Annual Report
Deaths of children and young people
Queensland 2005–06
Commission for Children and Young People
and Child Guardian
The Commission for Children and Young People and Child Guardian respects the beliefs of the Aboriginal and Torres Strait Islander peoples and advises that there is information regarding Aboriginal and Torres Strait Islander deceased people in this report.

Suggestions:
The Commission welcomes suggestions on the information contained in this publication. Please direct your suggestions to the Commission for Children and Young People and Child Guardian at the above mailing address.

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Dear Premier

In accordance with section 89ZF of the *Commission for Children and Young People and Child Guardian Act*, I hereby provide to you the Commission’s annual report analysing the deaths of Queensland children and young people.

The report analyses the deaths of all children and young people registered in Queensland in the period 1 July 2005 – 30 June 2006 and makes recommendations to reduce or remove risk factors associated with deaths that may have been preventable.

Yours sincerely

Elizabeth Fraser
Commissioner for Children and Young People and Child Guardian
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- David Fanning, Commissioner for Children, Tasmania.
## Abbreviations and dictionary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>ACT</td>
<td>Australian Capital Territory</td>
</tr>
<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
</tr>
<tr>
<td>AISRAP</td>
<td>Australian Institute for Suicide Research and Prevention</td>
</tr>
<tr>
<td>ANISU</td>
<td>Australian National Injury Surveillance Unit</td>
</tr>
<tr>
<td>ARIA</td>
<td>Accessibility/Remoteness Index of Australia Plus (ARIA+). 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. The 2001 update uses population figures and spatial boundaries from the Australian Bureau of Statistics 2001 Census of Population and Housing.</td>
</tr>
<tr>
<td>ATSI</td>
<td>Aboriginal and/or Torres Strait Islander</td>
</tr>
<tr>
<td>Autopsy</td>
<td>Also ‘post-mortem’. A detailed physical examination of a person's body after death. An autopsy provides detailed information about the person's health and gives an understanding of the various factors which may have contributed to their death.</td>
</tr>
<tr>
<td>AWSC</td>
<td>Australian Water Safety Council</td>
</tr>
<tr>
<td>BDMR Act</td>
<td>Births, Deaths and Marriages Registration Act 2003 (Qld)</td>
</tr>
<tr>
<td>CDCRC</td>
<td>Child Death Case Review Committee (Queensland)</td>
</tr>
<tr>
<td>CDHAC</td>
<td>Commonwealth Department of Health and Aged Care</td>
</tr>
<tr>
<td>CDRC</td>
<td>Child Death Review Committee (Western Australia)</td>
</tr>
<tr>
<td>CDRT</td>
<td>Child Death Review Team (New South Wales)</td>
</tr>
<tr>
<td>CDSIRC</td>
<td>Child Death and Serious Injury Review Committee (South Australia)</td>
</tr>
<tr>
<td>CEMACH</td>
<td>Confidential Enquiry into Maternal and Child Health</td>
</tr>
<tr>
<td>Child Guardian</td>
<td>The Child Guardian's responsibility is to monitor and investigate complaints against the Department of Child Safety or other service providers, conduct proactive audits, and monitor and review service providers.</td>
</tr>
<tr>
<td>Child Protection Act</td>
<td><em>Child Protection Act 1999 (Qld)</em></td>
</tr>
<tr>
<td>Chroming</td>
<td>The intentional inhalation of the poisonous fumes from glue, paint and other household products.</td>
</tr>
<tr>
<td>CMC</td>
<td>Crime and Misconduct Commission (Queensland)</td>
</tr>
<tr>
<td>The Commission</td>
<td>Commission for Children and Young People and Child Guardian (Queensland)</td>
</tr>
<tr>
<td>The Commissioner</td>
<td>Commissioner for Children and Young People and Child Guardian (Queensland)</td>
</tr>
</tbody>
</table>
| Coroners Act | *Coroners Act 1958 (Qld) (repealed)*  
*Coroners Act 2003 (Qld)* |
<p>| CSO          | Child Safety Officer |
| CYMRC        | Child and Youth Mortality Review Committee (New Zealand) |
| DATSIP       | Department of Aboriginal and Torres Strait Islander Policy (Queensland) |
| DCD          | Department of Community Development (Western Australia) |
