing was non-compliant or the gate left open.
- Five of the 11 children who drowned were known to the child protection system in the year prior to their death. The drowning mortality rate for children known to the child protection system was six times the Queensland average.
- In the five years up to the 1991 introduction of pool fencing laws, between seven and 15 children aged under 5 drowned in private pools each year, whereas in the last eight years private pool drowning deaths have been between two and six each year.
- Given that drowning is the leading preventable cause of death in the early childhood years, it is important that greater efforts are directed at preventing these deaths. Drowning prevention should take a life stages approach, allowing for targeted strategies that recognise risk priorities for each age group.
- For young children this includes active adult supervision, not leaving young children in the care of other children; restricting access to water; establishing rules around water; having a correctly installed pool fence that is compliant with legislation, well maintained, and never leaving a pool gate propped open or unlatched; providing water familiarisation/awareness classes for young children; and parents and carers knowing CPR.

Drowning 2015–18

An expanded version of Table 4.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 4.1: Summary of drowning deaths of children and young people in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
Drowning	9	0.8	19	1.7	11	1.0	1.1
Pool drowning							
Pool drowning deaths	4	0.4	7	0.6	6	0.5	0.5
Private pools	*3*	*	*7*	*0.6*	*6*	*0.5*	0.5
Public pools	*1*	*	*0*	*0.0*	*0*	*0.0*	*
Non pool drowning							
Non-pool drowning deaths	5	0.4	12	1.1	5	0.4	0.6
Bathtubs	*1*	*	*5*	*0.4*	*2*	*	*0.2*
Beach or ocean	*0*	*0.0*	*1*	*	*0*	*0.0*	*
Dynamic waterway	*2*	*	*1*	*	*1*	*	*0.1*
Object containing water	*0*	*0.0*	*2*	*	*0*	*0.0*	*
Rural water hazard	*0*	*0.0*	*1*	*	*2*	*	*
Static inland waterway	*2*	*	*2*	*	*0*	*0.0*	*0.1*
Sex							
Female	4	0.7	11	2.0	3	*	1.1
Male	5	0.9	8	1.4	8	1.4	1.2
Age category							
Under 1 year	0	0.0	3	*	1	*	2.1
1–4 years	5	2.0	11	4.3	7	2.7	3.0
5–9 years	0	0.0	4	1.2	2	*	0.6
10–14 years	2	*	0	0.0	0	0.0	*
15–17 years	2	*	1	*	1	*	0.7
Aboriginal and Torres Strait Islander status							
Indigenous	2	*	3	*	2	*	2.6
Non-Indigenous	7	0.7	16	1.5	9	0.9	1.0
Geographical area of usual residence (ARIA+)							
Remote	0	0.0	2	*	1	*	*
Regional	5	1.2	9	2.2	5	1.2	1.6
Metropolitan	4	0.6	7	1.1	5	0.7	0.8
Socio economic status of usual residence (SEIFA)							
Low to very low	4	0.9	11	2.4	6	1.3	1.5
Moderate	3	*	5	2.1	2	*	1.4
High to very high	2	*	2	*	3	*	0.5
Known to the child protection system							
Known to the child protection system	2	*	10	12.4	5	5.9	6.8

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/ARIA+ region/SEIFA region categories) in Queensland each year. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for the 2016– 17 and 2017– 18 periods use the ERP data as at June 2016.
3. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the one-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the one-year period prior to the reporting period.
4. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
5. Yearly average rates have been calculated using the ERP data as at June 2016.

Drowning: Findings 2017–18

During 2017–18, the drowning deaths of 11 children and young people were registered in Queensland, at a rate of 1.0 deaths per 100 000 children aged 0–17 years. The number of drowning deaths since reporting commenced in 2004 ranges from 7 to 19 per year, with an average of 14.5 per year.[33]

Types of drowning-related deaths

During 2017–18, six pool drownings were recorded for the period, all in private pools. Two of the six pool drownings occurred away from the child's usual place of residence. No child drowned in a pool that had a compliant fence with the gate latched.

Five drowning deaths occurred in non-pool water hazards (two children drowned in a bath tub, two in rural dams, and one in a creek).

Sex

During 2017–18, there were eight drowning deaths of male children, compared to three female children.

Age

During 2017–18, children aged 1–4 years made up the largest group of drowning deaths (7 deaths)—a pattern which has been found in all previous reporting periods, and an indication of the particular vulnerability of this age group. Drowning was the leading cause of death for 1–4 year olds over the last 3 years (See Table 1.1).

Aboriginal and Torres Strait Islander status

Over the last 3 years, the average annual rate of mortality from drowning for Indigenous children was more than twice the rate for non-Indigenous children (2.6 deaths per 100 000 Indigenous children aged 0–17 years, compared to 1.0 death per 100 000 non-Indigenous children).

Geographical area of usual residence (ARIA+)

Over the last 3 years, the average annual rate of mortality from drowning for children residing in metropolitan areas was lower than for children residing in both regional and remote areas. The mortality rate for children residing in remote areas was 2.0 deaths per 100 000 children, 1.6 deaths per 100 000 children residing in regional areas and 0.8 per 100 000 children residing in metropolitan areas.

Socio-economic status of usual residence (SEIFA)

Over the last 3 years, the average annual rate of mortality from drowning for children from areas of low to very low SES and moderate SES was higher than for children from high to very high SES areas (3.0 times and 2.8 times respectively). Over the last 3 years there were 1.5 deaths per 100 000 children aged 0–17 years for children from areas of low to very low SES, 1.4 deaths per 100 000 children aged 0–17 years for children from moderate SES areas, compared to 0.5 deaths per 100 000 children from areas of high to very high SES.

Children known to the child protection system

Over the last 3 years, the average annual rate of mortality from drowning for children known to the Queensland child protection system within the year before their death was 6.8 deaths per 100 000 children, which was six times the Queensland average.

Risk factors

Private swimming pools

Backyard swimming pools, which have become increasingly common, pose a considerable risk of drowning to young children. Appropriate supervision and water safety education are important elements in reducing risk. Compliant, well maintained fencing has been highly effective in reducing the risk of drowning in private pools.

[33] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au

Graduated changes to pool fencing laws implemented by December 2015 increased the obligation on pool owners to enhance the safety of pool areas. In accordance with the changes:

- compliant fencing is required of all pools and spas—including portable pools and spas capable of being filled with 300 millimetres or more of water
- the latest CPR sign must be displayed and be easily visible to people in or near the pool
- all pools must be registered on the Pools Safety Register, and
- a local government inspection is mandatory following any immersion incidents involving a child under the age of 5.

The effectiveness of swimming pool fencing is dependent upon fencing and gates being compliant with the regulation, in good working order and used correctly (such as not propping open a pool gate).

Thirteen children aged under 5 drowned in backyard swimming pools (including wading pools which met the threshold for regulated fencing) in the last 3 years. In seven deaths the child was thought to not be in, or around water at the time of the incident. Of these seven deaths, four were thought to be either playing or sleeping inside the house. In two deaths the child had either been playing in, or near the pool, but was thought to no longer be around the pool and in one case the child was thought to be playing in the backyard but not in the pool.

The circumstances surrounding young children's deaths point to a range of particular factors which place young children at increased risk of drowning in swimming pools. Over the past 3 years common issues identified for the 13 private pool drowning deaths in children aged under 5 (more than one issue may be present in each case) included:

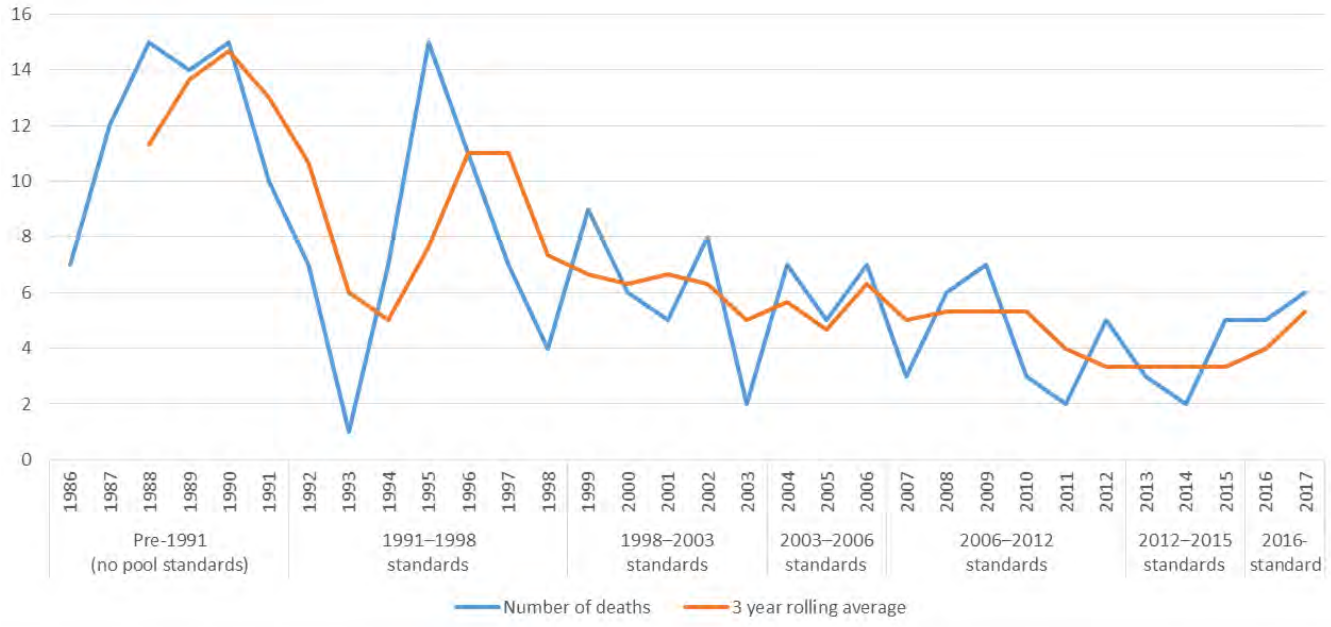
- non-compliant fencing (e.g. gate not self-closing, not regulation height, gaps or defects) (8 deaths)
- the child or family was visiting another residence (6 deaths)
- the pool gate was left or propped open (5 deaths), and
- the pool was not fenced (2 deaths).

In some cases fences and/or gates were not attended to as the pool was in disrepair or maintenance work was underway.

Figure 4.1 tracks the number of drowning deaths of children aged under 5 in Queensland private pools over time against changes to fencing requirements. A number of changes in pool fencing standards have occurred—from no standards in place prior to 1991, to requirements for new pools to have fencing, later extended to existing pools; changes in requirements such as fence height; and more recently compliance requirements for registration and inspections.

The number of private pool drowning deaths in children aged under 5 have fluctuated from year to year; however regulation is seen to have possibly impacted on the number of the number of drownings, especially in the last 2 decades.

Figure 4.1: Drowning deaths of children 0–4 years in Queensland private pools by applicable pool standard 1986–2017



Data sources: Queensland Injury Surveillance Unit 2008, *Injury Bulletin: Domestic pool immersion in Queensland children under five years of age*. No.104; Queensland Child Death Register (2004–18)

1. The above data represents the number of deaths which occurred in each calendar year. These figures will therefore not align with the summary of drowning deaths presented in Table 4.1 of this report, which are based on date of death registration by financial year.

Supervision

Lapses in supervision of young children in or around water hazards has been found to be a factor in drowning deaths of young children. The key elements of effective supervision are the:

- capacity of the supervisor
- proximity of the supervisor to the child, and
- continuity of supervision.

In 2017–18, of the eight drowning deaths of children aged under five, two were of children known to be in, or on water, one to be around water and the remaining five were not known to be in, or around water.[34] A combination of factors, including ineffective barriers to water hazards, the capacity and proximity of the supervisor and continuity of supervision were identified as being relevant to drowning deaths of children aged under 5.

When a child is not known to be in, or around water, it is still important to provide a level of supervision to ensure the child is protected from all hazards. Young children are unable to appropriately identify and negotiate risks, yet can be highly mobile. Reliance only on pool fences and gates to prevent drowning is not recommended, as breakdowns in protections can occur, such as pool gates being propped open or becoming non-compliant due to wear and tear. Accordingly, it is essential children aged under 5 years are regularly checked on by an active supervisor.

It is important to acknowledge that not all drowning deaths are reasonably foreseeable or the result of a breakdown in supervision. A resourceful and inquisitive child may manage to bypass protections, unbeknown to a supervisor. These child deaths highlight the importance of having many and varied protections in place for the child, including adequate supervision.

[34] A child is known to be in or on water when the child is known to be actively swimming, paddling, wading, playing, or bathing in water, or on a watercraft. A child is not known to be in or around water when the carer does not know the child is exposed to a water hazard (i.e. carer thinks the water hazard is appropriately restricted and is not aware the child has gained access to it) or the presence of the water hazard was not known. Examples include where a child is thought to be sleeping or playing safely in a restricted area but has gained access to a water hazard by climbing the fence to the pool or filling up the bathtub.

The role of safe play areas in reducing rural drownings

Rural water hazards, such as dams and troughs, may not be considered risks as they are not seen as attractive to adults and are often at a distance from the family home. However, children love water play and can travel significant distances to access water. Any body of water should therefore be considered a potential risk regardless of its location.

Two of the drownings in 2017–18 were associated with a rural water hazard. There have been 30 deaths of children aged 0–17 in rural water hazards since 2004.

Drowning prevention is most effective when strategies are multi-faceted. Active supervision is the most effective strategy; but to maintain this continuously is not realistic. Establishing a safe play area around the family home can act as a critical means of preventing access to water hazards. Children can also be taught from a young age about nearby dangers and 'no go' areas. Making sure young children are visible to supervisors and have barriers separating the child from the water hazard can also help reduce the risk of drowning.

The risk of drowning for children with pre-existing medical conditions

Research papers have often suggested the possible increased risks that pre-existing medical conditions, particularly epilepsy, may pose for drowning. Yet it has been unclear whether pre-existing medical conditions are primarily causal, leading to the drowning death; or contributory factors which place children at increased risk of drowning; or instead, are simply associated with drowning fatalities.

Recent Australian research has investigated the prevalence and role of pre-existing medical conditions in all unintentional fatal drownings occurring in Australia amongst 0–14 year olds over a 10-year period from 2002 to 2012.[35] To examine the role of pre-existing medical conditions, a forensic review of all details surrounding each individual childhood drowning fatality in the National Coronial Information System was completed as well as an analysis of each child's medical history.

Fifty-three (11.3%) of the 468 unintentional drowning fatalities in children 0–14 years involved a child with a pre-existing medical condition. Nineteen children were suffering from epilepsy, 13 from autism, five had intellectual disabilities, four had asthma, two had neuromuscular disease/paralysis and 10 had other medical syndromes. On average, children with a pre-existing medical condition were older (7.0 years) than children without these conditions (3.7 years). Similarly, children with a pre-existing diagnosis of epilepsy were older, with a median age of 8 years (range 2–14 years).

Overall, with the exception of epilepsy, the risks of drowning were not increased for children with pre-existing medical conditions. Epilepsy was the only pre-existing medical condition that led to an increased risk of fatal drowning. In 16 of the 19 (84.2%) epilepsy cases, the child's epilepsy was deemed as a direct cause of their drowning, with a prevalence of 4.1%, compared with 0.7%–1.7% amongst the general 0–14 year-old population. Of the 16 children where epilepsy was a direct cause of drowning, five (31%) were in a bathtub (aged 3–14 years), five (31%) were in swimming pools, two (12.5%) at the beach, two (12.5%) in rivers, one (6.3%) in a lake and one in a dam (6.3%). None of these 16 children were being appropriately supervised at the time of their drowning.

While the importance of adequate supervision in preventing the drowning of children under 5 is particularly recognised, clearly children with epilepsy, regardless of their age, require appropriate supervision to mitigate their increased risk of drowning. Importantly, as these children are often older, increasing age should not be viewed as lessening their increased risk of drowning. In the current study only one of the 16 drowning fatalities directly caused by the child's pre-existing epilepsy involved a child under 5, while 43.8% involved children aged 10–14 years.

[35] Franklin R, Pearn J, & Peden A. (2017). "Drowning fatalities in childhood: The role of pre-existing medical conditions." *Archives of Disease in Childhood*, 102: 888–893.

Drowning prevention

Given that drowning is the leading preventable cause of death in the early childhood years it is important that greater efforts are directed at preventing these deaths. Drowning prevention should take a life stages approach, allowing for targeted strategies that recognise risk priorities for each age group. Royal Life Saving promotes the following prevention messages:[36]

Infant

- actively supervise, be prepared for bath-time, maintain physical contact, all of your attention all of the time, do not leave infant in the care of older children
- ensure pool fence is correctly installed and compliant with legislation, regularly maintained and gate is never left open
- empty buckets and containers that hold water
- restrict children's access to water
- learn CPR.

Early childhood

- actively supervise, restrict access to water
- ensure pool fence is correctly installed and compliant with legislation, regularly maintained and gate is never left open
- establish rules around water, water familiarisation/ awareness classes
- learn CPR.

Primary school age

- actively supervise, continue learn to swim
- model safe behaviours around water
- learn CPR.

Secondary school age

- establish rules around water
- strengthen survival and rescue skills
- discourage risk taking, model and reinforce safe behaviours around water
- parents and teenagers learn CPR
- discuss dangers of alcohol and drug use with water activities.

[36] Royal Life Saving Society of Australia. https://www.royallifesaving.com.au/families/at-home/toddler-drowning-prevention/keep-watch-lifestages

Chapter 5 — Other non-intentional injury-related deaths

This chapter provides details of child deaths from other non-intentional injury (transport and drowning deaths are included in earlier chapters).

