

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 Marriages⁷²
- Office of the State Coroner⁷³
- 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 Queensland⁷⁸
- Regional: includes inner and outer regional Queensland⁷⁹
- Remote: includes remote and very remote Queensland.⁸⁰

Socio-economic status (SEIFA)

Of the Socio-economic Indexes for Areas (SEIFA) 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.