| DChS         | Department of Child Safety (Queensland) |
| Death in care | A death as defined under section 9 of the <em>Coroners Act 2003</em> |
| Death in custody | A death as defined under section 10 of the <em>Coroners Act 2003</em> |
| DES          | Department of Emergency Services (Queensland) |
| DfES         | Department for Education and Skills (United Kingdom) |
| DHHS         | Department of Health and Human Services (Tasmania) |
| DHS          | Department of Human Services (Victoria) |</p>
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoCS</td>
<td>Department of Community Services (New South Wales)</td>
</tr>
<tr>
<td>DoF</td>
<td>Former Department of Families (Queensland)</td>
</tr>
<tr>
<td>DoH</td>
<td>Department of Housing (Queensland)</td>
</tr>
<tr>
<td>External causes of death</td>
<td>Pertaining to environmental events and circumstances that cause injury, poisoning and other adverse effects.</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>Fatal assault is defined as the death of a child from “acts of violence perpetrated upon him or her by another person” even when the perpetrator may not have intended the outcome.</td>
</tr>
<tr>
<td>FII</td>
<td>Fabricated or induced illness (formerly Munchausen Syndrome by proxy)</td>
</tr>
<tr>
<td>Form 1</td>
<td>See ‘Police Report of Death to a Coroner’</td>
</tr>
<tr>
<td>GDL</td>
<td>Graduated Driver Licensing</td>
</tr>
<tr>
<td>GISCA</td>
<td>National Centre for the Social Applications of Geographic Information Systems</td>
</tr>
<tr>
<td>ICAN</td>
<td>Inter-Agency Council on Child Abuse and Neglect, United States of America</td>
</tr>
<tr>
<td>ICD</td>
<td>International Statistical Classification of Diseases and Related Health Problems</td>
</tr>
<tr>
<td>ICD-10</td>
<td>International Statistical Classification of Diseases and Related Health Problems, Tenth Revision</td>
</tr>
<tr>
<td>JAOP</td>
<td>Juvenile Arson Offenders Program</td>
</tr>
<tr>
<td>LSCB</td>
<td>Local Safeguarding Children Boards, United Kingdom</td>
</tr>
<tr>
<td>Multiple cause of death codes</td>
<td>Where all causes of death documented on a death certificate are collected by the use of the International Classification of Diseases.</td>
</tr>
<tr>
<td>NCCH</td>
<td>National Centre for Classification in Health</td>
</tr>
<tr>
<td>Neglect</td>
<td>Neglect and negligent treatment are jointly defined as the inattention or omission on the part of the caregiver to provide for the development of the child in all spheres – health, education, emotional development, nutrition, shelter and safe living conditions – in the context of resources reasonably available to the family or caretakers; it is treatment that causes or has a high probability of causing harm to the child’s health or physical, mental, spiritual, moral or social development. This includes the failure to properly supervise and protect children from harm as much as is feasible (WHO, 1999).</td>
</tr>
<tr>
<td>Neonatal period</td>
<td>The neonatal period begins at birth and ends 28 completed days after birth. Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into early neonatal deaths, occurring during the first 7 days of life, and late neonatal deaths, occurring after the seventh day but before 28 completed days of life.</td>
</tr>
<tr>
<td>NNDSS</td>
<td>National Notifiable Diseases Surveillance System</td>
</tr>
<tr>
<td>'Other' non-intentional injury-related death</td>
<td>'Other' non-intentional injury-related deaths include falls, electrocutions, poisoning, suffocation, strangulation and choking and ‘other’ injury-related deaths that are outside the non-intentional injury deaths discussed elsewhere in the report – that is, fire, drowning and transport incidents.</td>
</tr>
<tr>
<td>NSPCC</td>
<td>National Society for the Prevention of Cruelty to Children, United Kingdom</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>NSW CDRT</td>
<td>New South Wales Child Death Review Team situated within the New South Wales Commission for Children and Young People.</td>
</tr>
<tr>
<td>NT</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>OESR</td>
<td>Office of Economic and Statistical Research, Queensland Government</td>