Key findings

- In 2017–18, 10 children and young people died in non-intentional injury-related incidents, other than a drowning or transport incident, at a rate of 0.9 deaths per 100 000 children aged 0–17 years.
- Three deaths each were caused by accidental threats to breathing and exposure to smoke, fire and flames, and two were caused by non-intentional poisoning.
- Over the 14 years since 2004, the most common types of non-intentional injury were threats to breathing, exposure to fire, smoke and flames, and exposure to inanimate mechanical forces.
- The highest number of deaths in 2017–18 occurred in the 1–4 year and 15–17 year age groups, with four deaths each.
- Over the last 14 years infants under one year had the highest rate of fatal non-intentional injuries, with a mortality rate four times the average for all Queensland children.
- Children known to the child protection system had a mortality rate for non-intentional injury that was five times the rate for all children in Queensland.
- Thirty-seven children died in 24 house or dwelling fires in Queensland over the 14 year period 2004–18. A further 10 adults also lost their lives in these incidents. Young children are at particular risk in house fires with 20 of the deaths being of children aged under five years.
- The *Fire and Emergency Services (Domestic Smoke Alarms) Amendment Act 2016* came into effect in January 2017. All new and renovated dwellings are required to have inter-connected photoelectric smoke alarms in bedrooms and on each level. Smoke alarms in existing dwellings must be replaced after 10 years as stipulated in the new legislation.

Other non-intentional injury-related deaths 2015–18

An expanded version of Table 5.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 5.1: Summary of other non-intentional injury-related deaths of children in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All other non intentional injury deaths							
Other non-intentional injury	10	0.9	15	1.3	10	0.9	1.0
Incident type							
Exposure to inanimate mechanical forces	2	*	3	*	1	*	0.2
Exposure to forces of nature	0	0.0	1	*	0	0.0	*
Exposure to smoke, fire and flames	3	*	1	*	3	*	0.2
Falls	0	0.0	1	*	1	*	*
Non-intentional poisoning by noxious substances	3	*	1	*	2	*	0.2
Threats to breathing	2	*	6	0.5	3	*	0.3
Contact with venomous animals and plants	0	0.0	1	*	0	0.0	*
Other not elsewhere classified	0	0.0	1	*	0	0.0	*
Sex							
Female	1	*	3	*	2	*	0.4
Male	9	1.6	12	2.1	8	1.4	1.7
Age category							
Under 1 year	1	*	2	*	1	*	2.1
1–4 years	5	2.0	3	*	4	1.6	1.6
5–9 years	0	0.0	0	0.0	1	*	*
10–14 years	2	*	8	2.6	0	0.0	1.1
15–17 years	2	*	2	*	4	2.2	1.5
Aboriginal and Torres Strait Islander status							
Indigenous	1	*	1	*	3	*	1.9
Non-Indigenous	9	0.9	14	1.3	7	0.7	1.0
Geographical area of usual residence (ARIA+)							
Remote	0	0.0	1	*	1	*	*
Regional	3	*	7	1.7	6	1.5	1.3
Metropolitan	6	0.9	7	1.0	3	*	0.8
Socio economic status of usual residence (SEIFA)							
Low to very low	5	1.1	6	1.3	6	1.3	1.2
Moderate	1	*	4	1.7	1	*	0.9
High to very high	3	*	5	1.1	3	*	0.8
Known to the child protection system							
Known to the child protection system	5	5.9	2	*	6	7.1	5.2

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/ARIA+ region/SEIFA region categories) in Queensland each year. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for the 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the one-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the one-year period prior to the reporting period.
4. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
5. Yearly average rates have been calculated using the ERP data as at June 2016.

Other non-intentional injury-related deaths: Findings 2017–18

The child deaths discussed in this chapter are those unintentional deaths which fall outside the scope of the more common non-intentional injury deaths covered earlier in this report (transport incidents and drowning).[37]

During 2017–18, the deaths of 10 children and young people from non-intentional injury were registered in Queensland, at a rate of 0.9 deaths per 100 000 children aged 0–17 years. The number of deaths from non-intentional injury registered since reporting commenced in 2004 ranges from 4 to 22 per year, with an average of 13.9 per year.[38]

Types of non-intentional injury-related deaths

Of the ten deaths from non-intentional injury, three were from threats to breathing, three were caused by exposure to fire, smoke and flames, two were from non-intentional poisoning by noxious substances, one was caused by exposure to inanimate mechanical forces, one was from a fall.

Over the 14 years since July 2004, the most common types of non-intentional injury were threats to breathing (72 of 192 deaths or 38%), exposure to fire, smoke and flames (37 deaths or 19%) and exposure to inanimate mechanical forces (28 deaths or 15%).

Sex

During 2017–18, eight deaths from non-intentional injury were of male children and two deaths from non-intentional injury were of female children.

Over the last three reporting periods, the average annual rate of mortality from non-intentional injury for males was four times the rate for females (1.7 deaths per 100 000 male children aged 0–17 years, compared to 0.4 deaths per 100 000 female children).

Age

Of the 10 deaths from non-intentional injury during 2017–18, one was of a child under one year, four were of children aged 1–4 years, one was of a child aged 10–14 years and four were of children aged 15–17 years.

Over the 14 years since July 2004, children aged under one year followed by 1–4 year olds had the highest rates of mortality from non-intentional injury compared to children from all other age groups (respectively, 5.2 and 2.0 per 100 000 in each group, compared to the all children rate of 1.3 per 100 000).

Aboriginal and Torres Strait Islander status

There were three deaths of Aboriginal and/or Torres Strait Islander children from non-intentional injury during 2017–18.

Geographical area of usual residence (ARIA+)

Of the 10 deaths from non-intentional injury during 2017–18, one was of a child who resided in a remote area of Queensland, six were of children from regional areas and three were of children from metropolitan areas.

Socio-economic status of usual residence (SEIFA)

Of the 10 deaths from non-intentional injury during 2017–18, six were of children who resided in areas of low to very low SES, one was of a child from moderate SES areas and three were of children from areas of high to very high SES.

[37] See Appendix 5 for a comprehensive outline of categories of death constituting 'other non-intentional injury-related deaths'.
[38] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au

Children known to the child protection system

Of the 10 deaths from non-intentional injury during 2017–18, six were of children known to the Queensland child protection system within the year before their death.

Over the last three-year period the mortality rate for non-intentional injury for children known to the child protection system was five times the rate for all children in Queensland (respectively, 5.2 and 1.0 per 100 000 in each category).

Deaths of children in house fires

Three children died from exposure to smoke, fire and flames in Queensland during 2017-18. Thirty-seven children died in house or dwelling fires since reporting commenced in 2004. A further 10 adults lost their lives in these incidents. In relation to the use and operation of smoke alarms in the 24 house fire incidents in the period 2004–18:

- In 14 house fires there were no smoke alarms or no operational smoke alarms (23 child deaths), while in eight house fires smoke alarms were in place and believed to be operational (10 child deaths). No information was available for three incidents (three child deaths).
- The greatest loss of life occurred in night-time house fires, with 11 lives lost in one fire.
- There were three house fires that resulted in three deaths each and one house fire that resulted in two deaths.
- There were five other house fires that resulted in one death each.
- Importantly, in five night-time house fires the smoke alarms woke the occupants allowing some occupants time to escape.
- One coronial investigation found evidence that an ionisation-type smoke alarms had not activated.

The *Fire and Emergency Services (Domestic Smoke Alarms) Amendment Act 2016* was passed with amendment in August 2016 and came into effect in January 2017. The requirements, to be phased in over ten years, will make smoke alarms mandatory in all bedrooms, between each part of the dwelling containing bedrooms, and in any storey not containing bedrooms. Smoke alarms will need to be interconnected, either hardwired or fitted with a 10-year battery, and be of a photoelectric type.

These requirements will be introduced in the following phases:

- when a new dwelling is built or substantial renovation are made to an existing dwelling, compliance is required from 1 January 2017
- by 2022, dwellings that are sold or leased are required to comply immediately
- all government-owned housing will need to comply by 2022
- by 2027 all domestic dwellings must comply with the changes.

Chapter 6 — Suicide

This section provides details of child deaths from suicide.

Key findings

- Twenty-four young people died of suspected or confirmed suicide in Queensland during 2017–18 at a rate of 2.1 deaths per 100 000 children aged 0–17 years (or 4.7 deaths per 100 000 children aged 10–17 years). The number of suicide deaths recorded over the 14 years since 2004 ranges from 15 to 26 with an average of 20.1 per year.
- Suicide was the equal leading external cause of death in 2017–18 (35% of external causes of death for all children). Suicide accounted for 56% of deaths by external causes among young people aged 10–17 years.
- Over the most recent 3-year period, the suicide rate for males was 1.3 times the rate for females.
- Of youth suicides, the highest numbers were in the oldest age group and generally decreased as age decreased. Nineteen of the 24 suicides were of young people aged 15–17 years. Over the most recent 3-year period, the suicide rate for young people aged 15–17 years was five times the rate for young people aged 10–14 years.
- There were five suicide deaths of Aboriginal and/or Torres Strait Islander young people during 2017–18. Over the most recent 3-year period, the suicide rate among Indigenous young people was more than twice the rate for their non-Indigenous peers.
- Young people may exhibit one or more suicidal or self-harm behaviours prior to suicide. Fourteen of the 24 young people who suicided during 2017–18 were identified as having previous suicidal ideation and/or had made an attempt to suicide. Eleven young people were known to have engaged in self-harming behaviours. There was no evidence of previous self-harm or suicidal behaviour for eight young people.
- In 10 of the 24 suicide deaths during 2017–18, the young person stated or implied their intent to suicide in person, online or via text message prior to their death. Six young people left suicide notes.
- The suicide rate for young people known to the child protection system in the 12 months prior to their death was three times the Queensland average for all children.
- Twenty-two young people were identified to have experienced situational circumstances, risk factors, precipitating incidents or stressful life events which may have influenced suicidal behaviour.

Suicide 2015–18

An expanded version of Table 6.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 6.1: Summary of suicide deaths of children and young people in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All suicide deaths							
Suicide[3]	20	1.8	20	1.8	24	2.1	1.9
Sex							
Female	7	3.0	6	2.5	14	5.9	3.8
Male	13	5.2	14	5.6	10	4.0	4.9
Age category							
10–17 years	20	4.1	20	4.1	23	4.7	4.3
5–9 years	0	0.0	0	0.0	1	*	*
10–14 years	4	1.3	8	2.6	4	1.3	1.7
15–17 years	16	8.8	12	6.5	19	10.3	8.5
Aboriginal and Torres Strait Islander status							
Indigenous	4	10.9	3	*	5	13.5	10.8
Non-Indigenous	16	3.6	17	3.8	19	4.2	3.8
Geographical area of usual residence (ARIA+)							
Remote	1	*	0	0.0	2	*	*
Regional	8	4.5	7	3.9	7	3.9	4.1
Metropolitan	10	3.5	13	4.4	15	5.1	4.3
Socio economic status of usual residence (SEIFA)							
Low to very low	9	4.6	8	4.1	13	6.7	5.2
Moderate	4	4.0	3	*	3	*	3.3
High to very high	6	3.1	9	4.6	8	4.1	3.9
Known to the child protection system							
Known to the child protection system	5	5.9	8	9.9	2	*	5.9
Method of death							
Hanging	18	3.7	19	3.9	19	3.9	3.8
Injury caused by firearm or explosives	1	*	0	0.0	1	*	*
Jump from height	0	0.0	0	0.0	1	*	*
Struck by moving object	1	*	0	0.0	2	*	*
Poisoning	0	0.0	0	0.0	1	*	*
Other method	0	0.0	1	*	0	0.0	*

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/ARIA+ region/SEIFA region categories) in Queensland each year. Rates for the 2015–16 period use the ERP data as at June 2015 and rates for the 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. Overall suicide rates are calculated per 100 000 children aged 0–17 years in Queensland.
4. All other rates, except known to the child protection population, are calculated per 100 000 children aged 10–17 years in Queensland in each year.
5. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the one-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the one-year period prior to the reporting period.
6. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
7. Yearly average rates have been calculated using the ERP data as at June 2016.

Defining and classifying suicide

In the Queensland Child Death Register, all suspected suicide cases are assessed and categorised using a suicide classification model based on an amended version of the Australian Institute of Suicide Research and Prevention's (AISRAP) suicide classification.[39] Historically, cases where suicide was suspected but intent was unclear (that is, the deceased did not leave a suicide note and did not state their intent before death) have been recorded as accidents. This resulted in childhood and adolescent suicide being under-reported in official statistics, with a large proportion recorded as accidental deaths.[40] The QFCC classification model takes into account the prevention focus of child death data collection.

In the 2017–18 reporting period, 14 deaths were classified as confirmed suicides and 10 deaths were categorised as probable suicides. One death was classified as a possible suicide and has not been included in this analysis as there is a substantial possibility that the death may have been the result of another cause.

Coronial findings

At the time of reporting, coronial findings had been finalised for nine of the 24 suicides from 2017–18. Coroners made clear statements that the cause of death was suicide in seven of these deaths. In the remaining two deaths, hanging was confirmed as the method of death and there was no indication of an alternative cause of death.

Suicide: Findings 2017–18

During 2017–18, 24 confirmed or suspected suicide deaths of young people were registered in Queensland, at a rate of 2.1 deaths per 100 000 children aged 0–17 years. The number of suicide deaths registered since reporting commenced in 2004 ranges from 15 to 26 per year, with an average of 20.1 per year.[41]

Sex

During 2017–18, there were 10 suicide deaths of male young people, compared to 14 females.

Over the last three reporting periods, the average annual suicide rate for males was 1.3 times the rate for females (4.9 deaths per 100 000 male children aged 10–17 years, compared to 3.8 deaths per 100 000 females aged 10–17 years). Male suicide rates in adult populations have a much greater disparity than female suicide rates, with an 'all ages' suicide rate for males being three times that for females.[42]

Age

Of the 24 suicide deaths during 2017–18, 19 were of young people aged 15–17 years and four were of young people aged 10–14 years. Suicide was the leading external cause of death for young people from both age categories in Queensland during 2017–18.

Of youth suicides, the highest numbers were in the oldest age group and generally decreased with age. Over the last three reporting periods, the average annual suicide rate for young people aged 15–17 years was five times the rate for young people aged 10–14 years (8.5 deaths per 100 000 children aged 15–17 years, compared to 1.7 deaths per 100 000 children aged 10–14 years).

Aboriginal and Torres Strait Islander status

Of the 24 suicide deaths during 2017–18, five were of Aboriginal and/or Torres Strait Islander young people.

Over the last three reporting periods, the average annual suicide rate for Indigenous young people was more than twice the rate for non-Indigenous young people (10.8 deaths per 100 000 Indigenous children aged 10–17 years, compared to 3.8 deaths per 100 000 non-Indigenous children aged 10–17 years).

[39] See Appendix 6 for further details regarding the suicide classification model.
[40] Since 2013, the ABS publication *Causes of Death* includes an appendix presenting suicide deaths of children aged under 15.
[41] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au.
[42] Australian Institute of Suicide Research and Prevention (2016). *Suicide in Queensland: Mortality Rates and Related Data, 2011–2013*.

Indigenous young people have been over-represented in suicide deaths since reporting commenced in 2004. Across the 14-year period a slightly younger profile of Indigenous suicides was apparent, with 32% of Indigenous young people who suicided aged under 15 years compared to 21% of non-Indigenous young people who suicided.

Geographical area of usual residence (ARIA+)

Of the 24 suicide deaths during 2017–18, 15 were of young people from metropolitan areas of Queensland, seven were of young people from regional areas and two were for young people who resided in remote areas.

Socio-economic status of usual residence (SEIFA)

Of the 24 suicide deaths during 2017–18, 13 were of young people who resided in an area of low to very low SES, eight were of young people from high to very high SES areas and three were of young people from areas of moderate SES.

Research has found the risk of suicidal behaviour is increased for individuals from a socially disadvantaged background, characterised by low SES and low income.[43]

Children known to the child protection system

Of the 24 suicide deaths during 2017–18, two were of young people known to the Queensland child protection system within the year before their death.[44] An increased risk of suicide has been identified among children and young people known to child protection agencies.[45] The suicide rate for young people known to the child protection system in the 12 months prior to their death was three times the Queensland average for all children over the last three reporting periods (respectively, rates of 5.9 and 1.9 per 100 000 in each category).

Children known to these agencies may often be living in circumstances which are characterised by substance misuse, mental health problems, lack of attachment to significant others, behavioural and disciplinary problems or a history of abuse.

Circumstances of death

Situational circumstances and risk factors

This section outlines the factors which may have influenced suicidal behaviour in the 24 young people who suicided in Queensland during 2017–18. This overview is based on information available to QFCC and may therefore under-represent the actual number of circumstances and risk factors for some of the children and young people. As indicated in Table 6.2, situational circumstances or risk factors were identified for 22 of the 24 young people who suicided in 2017–18.

Suicidal behaviours in children and young people are often not the result of a single cause, but are multi-faceted and frequently occur at the end point of adverse life sequences in which interacting risk factors combine, resulting in feelings of hopelessness and a desire to 'make it all go away'.[46] It is widely understood, and supported by analysis of data in the Queensland Child Death Register, a number of common risk factors and adverse life circumstances may contribute to suicidal behaviour in children and young people.

[43] Australian Institute of Health and Welfare (2008). *Injury among young Australians,* Bulletin 60.

[44] For the purpose of this report, a child is deemed to have been known to the child protection system if, within one year before the child's death, the DCSYW became aware of child protection concerns, alleged harm or alleged risk of harm to the child or took action under the *Child Protection Act* in relation to the child.

[45] CCYPCG (2014). *Child deaths—prevalence of youth suicide in Queensland*, Trends and Issues Paper Number 19.

[46] CCYPCG (2009). Reducing youth suicide in Queensland discussion paper.

Table 6.2: Summary of situational circumstances and risk factors for young people who suicided in 2017–18

Types of situational circumstance or risk factor	Total *n*
Situational circumstances or risk factors identified for young person	**22**
Stressful life event	21
Previous self-harm or suicidal behaviour	16
Known or suspected mental health issue or behavioural problem	14
Precipitating incident	10
Intent stated or implied prior to death incident	10
Alcohol, drug or substance use	7
Contagion (suicide or attempted suicide of a family member or friend)	2
History of alleged childhood abuse	2
No situational circumstances or risk factors identified for young person	**2**
Total	**24**

Data source: Queensland Child Death Register (2017–18)

1. More than one issue/factor may be present for each young person, therefore the sum of the counts may be greater than the total.
2. Young people were recorded as having no situational circumstances or risk factors identifiable where the QFCC did not have information to indicate otherwise. This is not an absolute finding in regards to the young person's situation.

Mental health issues and behavioural problems

As indicated in Table 6.3, 14 of the 24 young people who suicided during 2017–18 had, or were suspected to have had, a mental health issue or behavioural problem before their death. The most common mental health issues or behavioural problems identified were depression and anxiety. Four of the 14 young people were identified to have multiple mental health and/or behavioural issues (co-morbid conditions).

Table 6.3: Mental health issues and behavioural problems for young people who suicided in 2017–18

Mental health issues and/or behavioural problems	Total *n*
Known mental health issue or behavioural problem	**8**
Known to have accessed mental health provider	8
Currently or previously prescribed medication for mental health issue	5
Suspected mental health issue	**7**
No mental health issue identified	**10**
Total	**24**

Data source: Queensland Child Death Register (2017–18)

1. More than one issue/factor may be present for each young person, therefore the sum of the counts may be greater than the total.
2. 'Suspected mental health issue' refers to information from family members or friends who believed the young person to be experiencing a mental health issue. A young person could have a known and a suspected mental health issue.
3. Young people were recorded as not having a mental health issue where the QFCC did not have information to indicate otherwise. This is not an absolute finding in regards to the young person's mental health.

Alcohol, drug and substance use

Seven of the 24 young people who suicided during 2017–18 were reported as having a history of alcohol, drug or substance use,[47] with alcohol and cannabis the most frequently cited substances used. Tobacco, amphetamine and solvent misuse was also identified.

History of childhood abuse

Information available indicated two of the 24 young people who suicided in 2017–18 had a history of alleged childhood abuse. A history of domestic and family violence within the young person's family was identified for four young people.

[47] Previous or current use of alcohol or drugs identified by friends, family members or in toxicology findings.

Previous self-harm and suicidal behaviour

Fourteen of the 24 young people who suicided during 2017–18 were recorded as having experienced suicidal ideation.[48] Five young people had previously attempted suicide, with two young people attempting suicide on more than one occasion. Eleven young people had previously engaged in self-harming behaviour, such as cutting.[49] There was no evidence of previous self-harm or suicidal behaviour for eight young people.

Intent stated or implied (orally or written)

In 10 of the 24 suicides during 2017–18, young people stated or implied their intent to a family member, friend, boyfriend or girlfriend or online prior to their suicide. Intent was stated or implied by text message (seven deaths), or by phone, in person or other unspecified means (one death each).[50] Suicide notes were left by six young people.

Contagion

Contagion refers to the process by which a prior suicide or attempted suicide of a family member or friend facilitates or influences suicidal behaviour in another person. Contagion was identified as a potential factor for two of the 24 young people who suicided during 2017–18.

Precipitating incidents and stressful life events

Precipitating incidents

Precipitating incidents were identified in 10 of the 24 suicide deaths of young people in Queensland during 2017–18. Precipitating incidents refer to events or stressors which occur prior to a suicide and which appear to have influenced the decision for a person to end their life. Most precipitating incidents will occur in the hours, days or week prior to death. Bereavement can be considered a precipitating incident, with an arbitrary time frame of up to 6 months between the death of the family member or friend and the suicide of the young person. Table 6.4 shows the types of precipitating incidents which occurred among young people who suicided in 2017–18.

Table 6.4: Types of precipitating incidents for young people who suicided in 2017–18

Types of precipitating incidents	Total *n*
Precipitating incidents identified for young person	**10**
Argument with family member, intimate partner or friend	4
Relationship breakdown	2
Conflict with person other than family member, intimate partner or friend	1
Bullying	1
Poor intra-familial relationships	1
Disciplinary problems with parents	1
Disciplinary problems with teachers or school	1
Other precipitating incidents	1
No precipitating incident/s identified for young person	**14**
Total	**24**

Data source: Queensland Child Death Register (2017–18)

1. More than one issue/factor may be present for each young person, therefore the sum of the counts may be greater than the total.
2. Young people were recorded as not having an identifiable precipitating incident where the QFCC did not have information to indicate otherwise. This is not an absolute finding in regards to the young person's situation.

[48] 'Suicidal ideation' refers to the explicit communication of having thoughts of suicide.
[49] Each young person with identified self-harm or suicidal behaviour may have exhibited more than one type of behaviour.
[50] Each young person may have stated or implied their intent using more than one communication method.

Stressful life events

Stressful life events (life stressors) were identified in 22 of the 24 suicide deaths of young people in Queensland during 2017–18. Life stressors are events or experiences which produce significant strain on an individual; they can occur at any stage over the course of a person's lifetime and vary in severity and duration. Life stressors differ from precipitating incidents as they are more likely to occur in the background over a period of time with strain accumulating over time. Table 6.5 shows the types of life stressors which occurred among children and young people who suicided in 2017–18.

The three most common stressors identified in young people who suicided in 2017–18 were parental separation or divorce, poor intra-familial relationships and transition in education.

Table 6.5: Types of stressful life events for young people who suicided in 2017–18

Types of stressful life events	Total *n*
Life stressors identified for the young person	**22**
Parental separation or divorce	10
Poor intra-familial relationships	6
Transition of education	6
Academic/achievement-related stress	5
Transition of residence	5
Domestic or intimate partner violence	4
Bullying	4
Loss of social support	4
Argument with family member, intimate partner or friend	3
Injury, illness, disability or developmental delay	3
Alleged offending or detention	3
Relationship breakdown	3
Bereaved by death (other than suicide)	2
Bereaved by suicide	2
Family injury, illness or disability	2
Alleged victim of criminal offence	2
Unemployment	2
History of alleged childhood abuse	2
Conflict with person other than family member, intimate partner or friend	1
Body image	1
Sexual/gender identity	1
Other stressful life events	8
No life stressors identified for the young person	**2**
Total	**24**

Data source: Queensland Child Death Register (2017–18)

1. More than one issue/factor may be present for each young person, therefore the sum of the counts may be greater than the total.
2. Young people were recorded as not having an identifiable life stressor where the QFCC did not have information to indicate otherwise. This is not an absolute finding in regards to the young person's life circumstances.

Mental Health Coach Program in Queensland schools

The Queensland Department of Education (the department) has eight Mental Health Coach positions across the state to provide key points of contact for support and advice to principals, school leaders and regional staff about student mental health and wellbeing. The program ensures that student mental health and wellbeing is promoted and supported effectively and efficiently, and students and families receive appropriate levels of support when required.

The Mental Health Coach in the Central Office provides leadership and direction in the planning and implementation of the State Schools' Division priorities, particularly those in relation to mental health and wellbeing. This is achieved through working with regionally based Mental Health Coaches to ensure a coordinated and responsive whole-of-school approach to the provision of mental health and wellbeing services to students. This includes the development of state-wide policies, procedures, resources and training materials to equip the regional mental health coaches to fulfil their role as outlined above.

The seven regional Mental Health Coaches' responsibilities include:

- providing support and high level advice to the Regional Director, Assistant Regional Directors and Principals to build inclusive, safe and supportive learning environments in schools
- developing and supporting implementation of whole school approaches to social and emotional learning, targeted school mental health promotion, engagement of students who are most at risk of mental health issues and referral pathways for students requiring additional mental health support
- developing and maintaining effective networks with internal and external stakeholders to ensure coordinated holistic responses to complex mental health and wellbeing issues to improve educational outcomes
- developing training and promoting professional development resources for teachers, school leaders, guidance officers and other staff to enhance staff capacity to respond to mental health and wellbeing needs of students
- driving momentum within the region to integrate social and emotional wellbeing across all school activities and the curriculum to improve educational outcomes.

Responding to suicide

The death of a student by suicide is recognised as a tragic event that can have wide-reaching impacts on students, families, teachers and the broader school community. Responding quickly to a suicide is of paramount importance to ensure that appropriate supports are put in place for students, staff and the school community affected.

The department is alerted by the QFCC of any suspected suicide of a young person in Queensland. If the young person has been enrolled in a Queensland state school within the previous six months, the relevant Regional Director is alerted to the incident, and also naming any other young people that have been identified as likely to be significantly impacted by the death of the young person. The email also alerts the Regional Director to information regarding Principal support—offered through headspace and the Queensland Secondary Principals' Association—and headspace in Schools which provide postvention support materials and direct services.

Schools and school staff have access to a number of support services and resources to assist them if a suicide does occur, including:

- access to guidance staff, who have received suicide prevention and postvention training from headspace
- the school's suicide intervention and postvention response plans, which have been developed in collaboration with the Mental Health Coaches and headspace in schools to ensure that school leadership teams are using a best-practice approach to manage suicide risk in their school community
- the headspace national network of school support teams, which can assist schools to appropriately respond to suicide or attempted suicide events in school communities and can provide training on prevention and postvention strategies in school communities.

Documentation is available to help schools respond to suicide including:

- *Suicide postvention for schools guideline*, developed by the department in collaboration with headspace to assist schools to support students' mental health and wellbeing needs associated with student suicide events
- the *Suicide postvention quick reference guide*
- the *Responding to traumatic events* factsheet
- a sample email, which principals may send out to parents/carers following a traumatic event.

Recent research on youth suicide

In February 2018, the QFCC hosted a Research in the Round focused on youth suicide. The forum involved presentations by three leading researchers and included an interactive panel discussion to explore ways to reduce youth suicide and more effectively incorporate youth suicide prevention into government policy and practice.

Associate Professor James Scott, presented his research titled *Child and adolescent suicides in Queensland between 2004-2015*. Key findings included:

- The rates of suicide in young people in Queensland did not change between 2004 and 2015.
- Males, Indigenous Australians and young people who have had contact with Child Safety are at higher risk of dying by suicide.
- Most suicides cannot be predicted. Only half of young people who died by suicide expressed suicidal ideation in the time before their death.
- Most people die by methods for which access cannot be restricted.
- Factors which made young people more vulnerable to suicide included exposure to maltreatment, family violence and parental maladjustment and bullying.
- Suicide prevention involves increasing young people's connectedness to their communities and ensuring they can access support when distressed.

Dr Samantha Batchelor, of *yourtown*, presented findings of a national online survey of children and young people who had thought about or attempted suicide. Key findings in her presentation *Listen, don't judge, care more: What children and young people want when feeling suicidal*, included:

- Thoughts of suicide can start young; 1 in 5 respondents was aged 13 or younger.
- Young people fear being 'judged' or called an 'attention seeker', feel worthless and undeserving, and worry about hurting or burdening loved ones.
- Parents/carers are crucial supports, but many don't know how to respond.
- Many young people who sought help had their feelings trivialised or dismissed, which exacerbated their distress.
- Relationships are key to recovery; young people value a caring relationship with a counsellor as much as any 'treatment' provided.

Ms Leda Barnett presented on *The Life Promotion Project: A Study of First Australian Youth Suicides.* This was a study completed in 2010 in the regional city of Mackay in response to a youth suicide cluster. With a focus on First Australians, the project asked community members about the history of the community, their experiences with suicide and what the community needs to combat the issue. Key findings included:

- The phenomenon of suicide clusters features as an important difference between Indigenous and non-Indigenous suicide.
- Strategies to prevent Indigenous suicide need to be tailored to the specific needs of the community.
- Survivors of suicide need services that will ensure the cycle of grief is broken to prevent further suicides.
- Services need to work together to create a system that allows for the treatment of all facets of Indigenous wellbeing.

- Greater emphasis on promoting cultural history and tradition is needed to enhance Indigenous identity and resilience.

Presentations and Research Summaries from each researcher can be found at:
https://www.qfcc.qld.gov.au/sector/research-policy/research-round-forums/2018-reducing-youth-suicide

Chapter 7 — Fatal assault and neglect

This chapter provides details of child deaths from assault and neglect.

Key findings

- No child deaths were recorded as a result of suspected or confirmed assault and neglect in Queensland during 2017–18, based on information available to the QFCC at the time of reporting.
- There were 15 child deaths from assault and neglect in the two previous years (nine in 2015–16 and six in 2016–17).
- Infants under the age of one were over-represented in the rates of child death from assault and neglect over the 14 years since 2004.
- The Queensland Sentencing Advisory Council is undertaking a review of the sentencing outcomes for criminal offences relating to the death of a child.

Fatal assault and neglect 2015–18

An expanded version of Table 7.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 7.1: Summary of deaths from assault and neglect of children and young people in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All assault and neglect deaths							
Fatal assault and neglect	9	0.8	6	0.5	0	0.0	0.4
Sex							
Female	6	1.1	3	*	0	0.0	0.5
Male	3	*	3	*	0	0.0	0.3
Age category							
Under 1 year	1	*	1	*	0	0.0	*
1–4 years	1	*	3	*	0	0.0	0.5
5–9 years	2	*	1	*	0	0.0	*
10–14 years	3	*	0	0.0	0	0.0	*
15–17 years	2	*	1	*	0	0.0	*
Aboriginal and Torres Strait Islander status							
Indigenous	0	0.0	1	*	0	0.0	*
Non-Indigenous	9	0.9	5	0.5	0	0.0	0.4
Geographic area of usual residence (ARIA+)							
Remote	2	*	0	0.0	0	0.0	*
Regional	1	*	1	*	0	0.0	*
Metropolitan	6	0.9	5	0.7	0	0.0	0.5
Socio economic status of usual residence (SEIFA)							
Low to very low	2	*	3	*	0	0.0	0.4
Moderate	2	*	2	*	0	0.0	0.6
High to very high	5	1.1	1	*	0	0.0	0.4
Known to the child protection system							
Known to the child protection system	4	4.7	5	6.2	0	0.0	3.6
Category of fatal assault and neglect							
Intra-familial	7	0.6	5	0.4	0	0.0	0.4
Neonaticide	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0.0*
Domestic homicide	*6*	*0.5*	*2*	*	*0*	*0.0*	*0.2*
Fatal child abuse	*0*	*0.0*	*3*	*	*0*	*0.0*	*
Other intra-familial assault	*1*	*	*0*	*0.0*	*0*	*0.0*	*
Extra-familial	2	*	1	*	0	0.0	*
Intimate partner homicide	*1*	*	*1*	*	*0*	*0.0*	*
Peer homicide	*0*	0.0	*0*	*0.0*	*0*	*0.0*	0.0
Acquaintance homicide	*1*	*	*0*	*0.0*	*0*	*0.0*	*

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/ARIA+ region/SEIFA region categories) in Queensland each year. Rates for 2015–16 use ERP data as at June 2015. The 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
4. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the one-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17 who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the one-year period prior to the reporting period.
5. Yearly average rates have been calculated using the ERP data as at June 2016.

Defining fatal assault and neglect

Deaths categorised as being caused by fatal assault and neglect include suspicious deaths where information available to the QFCC indicates a homicide investigation was initiated, or where an alleged perpetrator was charged, or the alleged perpetrator is known but deceased.

'Fatal assault' is defined in this report as a death where a child dies at the hands of another person who has inflicted harm on them through some means of force or physical aggression.[51] 'Fatal neglect' is defined as a death where a child who is dependent on a caregiver for the basic necessities of life dies owing to the failure of the caregiver to meet the child's ongoing basic needs.

The definitions are intended to be child focused insofar as the perpetrator's intention is not relevant—the definition includes instances of violence or neglect leading to the child's death even though the perpetrator may not have intended such an outcome—as well as instances where the perpetrator intended to kill the child.[52]

It is important to note that assault and neglect are not necessarily exclusive categories. For example, a child's death may be the culmination of a series of violent and neglectful acts perpetrated against them. Where more than one type of fatal assault and neglect was identified for the child at the time of death, a primary type of fatal assault or neglect in relation to the cause of death is identified for the child for reporting purposes.

Appendix 2 provides definitions for the various categories of fatal assault and neglect listed in Table 7.1.

Coronial findings and criminal proceedings

There were coronial findings for eight of the 15 child deaths due to fatal assault and neglect during 2015–18. Screening criteria have been used to establish the level of confirmation of fatal assault and neglect which applies to relevant child deaths.[53] Of the 15 fatal assault and neglect deaths, 13 were assessed as confirmed and two were assessed as probable. The level of confirmation is subject to ongoing police and coronial investigations and is dependent upon information available to QFCC at the time of reporting.

Fatal assault and neglect: Findings 2017–18

No deaths were recorded as a result of suspected or confirmed assault and neglect in Queensland during 2017–18, based on information available to the QFCC at the time of reporting.

There were 15 child deaths from assault and neglect in the two previous years (nine in 2015–16 and six in 2016–17). The rate of child deaths from fatal assault and neglect during the three-year period 2015–18 was 0.4 deaths per 100 000 children aged 0–17 years.

The number of child deaths from assault and neglect since reporting commenced in 2004 ranged from 5 to 17 per year, with an average of 7.9 per year (a rate of 0.7 per 100 000).[54]

Sex

Of the 15 children who died from assault or neglect in 2015–18, nine were female and six were male.

Age

Infants under the age of one were over-represented in the rates of fatal assault and neglect across the 14 years since 2004, reflecting the higher degree of vulnerability of children in this age category. The rate of fatal assault and neglect for infants was 4.0 per 100 000 aged under 1 year, whereas all other age groups had rates less than 1.0 per 100 000.

[51] Deaths caused by drowning or transport-related incidents where a person has been charged with criminal offences are currently excluded from the definition of fatal assault and neglect (with the exception of murder charges). These cases are counted in relevant chapters.