</tr>
<tr>
<td>OFT</td>
<td>Office of Fair Trading (Queensland)</td>
</tr>
<tr>
<td>Ombudsman</td>
<td>Queensland Ombudsman</td>
</tr>
<tr>
<td>OSC</td>
<td>Office of State Coroner (Queensland)</td>
</tr>
<tr>
<td>PANOC</td>
<td>The Physical Abuse and Neglect of Children Committee, New South Wales released a report in 1990 recommending that the NSW government establish an “independent review mechanism” to examine cases where children are injured or die, and recommended policy, procedural, practice and service changes (NSW CDRT 2001: 2).</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
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</tr>
<tr>
<td>Perinatal period</td>
<td>The perinatal period begins at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500 g), and ends 7 completed days after birth.</td>
</tr>
<tr>
<td>PN&amp;IMC</td>
<td>Perinatal and Infant Mortality Committee (Western Australia)</td>
</tr>
<tr>
<td>Post-neonatal mortality</td>
<td>A death of an infant that occurs after 28 days of age</td>
</tr>
<tr>
<td>Post-mortem</td>
<td>See ‘autopsy’</td>
</tr>
<tr>
<td>QATSIAIG</td>
<td>Queensland Aboriginal and Torres Strait Islander Advisory Group, established by SIDS and Kids Queensland</td>
</tr>
<tr>
<td>QFRA</td>
<td>Queensland Fire and Rescue Authority</td>
</tr>
<tr>
<td>QFRS</td>
<td>Queensland Fire and Rescue Service</td>
</tr>
<tr>
<td>QG</td>
<td>Queensland Government</td>
</tr>
<tr>
<td>QGSPS</td>
<td>Queensland Government Suicide Prevention Strategy</td>
</tr>
<tr>
<td>QGSPSC</td>
<td>Queensland Government Suicide Prevention Steering Committee</td>
</tr>
<tr>
<td>QH</td>
<td>Queensland Health</td>
</tr>
<tr>
<td>QISU</td>
<td>Queensland Injury Surveillance Unit</td>
</tr>
<tr>
<td>QPS</td>
<td>Queensland Police Service</td>
</tr>
<tr>
<td>Births, Deaths and Marriages Act</td>
<td>Registration of Births, Deaths and Marriages Act 1962 (Qld) (repealed) Births, Deaths and Marriages Registration Act 2003 (Qld)</td>
</tr>
<tr>
<td>Registry</td>
<td>Registry of Births, Deaths and Marriages (Queensland)</td>
</tr>
<tr>
<td>Reportable death</td>
<td>A death as defined under sections 8, 9 and 10 of the Coroners Act 2003</td>
</tr>
<tr>
<td>SAAP</td>
<td>Supported Accommodation Assistance Program</td>
</tr>
<tr>
<td>SEIFA</td>
<td>Socio-Economic Indexes for Areas 2001. Developed by the Australian Bureau of Statistics using data derived from the 2001 Census of Population and Housing, SEIFA 2001 provides a range of measures to rank areas based on their relative social and economic wellbeing.</td>
</tr>
<tr>
<td>SES</td>
<td>Socio-economic status</td>
</tr>
<tr>
<td>SIDS</td>
<td>Sudden infant death syndrome</td>
</tr>
<tr>
<td>Standard Building Regulation</td>
<td>Standard Building Regulation 1993</td>
</tr>
<tr>
<td>SUDI</td>
<td>Sudden unexpected death in infancy</td>
</tr>
<tr>
<td>Toxicology</td>
<td>The analysis of drugs, alcohol and poisons in the body fluids at autopsy.</td>
</tr>
<tr>
<td>Undetermined</td>
<td>Cause of death certified ‘undetermined’ refers to a death in which available information is insufficient to classify the death into one of the specific causes of natural or unnatural death. If an extensive investigation and autopsy cannot clarify the circumstances, the death is placed in this category. Sudden unexpected deaths of infants are certified as undetermined when insufficient findings are present to support a particular diagnosis but when sufficient abnormal features in the history or at the scene, examination, autopsy or laboratory workshop were found that were not typical of sudden infant death syndrome (Mitchell et al. 2000:312).</td>
</tr>
<tr>
<td>Undetermined intent</td>
<td>A death where available information is insufficient to enable a medical or legal authority to make a distinction between accident, self-harm and assault.</td>
</tr>
<tr>
<td>USID</td>
<td>Unclassified sudden infant death</td>
</tr>
<tr>
<td>VCDRC</td>
<td>Victorian Child Death Review Committee situated within the Office of the Child Safety Commissioner.</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
<tr>
<td>YANQ</td>
<td>Youth Affairs Network of Queensland</td>
</tr>
</tbody>
</table>
Foreword