[52] These definitions have been adapted from Lawrence, R. (2004). 'Understanding fatal assault of children: a typology and explanatory theory', *Children & Youth Services Review*, 26, 837–852.

[53] See Appendix 7 for further details regarding the fatal assault and neglect screening criteria.

[54] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au

Aboriginal and Torres Strait Islander status

The rate of death from assault and neglect in the 14 years since 2004 for Aboriginal and/or Torres Strait Islander children was 2.2 deaths per 100 000 Indigenous children aged 0–17 years, compared to 0.6 deaths per 100 000 non-Indigenous children.

Geographic area of usual residence (ARIA+)

Of the 15 child deaths from assault and neglect during 2015–18, two were of children from remote areas of Queensland, two were of children from regional areas and 11 were of children from metropolitan areas.

Socio-economic status of usual residence (SEIFA)

Of the 15 child deaths from assault and neglect during 2015–18, five were of children who resided in low to very low SES areas of Queensland, four were of children from moderate SES areas and six were of children from areas of high to very high SES.

Children known to the child protection system

Of the 15 child deaths from assault and neglect during 2015–18, nine were of children known to the Queensland child protection system within the year before their death. Over the three years 2015–18, the rate of death from assault and neglect was 3.6 per 100 000 for children known to the child protection system, compared to 0.4 per 100 000 for all Queensland children.

Sentencing for criminal offences arising from the death of a child

The Queensland Sentencing Advisory Council (the Council) is undertaking a review of the existing penalties for criminal offences arising from the death of a child. The Council released a consultation paper in May 2018 followed, in July, by the research report *Child homicide in Queensland: A descriptive analysis of offences finalised by Queensland criminal courts, 2005–06 to 2016–17*.[55]

The review specifically focuses on offences involving murder and manslaughter. Decisions made by the mental health court are beyond the scope of the review, as they do not relate to sentencing.

The Council noted national and international research indicates child homicide accounts for between 8 and 19% of all homicide cases. Parents or parent equivalents are the most likely perpetrators, with a child at the greatest risk of child homicide in their first year of life. The risk of a child being a victim of homicide perpetrated by someone outside of the family increases with age.

The Council's analysis of court outcomes found there was a longer median sentence for manslaughter offences involving adult victims (8 years) in comparison to those for manslaughter offences involving child victims (7.5 years).

A number of reasons set out in the consultation paper could explain the longer sentence for manslaughter offences involving an adult victim in comparison to a child victim.

Firstly, officials face numerous challenges in relation to investigating and prosecuting child homicide offences, including:

- lack of witnesses
- medical help is often sought, whereas adult offences tend to be concealed
- a limited number of qualified pathologists to undertake autopsies of children who died in sudden or unexpected circumstances determining the level of violence used against a child, especially infants, as the level of force required to inflict fatal injury to a child is quite low.

[55] Terms of Reference and published papers can be found at https://www.sentencingcouncil.qld.gov.au/research/sentencing-for-child-homicide

Secondly, child homicide cases often occur in circumstances where the perpetrator was unable to cope, which does not lend itself to allegations of intentional killing, or intention to cause serious injury. Similarly, where an offender has failed to seek medical treatment for a child it can be difficult to establish intent. It can also be difficult to determine the extent of a child's injury until they have proved fatal.

Finally, there is a wide range of offences that could result in a conviction for manslaughter, thereby attracting a wider range of sentences. In relation to child deaths, a manslaughter charge could encompass injuries sustained from a moment's inattention by a caregiver to systematic and gratuitous violence.

Through the public consultation process, stakeholders made it clear that while there was a need for harsher sentences for child homicide offences it was still necessary to retain judicial discretion so that the unique circumstances of each case could be given consideration, and that mandatory sentences for manslaughter should be avoided. The vulnerability of the child victim due to age or disability continues to be an aggravating factor that will be considered in sentencing.

The Council is due to deliver its final report to the Attorney-General in October 2018.

Chapter 8 — Sudden unexpected deaths in infancy

This chapter provides details of sudden unexpected infant deaths.

Key findings

- Sudden unexpected death in infancy (SUDI) is a category of deaths where an infant (aged under one year) dies suddenly, usually during sleep, and with no immediately obvious cause. Deaths from SUDI are recorded as 'cause pending' until post-mortem examination or coroner's investigation provide an official cause of death.
- There were 32 SUDI cases in 2017–18, a rate of 51.2 deaths per 100 000 infants. The number of SUDI deaths has fluctuated over the last 14 years; ranging between 29 and 55 deaths each year (average rate across the 14 years of 70.2 per 100 000).
- Aboriginal and/or Torres Strait Islander infants are over-represented in SUDI deaths. Over the last 3 years, Indigenous infants died suddenly and unexpectedly at twice the rate of non-Indigenous infants.
- Children known to the child protection system had a SUDI rate four times that for all children over the last 3 years.
- An official cause of death was determined in 11 cases. Six were attributed to SIDS and undetermined causes. Official causes of death were still pending for 21 deaths.
- Five of the SUDI deaths were found to have an explained cause of death. All five of these infants died as a result of infant illnesses or conditions unrecognised prior to their deaths.
- In 2016–17, when all but three SUDI deaths had official causes of death, the rate of death for SIDS and undetermined causes was 24.0 per 100 000 infants (5.6% of infant deaths from all causes), representing the third highest cause of death after perinatal conditions and congenital anomalies.
- Compared to other explained causes, SIDS and undetermined causes are a much more common contributor to infant deaths in the post-neonatal period (28 days to 11 months), accounting for 22% of all deaths in this age group in 2016–17 (15 of 68 post-neonatal infant deaths).

Sudden unexpected deaths in infancy 2015–18

An expanded version of Table 8.1 containing data since 2004 is available online at www.qfcc.qld.gov.au.

Table 8.1: Summary of SUDI in Queensland 2015–18

	2015 16		2016 17		2017 18		Yearly average
	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Total *n*	Rate per 100 000	Rate per 100 000
All sudden unexpected deaths in infancy (SUDI)							
SUDI	29	46.7	30	48.0	32	51.2	48.6
Sex							
Female	17	56.0	17	55.7	13	42.6	51.3
Male	12	37.8	13	40.7	19	59.5	45.9
Aboriginal and Torres Strait Islander status							
Indigenous	4	72.5	3	*	9	158.2	93.7
Non-Indigenous	25	44.2	27	47.6	23	40.5	44.0
Geographical area of usual residence (ARIA+)							
Remote	1	*	0	0.0	0	0.0	*
Regional	12	58.3	14	68.4	17	83.0	70.0
Metropolitan	16	41.5	15	38.4	15	38.6	39.3
Socio economic status of usual residence (SEIFA)							
Low to very low	19	75.5	17	68.1	15	60.1	68.1
Moderate	0	0.0	6	45.8	8	61.0	35.6
High to very high	10	41.7	6	24.6	9	36.9	34.2
Known to the child protection system							
Known to the child protection system	11	13.1	7	8.7	10	11.8	11.2
Unexplained SUDI							
SIDS and undetermined	20	32.2	15	24.0	6	9.6	21.9
SIDS	*10*	*16.1*	*7*	*11.2*	*3*	*	*10.7*
Undetermined causes	*10*	*16.1*	*8*	*12.8*	*3*	*	*11.2*
Cause of death pending	0	0.0	3	*	21	33.6	12.8
Explained SUDI							
Explained SUDI	9	14.5	12	19.2	5	8.0	13.9
Unrecognised infant illness	*8*	*12.9*	*9*	*14.4*	*5*	*8.0*	*11.7*
Sleep accident	*1*	*	*2*	*	*0*	*0.0*	*
Fatal assault	*0*	*0.0*	*1*	*	*0*	*0.0*	*

Data source: Queensland Child Death Register (2015–18)

* Rates have not been calculated for numbers less than four.

1. Data presented here is current in the Queensland Child Death Register as at August 2018 and thus may differ from those presented in previously published reports.
2. Rates are based on the most up-to-date denominator data available and are calculated per 100 000 children (in the sex/age/Indigenous status/children known to child protection/ ARIA+ region/SEIFA region categories) in Queensland each year. Rates for 2015–16 use ERP data as at June 2015. The 2016–17 and 2017–18 periods use the ERP data as at June 2016.
3. ARIA+ and SEIFA exclude the deaths of children whose usual place of residence was outside Queensland.
4. The number of children known to the child protection system represents the number of children whose deaths were registered in the reporting period, who were known to the DCSYW within the one-year period prior to their death. The denominator for calculating rates is the number of children aged 0–17, instead of per 100 000 infants under the age of one year, who were known to the DCSYW, through either being subject to a child concern report, notification, investigation and assessment, ongoing intervention, orders or placement, in the one-year period prior to the reporting period.
5. Yearly average rates have been calculated using the ERP data as at June 2016.

The classification of sudden unexpected deaths in infancy

Sudden unexpected death in infancy is a research classification and does not correspond with any single medical definition or categorisation. Rather, the aim of this grouping is to report on the deaths of apparently well infants who would be expected to thrive, yet, for reasons often unknown, die suddenly and unexpectedly. Identifying deaths in this way assists in the identification of possible risk factors for and associations with sudden infant death and, most significantly, those factors which may be preventable or amenable to change.

The Police Report of Death to a Coroner (Form 1), which includes a summary of the circumstances surrounding the death as initially reported,[56] is used to identify SUDI deaths. The circumstances of the death must meet all of the following criteria to be included in the SUDI grouping:

- child less than one year of age
- sudden in nature
- unexpected, with no previously known condition which was likely to cause death, and
- no immediately obvious cause of death.

The SUDI grouping includes deaths found to be associated with infections or anatomical/developmental abnormalities not recognised before death, sleep accidents such as inhalation of gastric contents, and deaths that initially present as sudden and unexpected but are revealed by investigations to be the result of non-accidental injury. It also includes deaths due to SIDS and infant deaths where a cause could not be determined.[57]

Death certification

A high proportion of SUDI cases (21 of 32 in 2017–18) were pending death certification at the time of reporting. Paediatric autopsies are amongst the most complex forms of autopsies undertaken, and the complexity contributes to the length of time required to undertake and report on autopsies. Following the development of a new definition of SIDS in 2004 (termed the San Diego definition), all cases of SUDI optimally require the performance of a complete autopsy (including toxicology, microbiology, radiology, vitreous chemistry and metabolic screening studies).[58]

There is also an additional focus on establishing there is no evidence of unexplained trauma, abuse or unintentional injury before a classification of SIDS can be assigned. This frequently involves more extensive gross and microscopic examination during autopsy than in cases of explained infant and child deaths.

Sudden unexpected deaths in infancy: Findings 2017–18

During 2017–18, there were 32 SUDI cases in Queensland, at a rate of 51.2 deaths per 100 000 infants. The number and rate of SUDI deaths have fluctuated over the last 14 reporting periods; however, the 2017–18 number of deaths is the third-lowest recorded since reporting began in 2004. The number of SUDI cases since reporting commenced in 2004 ranges from 29 to 55 per year, with an average of 42 per year (a rate of 70.2 per 100 000).[59]

Sex

During 2017–18, there were 13 SUDI deaths of female infants, compared to 19 male infants. Over the last three years the average SUDI mortality rate for females was above that for males (51.3 deaths per 100 000 and 45.9 deaths per 100 000 respectively); however, over the 14 years since 2004 the rate of SUDI for males was higher than that for females (81.1 per 100 000 and 58.8 per 100 000 respectively).

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[56] In Queensland, section 8 of the *Coroners Act 2003* requires all violent or unnatural/unusual deaths be reported to a coroner. All unexpected infant deaths fall within that description. All cases of SUDI require a comprehensive investigation, which should include a full autopsy, examination of the death scene and review of clinical history.

[57] Cases of SUDI that were explained at post-mortem are also counted and discussed in the chapter appropriate to their cause of death. Deaths found at autopsy to be caused by previously unrecognised illnesses or congenital anomalies are counted in Chapter 2, *Deaths from diseases and morbid conditions*. Deaths found at autopsy to be caused by accidental suffocation in bed are counted in Chapter 5, *Other non-intentional injury-related death.*

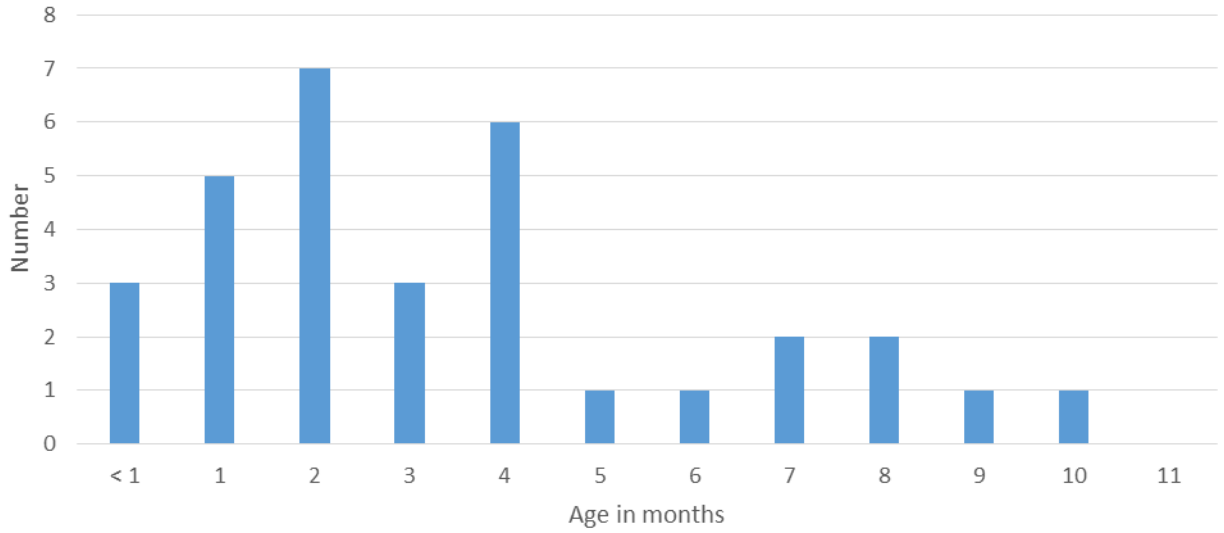
[58] Krous, HF, Beckwith, B, Byard, R, Rognum, TO, Bajanowski, T, Corey, T, Cutz, E, Hanzlick, R, Keens, TG and Mitchell, EA (2004). 'Sudden infant death syndrome and unclassified sudden infant deaths: A definitional and diagnostic approach', *Paediatrics*, 114(1), 234–238.

[59] Tables with data for 2004–18 are available online at www.qfcc.qld.gov.au.

Age

Figure 8.1 shows SUDI by age at death during 2017–18. Infants' age ranged from 1 day to 10 months. The majority (78%) of sudden unexpected deaths occurred among infants aged under 6 months (25 of the 32 deaths).

Figure 8.1: SUDI by age at death 2017–18



Data source: Queensland Child Death Register (2017–18)

Aboriginal and Torres Strait Islander status

Of the 32 SUDI deaths during 2017–18, nine were of Aboriginal and/or Torres Strait Islander infants.

Over the last 3 years, the average annual SUDI rate of mortality for Indigenous infants was twice the rate for non-Indigenous infants (93.7 deaths per 100 000 Indigenous infants, compared to 44.0 deaths per 100 000 non-Indigenous infants).

Geographical area of usual residence (ARIA+)

Of the 32 SUDI deaths during 2017–18, 17 were of infants from regional areas and 15 were of infants from metropolitan areas. There were no deaths of infants who resided in remote areas of Queensland.

Socio-economic status of usual residence (SEIFA)

Of the 32 SUDI deaths during 2017–18, 15 were of infants who resided in Queensland areas of low to very low SES, eight were of infants from moderate-SES areas and nine were of infants from areas of high to very high SES.

Over the last 3 years, the average annual SUDI rate of mortality for infants from areas of low to very low SES was approximately 2 times the rate for children from areas of moderate and high to very high SES (68.1 deaths per 100 000 infants from low to very low SES areas, compared to 35.6 deaths per 100 000 infants from areas of moderate SES and 34.2 deaths from areas of high to very high SES).

Children known to the child protection system

Of the 32 SUDI deaths during 2017–18, 10 were of infants known to the Queensland child protection system within the year before their death. Children known to the child protection system had a SUDI rate four times that for all Queensland children over the last 3 years (rates per 100 000 aged 0–17 years of 11.2 and 2.7 respectively).

Cause of death 2016–17

Predominantly, deaths from SUDI are recorded as 'cause pending' until the outcomes of post-mortem examinations or coroner's investigations are concluded. At the time of reporting only 11 of the 32 SUDI cases in 2017–18 had an official cause of death. To present more detailed information on cases for which an official cause is available, the following sections provide data from the period 2016–17, when all but 3 SUDI deaths had a cause-of-death finding.

Cases of SUDI are grouped broadly into two categories:

- **Unexplained SUDI**—those infant deaths for which a cause could not be determined (including SIDS and undetermined causes and SUDI deaths pending a cause of death)
- **Explained SUDI**—infant deaths for which a cause was not immediately obvious; but for which post-mortem examinations were able to identify a specific reason (including unrecognised infant illnesses, sleep accidents and non-accidental injury).

In 2016–17, 30 deaths were SUDI cases. Following post-mortem examinations, 12 deaths were found to have an explained cause (40%). The remaining 18 deaths were unexplained SUDI cases. For 15 deaths, the official cause was SIDS or undetermined causes (50%), and for three deaths the cause had not been ascertained at the time of reporting (10%).

Unexplained sudden unexpected deaths in infancy

Unexplained SUDI cases includes deaths for which post-mortem examinations and coronial investigations indicate the causes to be SIDS or undetermined causes, as well as deaths which were pending the outcome of post-mortem examinations and coronial investigations.

Sudden Infant Death Syndrome and undetermined causes

The definition of Sudden Infant Death Syndrome (SIDS) applied in this report is as follows:

> *The sudden, unexpected death of an infant under one year of age, with onset of the fatal episode apparently occurring during sleep, that remains unexplained after a thorough investigation including performance of a complete autopsy and review of the circumstances of death and the clinical history.*[60]

Cases of SUDI are classified as having undetermined causes if:

- natural disease processes are detected and are not considered sufficient to cause death but preclude a diagnosis of SIDS
- there are signs of significant stress
- non-accidental, but non-lethal, injuries are present
- toxicology testing detects non-prescribed but non-lethal drugs, or
- a full autopsy has not been performed and a cause is not otherwise identified.

Further classification of the 18 unexplained SUDI cases in 2016–17 identified that seven deaths resulted from SIDS and eight from undetermined causes. Three deaths were pending outcomes of post-mortem examinations and coronial investigations.

[60] Krous H et al, (2004) 'Sudden infant death syndrome and unclassified sudden infant deaths: a definitional and diagnostic approach', *Paediatrics*, vol 114, pp 234–8.

The rate of death for the grouping of SIDS and undetermined causes in 2016–17 was 24.0 per 100 000 infants (5.6% of infant deaths from all causes), representing the third highest cause of death after perinatal conditions and congenital anomalies. As noted in Chapter 2, compared to other explained causes, SIDS and undetermined causes are a much more common contributor to infant deaths in the post-neonatal period (28 days to 11 months). In 2016–17, SIDS and undetermined causes combined was the leading cause of infant death in the post-neonatal period (1–11 months) (14 deaths of 57 post-neonatal infant deaths).

Analysis of longer-term trends in SUDI deaths is problematic because of changes in classifications and, more importantly, changes to the pathological investigations carried out on SUDI deaths. In more recent years full autopsies are routinely carried out for SUDI deaths, which has enabled improved identification of underlying illness and other explained causes of death.

A grouping of deaths as SUDI is also not available prior to 2004; however ABS data is available on SIDS deaths.[61] In the period 1982–86 there were on average 66 SIDS deaths in Queensland each year, dropping to an average of 47 in 1992–96. Reductions in SIDS numbers in the late 1980s, both nationally and internationally, are attributed to public health campaigns such as Back-to-Sleep,[62] as well as increased awareness of the importance of a safe sleep environment. In the 11 years to 2014–15 the child death register indicates there were on average 46 SUDI each year, while the average number in the last three years has dropped to 30.

Risk factors for SUDI deaths

A number of factors have been associated with an increased risk of unexplained SUDI deaths. These can be classified according to whether they are associated with the infant, the sleep environment or the family or household:

Infant factors: Prematurity and low birth weight, multiple gestation (twins, triplets), neonatal health problems, male sex and recent history of minor viral respiratory infections and/or gastrointestinal illness.

Sleep environment factors: Sleeping on soft surfaces and loose bedding, prone (on stomach) sleeping position and side sleeping position, some forms of shared sleeping, and overwrapping or overheating.

Family factors: Cigarette smoking during pregnancy and after birth, young maternal age (≤ 20 years), single marital status, high parity (number of births by mother) and short intervals between pregnancies, poor or delayed prenatal care, high-risk lifestyles including alcohol and illicit drug abuse, and low SES (social disadvantage and poverty).

Safe sleeping programs specifically emphasise ways to minimise risk factors, and include some of the following prevention messages:[63]

- sleep infants on their back from birth
- ensure the infant's head and face remain uncovered
- keep baby smoke free before and after birth
- ensure infants have their own safe sleep environment (This means ensuring the cot meets the Australian safety standards and contains a firm mattress which is the appropriate size for the cot, and the environment is free from objects such as pillows, soft toys, and doonas.)
- sleep infants in the parents' bedroom for the first 6–12 months
- breastfeed infants.

[61] ABS (1998), Causes of Infant and Child Deaths, Australia, 1982–96, Cat. 4398.0.

[62] Red Nose Saving Little Lives. 2017. "Why back to sleep is the safest position for your baby." https://rednose.com.au/article/why-back-to-sleep-is-the-safest-position-for-your-baby.

[63] Red Nose Saving Little Lives. 2015. "Guidelines for new parents to reduce risk of SIDS." https://rednose.com.au/news/guidelines-for-new-parents-to-reduce-risk-of-sids.

Infant sleep position

Table 8.2 shows the position when placed to sleep and when found, for the 18 infants whose deaths were classified as unexplained SUDI.

Table 8.2: Unexplained SUDI by sleep position and position when found 2016–17

Sleep position	SIDS *n*	Undetermined *n*	Cause of death pending *n*	Total *n*
Position when placed to sleep				
Back	5	4	2	11
Stomach	2	1	1	4
Side	0	1	0	1
Unknown	0	2	0	2
Total	**7**	**8**	**3**	**18**
Position when found				
Back	4	0	2	6
Stomach	2	5	1	8
Side	1	1	0	2
Unknown	0	1	0	1
Other	0	1	0	1
Total	**7**	**8**	**3**	**18**

Data source: Queensland Child Death Register (2016–17)

Shared sleeping with other risk factors

Six of the 18 infants whose deaths were classified as unexplained SUDI were sharing a sleep surface with one or more people at the time of death (four SIDS, two undetermined).

Sharing a sleep surface with a baby increases the risk of SIDS and fatal sleep accidents in some circumstances.[64] Some studies have found there is an increased risk of SIDS only when mothers who smoke share a bed with their infant, although such findings are insufficient to enable complete reassurance that bed sharing is safe for non-smokers. Risks are also associated with shared sleeping if infants are sharing a sleep surface with a caregiver who is under the influence of alcohol or drugs which cause sedation, if the caregiver is excessively tired or there are multiple people in the bed with the infant.

Expert panel review of SUDI cases

The Queensland Paediatric Quality Council Infant Mortality Sub-Committee is undertaking a retrospective records review of all post-neonatal deaths and sudden unexpected neonatal deaths occurring out of hospital in 2013, 2014 and 2015. Two conference papers and one conference presentation have been released with findings from the review of deaths in 2013.[65] The review was made up of a data set of 99 infant deaths (90 post-neonatal infant deaths, nine SUDI neonates). Of these 99 deaths, 49 had all of the documentation available at the time of review. A further two deaths were excluded as they were attributed to circumstances of fatal abuse, leaving 47 cases which were analysed.

[64] Blair, PS, Fleming, PJ, Smith, IJ, Platt, MW, Young, J, Nadin, P, Berry, PJ, Golding, J and the CESDI SUDI research group (1999). 'Babies sleeping with parents: case-control study of factors influencing the risk of the sudden infant death syndrome', *BMJ*, 319, 1457–61.

[65] Young, J, McEniery J and Cruice D."SUDI: Infant Sleeping Position is still not reliably reported." Oral Presentation. *International Conference for Still Birth, SIDS and Baby Survival*, Glasgow, 2018; McEniery, J and Cruice, D. "Sudden Unexpected Death in Infancy: Comparison of neonatal and post-neonatal deaths Queensland Australia." Poster Presentation. *Perinatal Society of Australia and New Zealand Conference*, Auckland, 2018; McEniery J and Cruice D. "The Voice of the Infant. Cause of death coding does not always reflect what really mattered in the life of the infant who died suddenly and unexpectedly." Poster Presentation. *Perinatal Society of Australia and New Zealand Conference,* Auckland, 2018.

One aspect of the review examined the reliability and consistency of information recorded in the Police Form 1. It found there were often inconsistencies around recording of information around the position the infant was placed to sleep and the position the infant was found in. This was often due to inconsistencies in witness statements, or differences in patterns of lividity noted in the autopsy when compared to the position the infant was recorded as being found in. Changes in the infant's position were also noted where the age of the infant would preclude rolling.

The review also examined family vulnerabilities and the sleeping environment. Of the SUDI deaths that were analysed, the following vulnerability characteristics were noted:

- pre- or post-natal exposure to smoking
- family known to the child protection system
- carer prescribed sedative medication and/or excess use of alcohol or illicit drugs
- accessed mental health services
- infants of Aboriginal or Torres Strait Islander descent.

Unsafe sleeping practices was also an issue. Of the 47 SUDI deaths analysed, 19 occurred when the infant was sharing a sleep surface and 16 of these shared with a person who smoked.

This research showed that infants who die suddenly and unexpectedly often experience a complex interplay of intrinsic and extrinsic social factors which, when combined with unsafe sleeping practices, compromise survival.

Explained sudden unexpected deaths in infancy

In 2016–17, 12 of the 30 SUDI deaths were classified as having an explained cause of death following post-mortem examination. Nine infants died as a result of illnesses unrecognised prior to their deaths. Two infants died as a result of a sleep accident, and one died as a result of fatal assault and neglect. These 12 deaths are included in this chapter (as sudden and unexpected); however, they are also included in the chapters relating to the specific causes of death. Table 8.4 shows the breakdown of explained SUDI by cause of death.

Table 8.3: Explained SUDI by cause of death 2016–17

Cause of death	Total *n*
Unrecognised infant illness	**9**
Viral infection of unspecified site (B34)	1
Cerebral palsy (G80)	1
Other disorders of arteries and arterioles (I77)	1
Acute obstructive laryngitis [croup] and epiglottitis (J05)	1
Viral pneumonia, not elsewhere classified (J12)	1
Pneumonia due to *Haemophilus influenzae* (J14)	2
Pneumonia, organism unspecified (J18)	1
Congenital pneumonia (P23)	1
Other non intentional injury/sleep accident	**2**
Fatal assault	**1**
Total	**12**

Data source: Queensland Child Death Register (2016–17)

1. ICD-10 underlying cause of death code included in parentheses.

Chapter 9 — Child death prevention activities

Sections 26 and 28 of the *Family and Child Commission Act 2014* set out the functions of the QFCC to help reduce the likelihood of child deaths. These functions include to:

- allow genuine researchers to access information in the register to undertake research to help reduce the likelihood of child deaths
- conduct research, alone or in cooperation with other entities
- identify areas for further research
- make recommendations, arising from keeping the register and conducting research, about laws, policies, practices and services.

The QFCC continues to concentrate its efforts on maintaining the accuracy and comprehensiveness of the child death information in the register and meeting the legislated requirement to report annually. Collecting, analysing and publishing information on the causes of child deaths is an important step in preventing child deaths and serious injuries.

This year the QFCC's prevention activities included:

- research summaries and community education fact sheets
- the Seconds Count water safety campaign
- research summaries and community education fact sheet
- two submissions in relation to national safety standards for quad bikes
- a research forum in relation to youth suicide
- providing child death data to 27 stakeholders
- projects to improve the QFCC child death register database
- collaborating with the State Coroner, the Queensland Police Service and the Queensland Paediatric Quality Council to improve information collection and sharing
- participating in a water safety roundtable.

Activities to improve collection of child death information

During 2017–18 the QFCC undertook a project to move historical child death data into the current database, with the project expected to be completed by the end of 2018. It will result in improved data quality and efficiencies in reporting on child deaths and responding to researcher requests, and will lead into a major project to upgrade the current database to a contemporary, high performing system.

The QFCC also collaborated with the Queensland Paediatric Quality Council to improve data collection and processes relating to sudden unexpected deaths in infancy (SUDI). This work is being progressed through a working group being established by the Office of the State Coroner and the Queensland Police Service. As an outcome of the collaboration, from April 2018, all child death scene investigations will be led by a senior sergeant from the Queensland Police Service's Child Protection Investigation Unit.

For the purpose of child death prevention and to maintain the child death register, the QFCC has written to relevant government departments on 28 occasions. These included:

- 26 letters to the Department of Education, including 25 providing a suicide notification to alert them to the need to provide postvention support to affected young people and one seeking information
- one letter to the Department of Child Safety, Youth and Women to seek information
- one letter to the Department of Health to seek information.

A number of initiatives were also implemented to inform research and prevention activities, particularly in relation to youth suicide. These include:

- advocating for the establishment of the working group mentioned above which aims to improve the use, collection and sharing of information relating to child deaths
- seeking additional information when a young person has recently received mental health services or where school behavioural or engagement issues are identified
- arranging to receive systems and practice review reports, chronologies and Child Death Case Review Panel reports from Child Safety
- participating in a multidisciplinary analysis of suspected suicides.

Child death prevention resources

In addition to the *Annual Report: Deaths of Children and young people, Queensland 2016–17*, the QFCC published a number of information resources on its website relating to:

- child deaths in Queensland
- Aboriginal and Torres Strait Islander child mortality
- youth suicide in Queensland
- recorded deaths of children known to the child protection system
- preventing the main causes of child deaths
- child drowning facts and figures
- water safety tips
- child drowning in Queensland – research summary.

In 2017–18, the QFCC coordinated and published *Australian and New Zealand child death statistics 2015*, with the assistance of the other members of the Australian and New Zealand Child Death Review and Prevention Group.

Seconds Count Campaign

The QFCC uses information from the child death register to highlight risk factors and causes of death, and to promote prevention messages to the community. In 2017–18, the QFCC developed the Seconds Count water safety and child drowning prevention campaign. The campaign targeted pool owners and parents of children under five years of age. Mitch Larkin, Olympic Games swimmer and Commonwealth Games gold medallist, featured in short videos. These were promoted through social media channels during the summer and again over the 2018 Easter school holiday period.

Research in the Round

In February 2018, the QFCC hosted a Research in the Round focused on youth suicide. The forum involved presentations by three leading researchers and included an interactive panel discussion to explore ways to reduce youth suicide and more effectively incorporate youth suicide prevention into government policy and practice.

Researcher access to child death data

The Queensland Child Death Register may be accessed at no cost by organisations or individuals conducting genuine research.[66] Stakeholders wishing to access the register to support their research, policy or program initiatives can email their request to child_death_prevention@qfcc.qld.gov.au.

During 2017–18, the QFCC responded to 27 requests for access to the child death register from external stakeholders. Table 9.1 provides an overview of the type of data requested in 2017–18 and the purpose for which it was used.

Table 9.1: Purpose of data request by type of data requested 2017–18

Type of data requested	Purpose of data request			Total *n*
	Research	Public education/ reporting	Policy/program development	
Sudden unexpected deaths in infancy (SUDI)	1	0	0	1
Drowning	4	0	1	5
Transport	0	0	2	2
Suicide	1	2	0	3
Product-related injury	0	0	1	1
Other non-intentional injury	0	1	0	1
Fatal assault and neglect	1	0	1	2
All deaths	1	2	1	4
Interstate residents	0	2	0	2
Known to the child safety system	1	2	3	6
Total	**9**	**9**	**9**	**27**

Data source: QFCC Register of child death data requests (2017–18)

Examples of the projects provided with information include the following:

- data on fatal assault and neglect cases provided to the Queensland Sentencing Advisory Council (the Council), which formed the baseline dataset for the Council's review of imposed penalties for offences arising from the death of a child
- data on child drowning provided on a regular basis to the Royal Life Saving Society of Australia, to support national reporting and a number of research projects
- data on fatal child injuries relating to mandatory toy standards, and on child drownings involving portable or wading pools, provided to the Office of Fair Trading to support their work in relation to product safety

[66] Genuine research is defined as research relating to childhood mortality or morbidity with a view to increasing knowledge of incidence, causes and risk factors relating to same. Genuine research includes policy and program initiatives to reduce child death or injury.

- twenty-five Suspected Suicide Notifications provided to the Queensland Department of Education to support suicide postvention in Queensland state schools
- suicide data provided to the Queensland Health project, Multi-incident analysis of suspected suicides. The findings of the project will be used to form recommendations on clinical system improvement at a Hospital and Health Service level as well as state-wide
- regional suicide data provided to the Public Service Commission for the Townsville Community Champion and the Community forum, to support community driven solutions to help reduce the rate of youth crime in Townsville
- infant mortality data provided to the Queensland Paediatric Quality Council (QPQC) to support an expert panel review of infant deaths in Queensland. The findings of the review will be used to develop recommendations on the prevention of SUDI deaths, including reviewing service provision, updating Queensland Health Safe Sleep Guidelines and Education packages and examining the impact of the Pēpi-Pods Program on infant mortality in Queensland
- data on SUDI deaths provided for a joint project with other Australian states and territories and New Zealand, to improve consistent classification of SUDI cases and assist with identifying aspects of these cases that are modifiable so that prevention efforts can be targeted
- data on deaths of interstate residents provided to agencies responsible for reporting on child deaths in other Australian states and territories.

Research findings supported through child death data

Data provided from QFCC's child death register has supported research in a number of fields of child death and injury prevention, leading to the following published findings:

Drowning-related research

- *Royal Life Saving national drowning report 2018*.
- Franklin R, Pearn J & Peden A (2017) "Drowning fatalities in childhood: the role of pre-existing medical conditions." *Archives of Disease in Childhood* 102(10): 888-893.
- Peden A, Franklin R, Mahony A, Scarr J, & Barnsley P (2017). "Using a retrospective cross-sectional study to analyse unintentional fatal drowning in Australia: ICD-10 coding-based methodologies verses actual deaths." *BMJ Open*. 7:e019407: 1-8.
- Peden A & Franklin R (2017). "Improving Pool Fencing Legislation in Queensland, Australia: Attitudes and Impact on child Drowning Fatalities." *International Journal of Environmental Research and Public Health* 14: 1450-1469.
- Franklin R, Pearn J & Peden A (2018) "Unintentional fatal child drowning in the bath: A 12-year Australian review (2002-2014)" *Journal of Paediatrics and Child Health* 54: 153-159.

Homicide-related research

- Manning M, Hidderley L, Pathe M, & Young J (2018) *Child homicide in Queensland: Analysis of offences finalised by Queensland criminal courts, 2005-06 to 2016-17,* Queensland Sentencing Advisory Council.

SUDI-related research

- Young J, McEniery J & Cruice D (2018) *SUDI: Infant Sleeping Position is still not reliably reported* (oral presentation), International Conference for Still Birth, SIDS and Baby Survival, Glasgow, 2018.
- McEniery J & Cruice D (2018) *Sudden Unexpected Death in Infancy: Comparison of neonatal and post-neonatal deaths Queensland Australia* (poster presentation), Perinatal Society of Australia and New Zealand Conference, Auckland, 2018.
- McEniery J & Cruice D (2018) The Voice of the Infant: Cause of death coding does not always reflect what really mattered in the life of the infant who died suddenly and unexpectedly (poster presentation), Perinatal Society of Australia and New Zealand Conference, Auckland, 2018.

Policy submissions

During 2017–18, the QFCC used information in the Queensland child death register to provide advice and recommendations in two submissions to the Australian Competition and Consumer Commission's (ACCC) review of national standards for quad bikes and side-by-side vehicles.

The QFCC was supportive of the ACCC-proposed Option 5, which was considered to offer the highest level of protections and incorporate a mandatory safety standard in relation to general use quad bikes and side-by-side vehicles. The QFCC recommended or supported:

- requiring all general use quad bikes to have an Operator Protection Device (OPD), designed to protect the operator in the event of a rollover
- minimum performance requirements for static stability, mechanical suspension and dynamic handling
- adopting the labelling requirements within the US standard
- introducing an evidence-based safety star rating system in relation to static stability, dynamic handling and rollover crashworthiness
- national data collection in relation to injuries on youth-sized quad bikes to inform consideration of whether design changes may be needed in the future.

The QFCC noted the general consensus that children should not ride or be passengers on adult-sized quad bikes, and recommended that Australian state and territory governments investigate the feasibility and impact of introducing bans on children under 16 years operating or riding adult-sized quad bikes.

Advisory bodies

In 2017–18, the QFCC participated in the ministerial water safety roundtable, which was chaired by the Honourable Grace Grace, Minister for Education and Minister for Industrial Relations. The purpose of the roundtable was to explore options with key stakeholders for improving swimming and water safety skills for all Queensland children. At the second roundtable, the QFCC presented research on child drowning risk and prevention approaches, and outlined the QFCC's Seconds Count water safety campaign.

The QFCC also participated in the following advisory bodies:

- **Australian and New Zealand Child Death Review and Prevention Group (ANZCDR&PG):** ANZCDR&PG aims to identify, address and potentially decrease the number of infant, child and youth deaths by sharing information on issues in the review and reporting of child deaths. The group is working towards achieving national standardised reporting. At the 2018 two day annual meeting of the group, the QFCC presented on the suicide classification model used in Queensland. In 2017–18 the QFCC coordinated and published *Australian and New Zealand death statistics 2015,* with the assistance of the other members of the group.
- **Consumer Product Injury Research Advisory Group:** This group provides an evidence base to support product safety policy decisions which may include: recommending new mandatory standards or Australian Standards be developed; recommending certain unsafe products be banned; developing consumer or business education campaigns; and supporting research opportunities. This group also provides advice to relevant government, private and community agencies; media; and the larger community on product safety issues either proactively or as requested.
- **Queensland Suicide Prevention Reference Group:** This group supports the implementation of the Queensland Suicide Prevention Action Plan 2015–17 and provides leadership, oversight and coordination of suicide prevention and risk-reduction activities undertaken across the state.
- **Expert Panel of the Queensland Health study – A multi-incident analysis of suspected suicides:** The expert panels were convened to gain input from a broad range of expertise to assist with identifying health service vulnerabilities and formulating recommendations that represent the multi-disciplinary perspectives needed to drive systemic and localised suicide prevention reform.

- **Queensland Advisory Group on Suicide Information and Data:** This group provides expertise on systemic issues and data and other relevant evidence.
- **Queensland Government Births and Deaths Working Group:** The Queensland Government Births and Deaths Working Group is a forum for discussing statistical and other issues around Queensland births and deaths registrations and assists in improving the quality and reliability of Queensland population statistics.
- **Queensland Implementation and Engagement Group:** Two national initiatives supporting education, health and social service professionals in fostering child and youth mental health. This group has been established to assist professionals and organisations who work with children and/or families to have the skills to identify, assess and support children at risk of mental health conditions.
- **Road Safety Research Network:** The network supports road safety research projects and activities that advocate road safety policy development and the evaluation of road safety initiatives.

Appendices

Appendix 1 — Methodology

This appendix provides an overview of the methodology employed in the production of the *Annual Report: Deaths of children and young people, Queensland, 2017–18*. It also explains the process of maintaining the Queensland Child Death Register and the methods used for the analysis of trends and patterns in the data.

Queensland Child Death Register

Under Part 3 (sections 25–29) of the *Family and Child Commission Act 2014*, the QFCC has the responsibility to maintain a register of all deaths of children and young people under the age of 18 years that are registered in Queensland. The information in the register is required to be classified according to cause of death, demographic information and other relevant factors. The Queensland Child Death Register contains information in relation to all child deaths registered in Queensland from 1 January 2004. *The Family and Child Commission Act 2014* also outlines functions of the QFCC to help reduce the likelihood of child deaths, including to conduct research, make recommendations about laws, policies, practices and services and provide access to data contained in the Queensland Child Death Register to persons undertaking genuine research. Under the *Family and Child Commission Act 2014*, the Principal Commissioner must prepare an annual report in relation to child deaths in Queensland.

To support the establishment and maintenance of the register, the Registry of Births, Deaths and Marriages and the Office of the State Coroner both advise the Commissioner of a child's death and provide available relevant particulars.

Data comparability and accuracy

The *Annual Report: Deaths of children and young people in Queensland, 2017–18* brings together information from a number of key sources and presents it in a way which facilitates consideration and interpretation of the risk factors associated with the deaths of children and young people in Queensland. The report also allows comparisons to be made between different population subgroups, such as Aboriginal and/or Torres Strait Islander children and children known to the child protection system.

Caution must be exercised; however, when making comparisons and interpreting rates due to the small number of deaths analysed. An increase or decrease of one or two deaths across the course of a year may have a significant impact on the rates when small numbers are involved.

As the register relies on administrative data sources, a small margin of error is possible. There are no mechanisms available to formally verify the complete accuracy of the datasets provided to the QFCC.

Registry of Births, Deaths and Marriages

The information contained in the Queensland Child Death Register is based on death registration data from the Queensland Registry of Births, Deaths and Marriages. The *Births, Deaths and Marriages Registration Act 2003* provides the registrar must give notice of the registration of all child deaths to the Principal Commissioner.[67] The data provided include:

- death registration number
- child's name
- child's date and place of birth
- child's usual place of residence
- child's age
- child's sex
- child's occupation, if any
- child's Aboriginal or Torres Strait Islander status

[67] Section 48A (details of stillborn children are not included in the information given to the QFCC).

- duration of the last illness, if any, had by the child
- date and place of death
- cause of death
- mode of dying.[68]

To the extent practicable, this information is provided within 30 days after the death is registered. Where the death is a natural death (due to diseases or morbid conditions), and a Cause of Death Certificate is issued by a medical practitioner, only death registration data (as outlined above) are available for analysis. In coronial cases, additional information on the death is available.

Office of the State Coroner

In cases of reportable child deaths, coronial information is also available. Section 8 of the *Coroners Act 2003* defines a reportable death as a death where the:

- identity of the person is unknown
- death was violent or unnatural
- death occurred in suspicious circumstances
- death was health care-related
- Cause of Death Certificate was not issued, or is not likely to be issued
- death occurred in care
- death occurred in custody, or
- death occurred in the course of, or as a result of, police operations.

A death in care occurs when the person who has died:

- had a disability (as defined under the *Disability Services Act 2006*) and was living in a residential service provided by a government or non-government service provider or hostel
- had a disability, such as an intellectual disability, or an acquired brain injury or a psychiatric disability; and lived in a private hostel (not an aged-care hostel)
- was being detained in, taken to or undergoing treatment in a mental health service
- was a child in foster care or under the guardianship of the Department of Child Safety Youth and Women (DCSYW).[69]

A death in custody is defined as a death of someone in custody (including someone in detention under the *Youth Justice Act 1992*), escaping from custody or trying to avoid custody.[70]

To help the QFCC fulfil its child death review functions, the *Coroners Act 2003* imposed an obligation on the State Coroner to notify the Principal Commissioner of all reportable child deaths. The information provided by the State Coroner includes:

- the Police Report of Death to a Coroner (Form 1), which includes a narrative giving a summary of the circumstances surrounding the death
- autopsy and toxicology reports
- the coroner's findings and comments.[71]

[68] Section 48B of the *Births, Deaths and Marriages Act 2003* enables the registrar to enter into an arrangement with QFCC to provide additional data. Aboriginal and Torres Strait Islander status, date of birth and mode of dying are provided by administrative arrangement only.

[69] Section 9 of the *Coroners Act 2003*.

[70] Section 10 of the *Coroners Act 2003*.

[71] Section 45 of the *Coroners Act 2003* provides the Coroner must give written copies of his/her findings relating to child deaths to the Principal Commissioner. Coroners' findings are the findings of coronial investigations and should confirm the identity of the person; how, when and where the person died; and what caused the death. Section 46 provides, in the case of a child death, the Coroner must give written copies of his/her comments to the Principal Commissioner. Coroners' comments may arise from an inquest that relates to public health or safety, or relates to the administration of justice or ways to prevent future deaths.

For the major categories of reportable deaths, which include deaths from external causes and sudden unexpected deaths in infancy (SUDI), coronial information is reviewed with a view to identifying key risk factors.

Of the 385 deaths of children and young people registered in 2017–18, 33% were reportable under the *Coroners Act 2003* (128 deaths). At the time of reporting, coronial findings had been finalised for 17% (22 deaths) of reportable deaths. Autopsy reports, where autopsies were performed, were provided in 21 of the 22 finalised cases and in 15 of the 106 cases where coronial findings are still outstanding.

Access to other data sources

The QFCC shares data with the following agencies:

- Registry of Births, Deaths and Marriages[72]
- Office of the State Coroner[73]
- DCSYW (including records relating to child safety)
- Queensland Police Service
- Queensland Ambulance Service
- Department of Justice and Attorney-General (including records relating to Workplace Health and Safety Queensland)
- Department of Housing and Public Works
- Australian Bureau of Statistics
- Queensland Health
- Department of Education and Training
- National Coronial Information System.

Confidentiality

Accompanying the QFCC's privileged access to information is a duty of confidentiality specified in the *Family and Child Commission Act 2014*. Section 36 (Confidentiality of Information) of the Act states:

> *If a person gains confidential information through involvement in the administration of this Act, the person must not –*
>
> *(a) make a record of the information or intentionally disclose the information to anyone, other than under subsection (3),[74] or*
>
> *(b) recklessly disclose the information to anyone.*

Coding cause of death

The QFCC used the *International statistical classification of diseases and related health problems, tenth revision* (ICD-10) to code underlying and multiple causes of death. ICD-10 was developed by the World Health Organization (WHO) and is designed to promote international comparability in the collection, processing, classification and presentation of morbidity and mortality statistics.

What is the underlying cause of death?

The concept of the underlying cause of death is central to mortality coding and comparable international mortality reporting. The WHO has defined the underlying cause of death as the:

- disease or injury which initiated the chain of morbid events leading directly to death
- circumstances of the incident or violence which produced the fatal injury.

[72] The agreement between the Registry of Births, Deaths and Marriages and the QFCC was developed in accordance with the provisions of section 48B of the *Births, Deaths and Marriages Act 2003*.

[73] The agreement between the Office of the State Coroner and the QFCC was developed in accordance with the provisions of section 54A of the *Coroners Act 2003*.

[74] Subsection 3 permitted a person to make a record of, or disclose, confidential information for this Act to discharge a function under another law, for a proceeding in a court or tribunal or if authorised under a regulation or another law.

Stated simply, the underlying cause of death is the condition, event or circumstances without the occurrence of which the person would not have died.

Qualified mortality coders

QFCC staff trained in ICD-10 mortality coding are responsible for the coding of all external cause deaths.

In addition, the QFCC has a formal arrangement with the Australian Bureau of Statistics (ABS) for the provision of mortality coding services. Qualified ABS mortality coders review all available information for natural cause deaths and code the underlying and multiple causes of death according to ICD-10 cause of death coding regulations. ABS also undertakes quality assurance of external cause deaths coded by the QFCC.

Classification of external-cause deaths

The QFCC recognised that ICD-10 carries certain inherent limitations, particularly in regard to recognising contextual subtleties of cases, and in adequately capturing deaths due to:

- drowning in dams
- low-speed vehicle run-overs that occur in driveways
- four-wheel motorcycle (quad bike) incidents
- SUDI.

To help overcome the limitations of ICD-10, the QFCC primarily classifies deaths according to their circumstances. Based on the information contained in the Police Report of Death to a Coroner (Form 1), such classification enables the QFCC to discuss deaths occurring in similar circumstances, even where an official cause of death has not yet been established, or where the ICD-10 code does not accurately reflect the circumstances of death.[75]

All reportable deaths are classified as being caused by transport incidents, drowning, other non-intentional injury, suicide or fatal assault and neglect. SUDI are also grouped together for the purpose of analysis.

As outlined above, discrepancies may exist between research categories and ICD-10 figures. The QFCC primarily reports by the broad external cause classifications described above. ICD-10 coding is still used to report on deaths from diseases and morbid conditions. Full details of ICD-10 coding for external-cause deaths can be found in section 1.3.

Geographical distribution (ARIA+)

The latest version of the Accessibility/Remoteness Index of Australia Plus (ARIA+) is used to code geographical remoteness.[76]

ARIA+ is a standard distance-based measure of remoteness developed by the National Centre for the Social Applications of Geographic Information Systems (GISCA) and the former Australian Department of Health and Aged Care (now Department of Health).

It interprets remoteness based on access to a range of services; the remoteness of a location is measured in terms of distance travelled by road to reach a centre that provides services.[77]

All child deaths are classified according to the ARIA+ index. The analysis of geographic distribution in the Child Death Annual Report refers to the child's usual place of residence, which may differ from the place of death or the incident location.

[75] Where cases have not received an official cause of death as established at autopsy or coronial investigation, they cannot be coded according to ICD-10.

[76] Although base populations for all years are based on the latest version of ARIA+, deaths registered prior to 2012–13 were classified according to earlier ARIA+ boundaries.

[77] ARIA+ is a purely geographic measure of remoteness, which excludes any consideration of socio-economic status, rurality and population size factors (other than the use of natural breaks in the population distribution of urban centres to define the service centre categories).

For the purposes of analysis in the Annual Report, the following general categories of remoteness are reported:

- Metropolitan: includes major cities of Queensland[78]
- Regional: includes inner and outer regional Queensland[79]
- Remote: includes remote and very remote Queensland.[80]

Socio-economic status (SEIFA)

Of the Socio-economic Indexes for Areas (SEIFS) developed by the ABS, the Index of Advantage / Disadvantage has been used in the child death report. This index aims to rank geographical areas to reflect both advantage and disadvantage at the same time, effectively measuring a net effect of social and economic conditions.[81]

Variables associated with advantage include the proportion of families with high incomes, the proportion of people with a university degree or higher and the proportion of people with skilled occupations.

Variables associated with disadvantage include the proportion of families with low incomes, the proportion of persons with relatively low levels of education and the proportion of people in low-skilled occupations.

To determine the level of advantage and disadvantage, the child's usual place of residence was used for coding the geographic area. For this reason, measures of socio-economic status (SES) used in the Annual Report are measures of the status of the areas in which children and young people reside, not the SES of each individual child or their family.

Aboriginal and Torres Strait Islander status

Historically, the identification of Indigenous status on death registration forms was often incomplete or inaccurate, leading to an undercount of the actual numbers of deaths of Aboriginal and/or Torres Strait Islander people. The identification of the deaths of Indigenous people has improved considerably in recent years; however, the extent of any continued under-reporting is not known and it is likely some undercount of the number of deaths registered as Aboriginal and/or Torres Strait Islander continues.

The child death register records Aboriginal and/or Torres Strait Islander status as noted in the death registration data, on Form 1 and in other official records. There are instances of inconsistent reporting of Aboriginal and/or Torres Strait Islander status across official records. For instance, several cases have been recorded where a child has been identified as Indigenous by the reporting police officer in completing the Form 1; but the death registration form, often completed by funeral directors on behalf of family members, did not identify the child as Indigenous. In cases where there has been inconsistent reporting of Aboriginal and/or Torres Strait Islander status across official records, a guideline is used by the QFCC to determine which status will be recorded within the register.

Children known to the child protection system

The deaths of children known to the child protection system have been analysed as a separate cohort, as the Queensland child protection system has legislative responsibilities in relation to these deaths. In accordance with Chapter 7A of the *Child Protection Act 1999*, the deaths of all children known to the Queensland child protection system are subject to an internal review by the DCSYW and an independent review by an external Child Death Case Review Panel. These reviews are undertaken to facilitate learning, improve service delivery and promote accountability.[82]

[78] Relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction.
[79] Significantly restricted accessibility of goods, services and opportunities for social interaction.
[80] Very restricted accessibility of goods, services and opportunities for social interaction.
[81] Although base populations for all years are based on the latest version of SEIFA, deaths registered prior to 2012–13 were classified according to earlier SEIFA boundaries.
[82] Section 245(3) of the *Child Protection Act 1999*.

A child is deemed to have been known to the Queensland child protection system, if within one year before the child's death:

- DCSYW was notified of concerns of alleged harm or risk of harm, or
- DCSYW was notified of concerns before the birth of a child and reasonably suspected the child might be in need of protection after their birth, or
- DCSYW took action under the *Child Protection Act 1999*, or
- the child was in the custody or guardianship of DCSYW.[83]

Prior to 1 July 2014, a review was required if the child was known to the department within the 3 years before their death. The timeframe was reduced to one year, following recommendations made in the *Queensland Child Protection Commission of Inquiry Final Report—Taking Responsibility: A Road Map for Queensland Child Protection*. This change was made to focus the reviews on recent service delivery (that is, on policies and procedures that are likely to still be in place) and to enhance opportunities for in-depth exploration of the various decisions and issues.[84] The scope of these reviews was also expanded to include children who have suffered serious physical injuries.[85]

Analysis and reporting

Analysis period

The Queensland Child Death Register is analysed according to date of registration of the death (rather than date of death). This is in accordance with national datasets managed by the ABS and the Australian Institute of Health and Welfare (AIHW), as well as child death datasets managed by other Australian states and territories.

Reporting period

The Annual Report examines the deaths of 385 children and young people aged from birth to 17 years, registered between 1 July 2017 and 30 June 2018.

Place of residence

The Queensland Child Death Register records the deaths of children which occur within Queensland, regardless of the child's usual place of residence. Deaths of interstate and international residents that occur within Queensland are therefore recorded (visitors, holidaymakers and children who die while accessing specialist and emergency medical care). Deaths of Queensland residents that occur within other jurisdictions are not recorded.

Differences from previously published data

Information in the Queensland Child Death Register now comprises 14 years of data, and data from the last 3 years only is displayed in the first table for Chapters 1–8 of the Annual Report. Copies of the tables containing data since 2004 are available online at www.qfcc.qld.gov.au.

As indicated elsewhere, information on child deaths can be received at a much later date than the original registration data, following processes of child death reviews, autopsies and coroners' reports. A critical element of the register's comprehensiveness and research value is the inclusion of new information relating to individual child deaths as it is received. However, it should be noted the information on deaths in previous periods may therefore differ from those presented in earlier published Annual Reports.

[83] Section 246A of the Child Protection Act 1999.
[84] Child Death Case Review Committee (2012) Submission to the Child Protection Commission of Inquiry; Department of Communities, Child Safety and Disability Services (2012) Submission to the Child Protection Commission of Inquiry.
[85] Section 246 of the Child Protection Act 1999.

Population data used in calculations of child death rates

Child death rates are calculated per 100 000 children (for each sex/age category/Indigenous status/child protection status/ARIA+ region/SEIFA region) in Queensland. The Annual Report uses the most up-to-date estimated resident population (ERP) data to calculate these rates. Rates are not calculated for numbers less than four deaths because of the unreliability of such calculations.

Rates for each reporting period use the ERP data as at the end of the previous financial year. For example, rates for the 2015–16 period use the ERP data as at 30 June 2015. However, the ERP data as at 2017 was not available to calculate rates for the current reporting period (2017–18). Therefore the ERP as at 30 June 2016 is used.

The ERP data for previous years is updated on an annual basis, which allows death rates for the previous reporting periods to be recalculated. Tables with counts and rates of child deaths for the 14 reporting periods from 2004—05 are available online at www.qfcc.qld.gov.au. The rates provided in the 14-year data tables may differ from rates provided in previous reporting periods, due to the use of updated ERP.

The ERP as at 30 June 2016 is provided in Table 1.

Table 1: Queensland and Aboriginal and Torres Strait Islander populations by age category as at 30 June 2016

Age group	Total number of children	Number of Aboriginal and/or Torres Strait Islander children
Under 1 year	62 460	5 689
1–4 years	255 030	21 326
5–9 years	330 580	24 906
10–14 years	306 528	23 566
15–17 years	183 583	13 548
Total 0 17 years	**1 138 181**	**89 035**

Data source: Queensland Treasury (2018)

Infant mortality rates

Chapter 2 presents infant mortality rates, defined as the number of deaths of infants aged under one year per 1000 live births. In the 2016 calendar year, there were 61 841 live births in Queensland, including 5 410 Indigenous live births.[86]

Rates for ARIA+ and SEIFA classifications

Queensland Treasury provided Queensland population data for ARIA+ and SEIFA classifications (based on census populations at 30 June 2016),[87] to enable the calculation of child death rates by ARIA+ and SEIFA. Tables 2 and 3 provide ERP as at 30 June 2016, for the ARIA+ and SEIFA classifications used in the Annual Report.

Table 2: Queensland child population by ARIA+ as at 30 June 2016

ARIA+ classification	Total number of children
Remote	49 902
Regional	400 401
Metropolitan	687 878
Total	**1 138 181**

Data source: Queensland Treasury (2018)

[86] Source: Australian Bureau of Statistics (2018), *Births, Australia, 2016,* 'Births, Summary, by state, Queensland – 2005 to 2016', time series spreadsheet, cat. no. 3301.0.

[87] Queensland Treasury (2018). *Population Estimates by Indigenous Status, 2015 edition* (Queensland Government Statistician's Office derived).

Table 3: Queensland child population by SEIFA as at 30 June 2016

SEIFA classification	Total number of children
Low to very low SES	456 235
Moderate SES	234 530
High to very high SES	447 416
Total	**1 138 181**

Data source: Queensland Treasury (2018)

Rates of death for children known to the child protection system

Rates of death for children known to the child protection system are calculated using, as the denominator, the number of distinct children known to the Queensland child protection system in the one-year period before the relevant financial year.

The denominator data represents the number of distinct children (aged 0–17 years) who have had any of the following forms of contact with the DCSYW in the preceding financial year:

- Child Concern Report
- Child Protection Notification
- Investigation and Assessment Order
- Ongoing intervention
- Child Protection Order, or
- Placement in care.

This data were provided to the QFCC by the DCSYW. Table 4 lists the denominator data provided by the department for the last five reporting periods.

Table 4: Children known to the Queensland child protection system

Reporting period	Number of distinct children known to the child protection system	Percentage change from previous year
2013–14	167 434	+1%
2014–15	96 788	..
2015–16	84 262	-13%
2016–17	80 510	-4%
2017–18	84 597	+5%

Data source: DCSYW (2018)

.. Percentage change has not been calculated due to the break in series (see note 1).

1. For 2013–14 and all earlier periods, denominator data are based on the distinct number of children known to the DCSYW in the 3-year period prior to their death. For 2014–15 onwards, this was changed to the distinct number of children known to the DCSYW in the one-year period prior to their death.

Prior to the 2014–15 reporting period, a review was required if a deceased child was known to the Queensland child protection system within the 3 years before their death. The denominator used to calculate rates of death for children known to the child protection system was therefore the number of distinct children known to the Queensland child protection system in the 3-year period before the relevant financial year. This change has reduced the number of children known to the child protection system and the number of child protection deaths.

Appendix 2 — Abbreviations and definitions

ABS	Australian Bureau of Statistics.
Acquaintance homicide	A child killed by an adult (over 18 years) known to—but not intimately connected with or in a friendship with—the victim. Perpetrators may include neighbours, family friends, teachers or a person who had interacted with the child in an online context. This differs from domestic homicide, where there is an unambiguous familial association, and stranger homicide, where there is no prior association whatsoever between the perpetrator and victim.
AIHW	Australian Institute of Health and Welfare.
ANZCDR&PG	Australian and New Zealand Child Death Review and Prevention Group.
ARIA+	Accessibility/Remoteness Index of Australia Plus. An index of remoteness derived from measures of road distance between populated localities and service centres. These road distance measures are then used to generate a remoteness score for any location in Australia.
Autopsy	Also 'post-mortem'. A detailed physical examination of a person's body after death. An autopsy can be external only, external with full internal or external with partial internal.
Bystander	Pedestrian incident in which a child who has not entered or attempted to enter a roadway or other area where vehicles are usually driven, is struck by a vehicle that has left the designated roadway or area. For example, a child playing in the front yard of a home is struck by a vehicle that has left the roadway when the driver lost control.
Cause of death pending	Used to categorise deaths that do not have an immediately obvious cause (such as a transport incident), and where official cause of death information has not yet been received to enable classification.
CCYPCG	The Commission for Children and Young People and Child Guardian (Qld). The CCYPCG ceased operations on the 30 June 2014 following the repeal of the *Commission for Children and Young People and Child Guardian Act 2000*. Prior to the establishment of the QFCC on 1 July 2014, the CCYPCG was responsible for maintaining the Queensland Child Death Register.
Child	A person aged from birth up to, but not including, 18 years.
Child known to the child protection system	A child is deemed to have been known to the Queensland child protection system if, within one year before the child's death: • DCSYW was notified of concerns of alleged harm or risk of harm, or if • DCSYW was notified of concerns before the birth of a child and reasonably suspected the child might be in need of protection after their birth, or if • DCSYW took action under the *Child Protection Act 1999*, or if • the child was in the custody or guardianship of DCSYW.[88] Prior to the 2014–15 reporting period, a three-year timeframe was applicable based on the review period defined in the *Child Protection Act 1999*. The denominator used to calculate rates of death for children known to the child protection system for the 2017–18 reporting period is based on the distinct number of children and young people known to the department in the 2016–17 financial year who were subject to a child concern report, notification, investigation and assessment, ongoing intervention, child protection orders or placement in care.

[88] Section 246A of the Child Protection Act 1999.

Congenital anomalies	Congenital anomalies (ICD-10 Chapter XVII, Congenital malformations, deformations and chromosomal abnormalities) are mental and physical conditions present at birth that are either hereditary or caused by environmental factors.
CPR	Cardiopulmonary resuscitation.
Death in care	A death as defined under section 9 of the *Coroners Act 2003*. This occurs when a person who had died: • had a disability and was living in a residential service provided by a government or non-government service provider or hostel • had a disability and lived in a private hostel (not aged-care) • was being detained in, taken to, or undergoing treatment in a mental health service • was a child in foster care or placed at a residential facility under the guardianship of the DCSYW.
Death in custody	A death as defined under section 10 of the *Coroners Act 2003*. This includes the death of someone in custody (including someone in detention under the *Youth Justice Act 1992*), escaping from custody or trying to avoid custody.
Death incident location	The address at which the set of circumstances leading to death occurred. This may be the same as, or different from, the place of death.
DCSYW	Department of Child Safety, Youth and Women (Qld). Queensland government agency responsible for administering the *Child Protection Act 1999*.
Diseases and morbid conditions	A cause of death category used for those cases where the official cause of death has been given an ICD-10 Underlying Cause of Death which corresponds to Chapters 1–17 of the ICD Codebook. Diseases and morbid conditions cannot be assigned as a category of death until an official cause of death has been received and coded. All reportable deaths suspected to be the result of a disease or morbid condition (including SIDS or undetermined causes) are assigned a category of death of 'Unknown—cause of death pending', until the official cause of death has been received and coded.
Domestic homicide	Homicide committed by someone in the child's familial network or foster carer where there is a clear intent to cause life threatening injury on the part of the perpetrator. Such events are usually characterised by evidence of a breakdown in the parental relationship and/or acute mental illness in one or both parents. It is characterised by an obvious critical event or angry impulse in which the perpetrator acts overtly (and usually suddenly) to end the life of one or more family members. Children of any age may be victims. It is common in cases of domestic homicide for a perpetrator to suicide subsequent to their killing of one or more family members. This subtype of domestic homicide is often referred to as murder-suicide. Parents, step-parents, foster parents and extended family members can be involved in these incidents.
Drowning	Deaths that occur as a direct or indirect result of immersion in some form of liquid.
ERP	Estimated resident population.
External causes of death	Pertaining to environmental events and circumstances that cause injury, poisoning and other adverse effects. Broadly, external-cause deaths are generally more amenable to prevention than many deaths from disease and morbid conditions.
Fatal assault	Death of a child at the hands of another person who has inflicted harm to them through some means of force or physical aggression.

Fatal child abuse	Describes deaths from physical abuse perpetrated by a parent or caregiver against a child who is reliant upon them for care and protection where the intent was to harm the child (e.g. over-use of force or excessive disciplinary behaviours). It may be characterised by a history of chronic and escalating abuse or by an isolated incident. It also includes cases where the child is permanently injured from physical harm but dies at a later stage from medical issues initiated by the physical harm incident (late effects of abuse). Victims are predominantly infants, toddlers and preschool-aged children.
Fatal neglect	Defined as where a child, dependent on a caregiver for the basic necessities of life, dies owing to the failure of the caregiver to meet the child's ongoing basic needs. This may involve acts or omissions on the part of a caregiver that are either deliberate or extraordinarily irresponsible or reckless. It is most likely to involve younger children who are wholly reliant upon their primary caregivers.
Floodwater	A body of water that has escaped its usual boundaries (including overflows of drainage systems), water that exceeds the capacity of the structure normally holding it (including creeks and rivers), or water that temporarily covers land not normally covered by water (flash flooding).
ICD-10	International statistical classification of diseases and related health problems, tenth revision.
Indigenous	Refers to people who identify as being Aboriginal and/or Torres Strait Islander.
Intimate partner homicide	Homicide committed by intimate partners or former intimate partners. Intimate refers to a romantic or coupled relationship characterised by a level of mutual trust, dependence or commitment between the child and the perpetrator. It does not include friendship-only relationships. There is no age threshold for this category.
Low-speed vehicle run-over	An incident where a pedestrian is injured or killed by a slow-moving vehicle travelling forwards or reversing. The incident can occur in a non-traffic area (e.g. residential driveway) or as a vehicle is merging into or out of a traffic area (e.g. school pick-up zone).
Neonatal death	A neonatal death is the death of an infant within 0–27 days of birth who, after delivery, breathed or showed any other evidence of life, such as a heartbeat. This is the definition used by the Australian Bureau of Statistics in all cause-of-death publications.
Neonaticide	The killing of an infant within 24 hours of birth. It is to be differentiated from infanticide, which is commonly defined as the killing of an infant under the age of one year by a parent. Neonaticide is typically characterised by an attempt to conceal birth by disposing of the foetal remains but can also include intentional harm to the infant (regardless of the presence of mind of the offender at the time). This definition does not limit neonaticide to acts or omissions involving mothers, as fathers and stepfathers may also be involved.
Neoplasms (cancers and tumours)	The term 'neoplasm' (ICD-10 Chapter II) is often used interchangeably with words such as 'tumour' and 'cancer'. Cancer includes a range of diseases in which abnormal cells proliferate and spread out of control. Normally, cells grow and multiply in an orderly way to form organs that have a specific function in the body. Occasionally, however, cells multiply in an uncontrolled way after being affected by a carcinogen, or after developing a random genetic mutation. They may form a mass that is called a tumour or neoplasm. A 'benign neoplasm' refers to a non-cancerous tumour, whereas a 'malignant neoplasm' usually refers to a cancerous tumour (that is, cancer). Benign tumours do not invade other tissues or spread to other parts of the body, although they can expand to interfere with healthy structures.
Notifiable condition	A condition made notifiable to state health authorities if there is potential for its control. See Appendix 4 for a full list of notifiable conditions.

Other non-intentional injury-related deaths	Other non-intentional injury-related deaths include those resulting from a fall, electrocution, poisoning, suffocation, strangulation and choking, fire, and other non-intentional injury-related deaths that are not discussed in chapter 3 (Transport) or chapter 4 (Drowning) of the Annual Report. The complete list is included in Appendix 5.
Peer homicide	Lethal confrontations that occur between peers. Peers are classified as young people (under 18 years) who are of a similar age and/or developmental level, or two people of any age who are friends and therefore of the same social standing and peer network.
Peer passengers	Refers to the laws regarding restrictions on the number of passengers that a P1-type provisional licence holder under 25 years may carry in a vehicle. During the period between 11pm on a day and 5am on the next day, the P1-type provisional driver must not drive on a road in a vehicle carrying more than one passenger under the age of 21 years who is not an immediate family member.
Perinatal condition	Perinatal conditions (ICD-10 Chapter XVI, Certain conditions originating in the perinatal period) are diseases and conditions that originated during pregnancy or the neonatal period (first 28 days of life), even though death or morbidity may occur later. These include maternal conditions that affect the newborn, such as complications of labour and delivery, disorders relating to foetal growth, length of gestation and birth weight, as well as disorders specific to the perinatal period such as respiratory and cardiovascular disorders, infections, and endocrine and metabolic disorders.
Perinatal period	The perinatal period refers to infants of at least 20 weeks gestation or at least 400 grams birth weight, and all neonates (all live born babies up to 28 completed days of life after birth, regardless of gestational age or birth weight). This is based on the ABS definition of the perinatal period. The ABS has adopted the legal requirement for registration of a perinatal death as the statistical standard as it meets the requirements of major users in Australia. This definition differs from the World Health Organization's recommended definition of perinatal deaths, which includes infants and foetuses weighing at least 500 grams or having a gestational age of 22 weeks or a body length of 25 centimetres crown–heel.
Place of death	The address at which the child was officially declared deceased.
Place of usual residence	The address nominated by the child's family as the child's primary residential address upon registering the death with the Registry of Births, Deaths and Marriages.
Police Report of Death to a Coroner (Form 1)	A form completed by the police in accordance with section 7 of the *Coroners Act 2003*—Duty to Report Deaths.
Post-neonatal death	A post-neonatal death is the death of an infant 28 or more days, but less than 12 months, after birth. This is the definition used by the ABS in all cause-of-death publications.
Postvention	The provision of crisis intervention, support and assistance for those affected by a completed suicide.
Precipitating factor	An event that occurred in the months preceding a young person's suicide which may be considered to have contributed to the young person's decision to take their own life.
Principal Commissioner	Principal Commissioner of the Queensland Family and Child Commission.
Quad bike	Previously referred to as all-terrain vehicles (ATVs), these are four-wheeled motorcycles primarily used for agricultural purposes.
QFCC	Queensland Family and Child Commission enacted by the *Family and Child Commission Act 2014* on 1 July 2014.
The Registrar	Registrar of the Registry of Births, Deaths and Marriages (Qld).
Registry	Registry of Births, Deaths and Marriages (Qld).

Reportable death	A death as defined under sections 8, 9 and 10 of the *Coroners Act 2003*. This includes any death where the: • identity of the person is unknown • death was violent or unnatural • death occurred in suspicious circumstances • death was health care-related • Cause of Death Certificate was not issued and is not likely to be issued • death occurred in care • death occurred in custody, or • death occurred in the course of, or as a result of, police operations.
Rural water hazard	Sources of water used in agricultural activities, such as dams, irrigation channels, livestock dips and troughs.
SES	Socio-economic status.
SEIFA	Socio-Economic Indexes for Areas 2011. Developed by the ABS using data derived from the 2011 Census of Population and Housing, SEIFA 2011 provides a range of measures to rank areas based on their relative social and economic wellbeing.
Sex	The biological distinction between male and female, as separate and distinct from a person's gender or sexual identity. Indeterminate sex is recorded where medical practitioners are unable to ascertain an infant's sex due to extreme prematurity or non-viable gestation.
SIDS	Sudden infant death syndrome.
Speeding/excessive speed	May be a contributing factor when police have indicated that speed was definitely or likely a factor in the death incident or there is other evidence which can confirm the speed at which the vehicle was travelling to be above the speed limit for the place of incident.
Stillborn/stillbirth	A stillborn child is a child who has shown no sign of respiration or heartbeat, or other sign of life, after completely leaving the child's mother and who has been gestated for 20 weeks or more, or weighs 400 grams or more.
Stranger homicide	A child death that occurs at the hands of an adult person (over 18 years) who is unknown to the child.
Stressful life event	An event that occurred over the course of the child's life, with the stressor first occurring more than six months before death. These types of events are often considered to be more chronic and longstanding in nature than a precipitating incident.
Sudden cardiac death	An unexplained or presumed arrhythmic sudden death, occurring in a short time period (generally within one hour of symptom onset), in a child or young person with no previously known cardiac disease.
SUDI	Sudden unexpected death in infancy. This is a research classification and does not correspond with any single medical definition or categorisation. The aim of the grouping is to report on the deaths of apparently normal infants who would be expected to thrive yet, for reasons often not known or immediately apparent, do not survive. The QFCC adopted the following working criteria for the inclusion of cases in the SUDI grouping: the death was of an infant less than one year of age, the death was sudden in nature, the death was unexpected, the infant had no known condition likely to cause death, and the infant had no immediately obvious cause of death.
Suicidal act	Involves self-inflicted injury that is accompanied by the intention of the individual to die from the result of the action taken.
Suicidal contagion	The process by which a prior suicide or attempted suicide facilitates or influences suicidal behaviour in another person.
Suicidal ideation	The explicit communication of having thoughts of suicide.

Suicidal intent	Suicidal intent may be communicated directly or implied to a significant person in a child or young person's life such as a family member/carer, friend, health professional or educator. Notification of suicidal intent may occur in person, be verbalised via telephone or be written or expressed using online technology (SMS text messaging, online messenger and email, or through social media platforms).
Suicide	Death resulting from a voluntary and deliberate act against oneself, where death is a reasonably expected outcome of such act. This includes those cases where it can be established the person intended to die and those where intent is unclear, or the person may not have the capacity of reason to intend death, such as children under 15 years or persons with a serious mental illness.
Suicide attempt	A suicidal act causing injury but not leading to death.
Toxicology	The analysis of drugs, alcohol and poisons in the body fluids at autopsy.
Transport deaths	Death incidents involving a vehicle of some description. Vehicles include, but are not limited to: • motor vehicles and motorcycles • quad bikes, tractors and other rural plant • bicycles, skateboards, scooters and other small-wheel devices • watercraft and aircraft • horses and other animals used for transportation.
WHO	World Health Organization.

Appendix 3 — Cause of death by ICD-10 Mortality Coding Classification

Table 5 provides a summary of the ICD-10 categories for child deaths from diseases and morbid conditions registered during 2017–18. Table 6 provides the ICD-10 categories for child deaths from external causes.

The numbers in Table 5 are equal to the numbers of deaths from diseases and morbid conditions presented in the Annual Report. Deaths are categorised as such only when an official cause of death has been assigned by Queensland Health or the Coroner, which provides the necessary information to determine the ICD-10 code.

The numbers in Table 6 will not necessarily equal the numbers of external-cause deaths presented in the Annual Report. In some cases, the general nature of the death can be identified (e.g. transport-related death), however there is insufficient information to determine the underlying cause of death. An ICD-10 code cannot be assigned for these cases until an official cause of death has been determined. As such, these cases have not been included in Table 6.

Table 5: Deaths from diseases and morbid conditions 2017–18

Cause of death	Under 1 year *n*	1 4 years *n*	5 9 years *n*	10 14 years *n*	15 17 years *n*	Total *n*
Explained diseases and morbid conditions	**207**	**15**	**14**	**21**	**13**	**207**
Certain infectious and parasitic diseases (A00–B99)	2	5	2	3	0	12
Neoplasms (C00–D48)	1	3	5	6	5	20
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)	0	1	0	1	0	2
Endocrine, nutritional and metabolic diseases (E00–E90)	2	0	1	1	1	5
Mental and behavioural disorders (F00–F99)	0	0	1	0	1	2
Diseases of the nervous system (G00–G99)	8	2	2	1	2	15
Diseases of the circulatory system (I00–I99)	3	1	1	2	1	8
Diseases of the respiratory system (J00–J99)	3	0	0	2	1	6
Diseases of the digestive system (K00–K93)	0	0	0	1	0	1
Diseases of the musculoskeletal system and connective tissue (M00–M99)	0	0	0	0	1	1
Certain conditions originating in the perinatal period (P00–P96)	129	1	0	0	0	130
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	59	2	2	4	1	68
SIDS and undetermined causes (infants)	**7**	**0**	**0**	**0**	**0**	**7**
Sudden infant death syndrome (R95)	3	0	0	0	0	3
Other ill-defined and unspecified causes of mortality (R99)	4	0	0	0	0	4
Undetermined >1 year	**0**	**0**	**0**	**0**	**0**	**0**
Other ill-defined and unspecified causes of mortality (R99)	0	0	0	0	0	0
Total	**214**	**15**	**14**	**21**	**13**	**277**

Table 6: Deaths from external causes 2017–18

Cause of death	Under 1 year *n*	1 4 years *n*	5 9 years *n*	10 14 years *n*	15 17 years *n*	Total *n*
Transport total	**1**	**7**	**3**	**3**	**10**	**24**
Pedestrian injured in transport accident (V01–V09)	0	6	0	0	0	6
Pedal cyclist injured in transport accident (V10–V19)	0	1	0	0	0	1
Car occupant injured in transport accident (V40–V49)	1	0	3	2	9	15
Other land transport accidents (V80–V89)	0	0	0	1	0	1
Water transport accidents (V90–V94)	0	0	0	0	1	1
Other non intentional injury related death total	**1**	**4**	**1**	**0**	**4**	**10**
Falls (W00–W19)	0	1	0	0	0	1
Exposure to inanimate mechanical forces (W20–W49)	0	0	0	0	1	1
Other accidental threats to breathing (W75–W84)	0	1	1	0	1	3
Accidental poisoning by and exposure to noxious substances (X40–X49)	0	0	0	0	2	2
Cause of death pending	1	2	0	0	0	3
Drowning total	**1**	**7**	**2**	**0**	**1**	**11**
Accidental drowning and submersion (W65–W74)	1	7	2	0	1	11
Suicide total	**0**	**0**	**1**	**4**	**19**	**24**
Intentional self-harm (X60–X84)	0	0	1	4	19	24
Total	**3**	**18**	**7**	**7**	**34**	**69**

Appendix 4 — Notifiable diseases

Table 7: Schedule of Notifiable Conditions (Public Health Regulation 2018)

Acute flaccid paralysis	Food-borne or waterborne illness in 2 or more cases
Acute rheumatic fever	Food-borne or waterborne illness in food handler
Acute viral hepatitis	Gonococcal infection
Adverse event following vaccination	Haemolytic uraemic syndrome (HUS)
Anthrax	*Haemophilus influenzae* type b infection (invasive)
Arbovirus (mosquito borne) infections • alphavirus infections including: – Barmah Forest – getah – Ross River – sindbis • bunyavirus infections including: – gan gan – mapputta – termeil – trubanaman • flavivirus infections including: – alfuy – Edge Hill – kokobera – West Nile/kunjin – Stratford • Other unspecified arbovirus infections NB: dengue fever, yellow fever, Japanese encephalitis and Murray Valley encephalitis are listed separately	Hendra virus infection
	Hepatitis A
	Hepatitis B (acute)
	Hepatitis B (chronic)
	Hepatitis B (not otherwise specified)
	Hepatitis C
	Hepatitis D
	Hepatitis E
	Hepatitis (other)
	Human immunodeficiency virus infection (HIV)
	Influenza
	Invasive group A streptococcal infection
	Japanese encephalitis
	Lead exposure (notifiable) (blood level of 5 µg/dL (0.24 µmol/L) or more)
	Legionellosis
	Leprosy (Hansen's disease)
Australian bat lyssavirus infection	Leptospirosis
Australian bat lyssavirus, potential exposure	Listeriosis
Avian influenza	Lyssavirus (unspecified)
Botulism	Malaria
Brucellosis	Measles
Campylobacteriosis	Melioidosis
Chancroid	Meningococcal disease (invasive)
Chikungunya	Mumps
Chlamydia trachomatis infection	Murray Valley encephalitis
Cholera	Non-tuberculous mycobacterial diseases
Ciguatera intoxication	Paratyphoid
Coronaviruses • Middle East respiratory syndrome coronavirus (MERS-CoV) • severe acute respiratory syndrome (SARS)	Pertussis
	Plague
	Pneumococcal disease (invasive)
Cruetzfeldt-Jakob disease	Poliomyelitis
Cryptosporidiosis	Psittacosis (Ornithosis)
Dengue	Q fever
Diphtheria	Rabies
Donovanosis	Rheumatic heart disease

Rotavirus	Tularaemia
Rubella (including congenital rubella)	Typhoid
Salmonellosis	Varicella—zoster virus infection (chickenpox, shingles and unspecified)
Shiga toxin or vero toxin producing *Escherichia coli* infection (STEC/VTEC)	Viral haemorrhagic fevers (Crimean-Congo, Ebola, Lassa fever and Marburg viruses)
Shigellosis	
Smallpox	Yellow fever
Syphilis (including congenital syphilis)	Yersiniosis
Tetanus	Zika virus
Tuberculosis	

Appendix 5 — Inclusions within the other non-intentional injury category

Causes of death included in other non-intentional injury-related death category:

- falls
- exposure to inanimate mechanical forces, examples include:
  - struck by object
  - caught or crushed between objects
  - contact with machinery
  - foreign body entering through, eye, orifice or skin
- exposure to animate mechanical forces, examples include:
  - struck by other person
  - struck or bitten by mammal
  - contact with marine animal
- threats to breathing, examples include:
  - non-intentional suffocation or strangulation
  - threat to breathing due to cave-in, falling earth and other substances
  - inhalation of gastric contents
- exposure to electrical current, radiation and extreme ambient air temperature/pressure
- exposure to smoke, fire and flames
- exposure to heat and hot substances
- contact with venomous animals and plants
- exposure to forces of nature, examples include:
  - lightning
  - exposure to sunlight
  - excessive natural cold
- accidental poisoning by noxious substances, examples include:
  - inhalation of volatile substances
  - non-intentional overdose
  - unintended consumption
- complications of medical and surgical care.

Appendix 6 — Suicide classification model

The suicide classification model is used to classify all cases of suspected suicide into one of three levels of certainty.[89] In classifying these deaths, the QFCC considers a number of factors, including whether intent was stated previously, the presence of a suicide note, witnesses to the event, previous suicide attempts and any significant precipitating factors or life stressors.

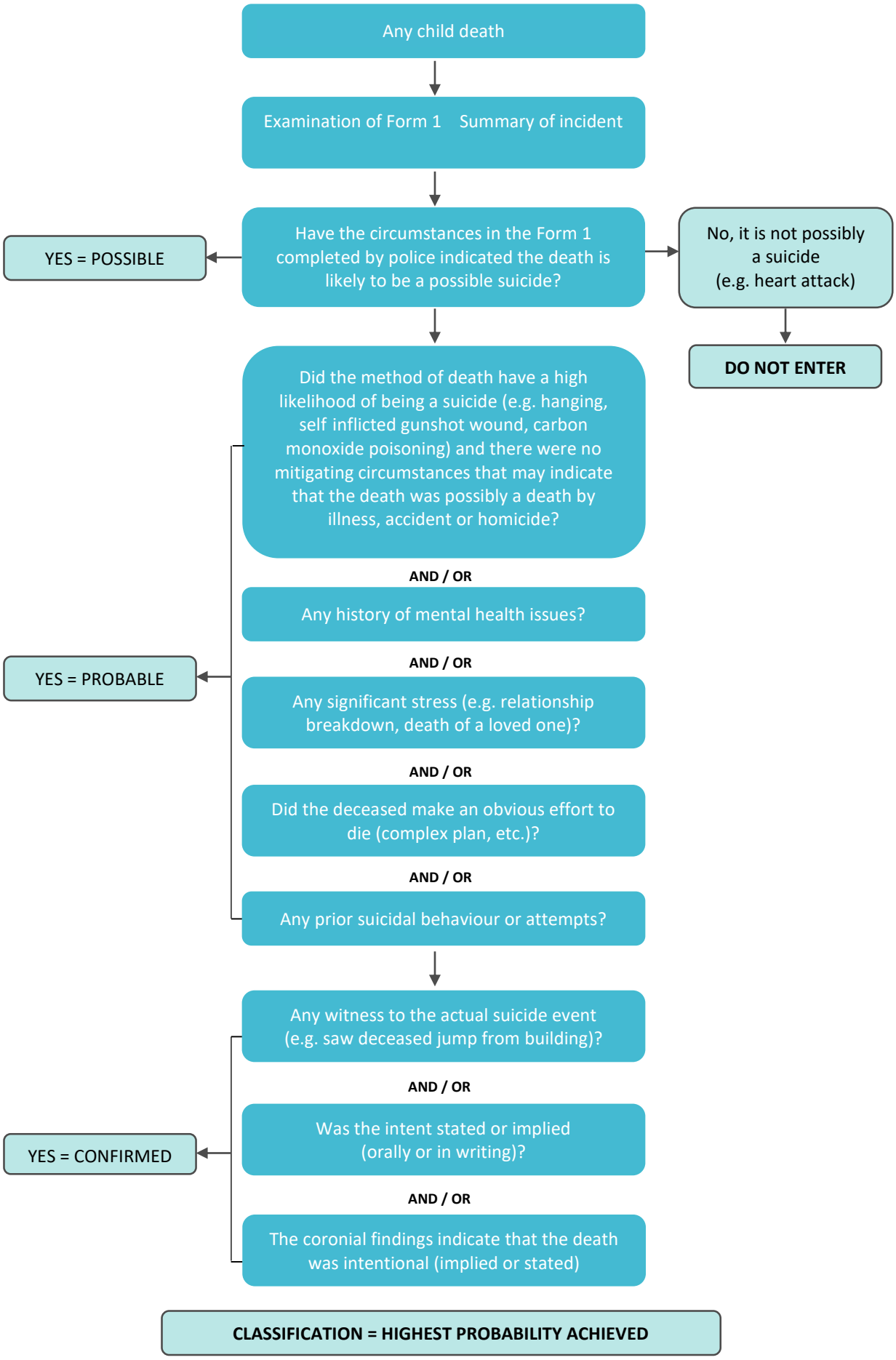
Information used to classify suicide certainty is based on data available to the QFCC at the time of reporting. Information is gathered from numerous records, including the Police Report of Death to a Coroner (Form 1), additional information requested from police (including the contents of suicide notes), autopsy and toxicology report, child protection system records and coronial findings.

Levels of classification are as follows:

- **Confirmed:** The available information refers to at least one significant factor that constitutes a virtually certain level of suicide classification, or coronial investigations have found that the death was a suicide.
- **Probable:** The available information is not sufficient for a judgement of confirmed, but is consistent more with death by suicide than with death by any other means. Risk factors for suicide have been identified and/or the method and circumstances surrounding the death are such that intent may be inferred.
- **Possible/undetermined:** The police have indicated (on the Form 1) that the case is a suspected suicide or the QFCC identified the possibility of a suicide but, because of a lack of information on the circumstances of the death, there is a substantial possibility that the death may be the result of another cause, or is of undetermined intent.

[89] The QFCC classification model is an amended version of the Australian Institute of Suicide Research and Prevention's (AISRAP) suicide classification flow chart.

Figure 1. Suicide classification model



Appendix 7 — Fatal assault and neglect screening criteria

The QFCC uses the fatal assault and neglect screening criteria to classify all cases of suspected fatal assault and neglect into one of three levels of certainty. In classifying these deaths, the QFCC considers a number of factors. Information is gathered from numerous records, including the Police Report of Death to a Coroner (Form 1), autopsy and toxicology reports, child protection system records and coronial findings. Additional information from criminal proceedings and sentencing is also reviewed.

Information used to confirm fatal assault and neglect deaths is based on data available to the QFCC at the time of reporting.

Levels of confirmation are as follows:

Confirmed

- A perpetrator has been charged for a criminal offence relating to the death of the child and, regardless of the outcome, the facts establish the death was the result of inflicted harm or neglect, and/or
- coronial findings indicate (either expressly or impliedly) that the death was a result of inflicted harm or neglect, and/or
- a perpetrator has suicided in conjunction with the death of the child and has expressly or impliedly stated that they were responsible for the child's death.

Probable

- The evidence available to the QFCC indicated that there was a high likelihood that the death was a consequence of inflicted injury or neglect (i.e. but for the inflicted injury or neglect the child probably would not have died), and/or
- there is medical evidence to suggest the death was a consequence of inflicted injury or neglect, and/or
- a perpetrator has suicided in conjunction with the apparent non-accidental death of the child.

Possible

- The initial evidence available to the QFCC indicated that the child may have experienced inflicted harm or neglect which may have contributed to or caused the death (i.e. these deaths demonstrated the presence of risk factors at the time of the incident that could potentially have played some role in relation to the child's death, without establishing a probable likelihood of this having occurred).