This is the Commission’s second annual report analysing the deaths of children and young people in Queensland.

At the outset, I would like to extend my deepest sympathy to the families and friends of the children and young people who died during the reporting period. I would also like to acknowledge the professionals who assisted and worked with these children and young people.

In the 12-month period 1 July 2005 to 30 June 2006, the deaths of 426 children and young people were registered in Queensland, 55 fewer than in the previous 12-month period.

This report presents findings about and detailed consideration of these deaths. The report has also looked closely at the quality of the Commission’s source data, making recommendations in relation to the coding and registration of deaths in Queensland and nationally, to improve the integrity and reliability of the data.

This report focuses on the external causes of child mortality and sudden unexpected deaths in infancy. While last year’s report focused on infant deaths, it also identified the issue of childhood suicide in Queensland. This year’s report again highlights this issue, a phenomenon that has hitherto been masked in official statistics in Australia.

This report also begins to clarify trends and patterns in causes of death for children in the child protection population and makes recommendations in relation to those deaths not obviously within the Department of Child Safety’s jurisdiction to review. Generally the deaths of children in the child protection population are reviewed and reported on by the Department of Child Safety and then by the Child Death Case Review Committee. As the Commission is responsible for analysing the deaths of all children, it can bring into view a population of at-risk children and young people who are not, or not obviously, within the child protection system.

The information contained in this report will provide a valuable dataset that builds on existing statistics and furthers our understanding of the factors contributing to the deaths of children and young people in Queensland.

Elizabeth Fraser
Commissioner for Children and Young People
and Child Guardian
Executive summary

Background

The Commission for Children and Young People and Child Guardian is an independent statutory body charged with the responsibility of protecting and promoting the rights, interests and wellbeing of Queensland children and young people under the age of 18.

The Commission’s child death review functions began on 1 August 2004. Under Part 4A – Child Deaths – of the Commission for Children and Young People and Child Guardian Act, the Commission is responsible for:

- maintaining a register of the deaths of all children and young people in Queensland
- reviewing the causes and patterns of deaths of children and young people
- conducting broad research in relation to child deaths
- making recommendations for improvements to laws, policies, procedures and practices to help reduce the likelihood of child death, and
- preparing an annual report to Parliament and the public regarding child deaths.

Child deaths in Queensland

1 July 2005 – 30 June 2006

In the 12-month period from 1 July 2005 to 30 June 2006, the deaths of 426 children were registered in Queensland. Of these, 266 were male and 160 were female (62.4% and 37.6% respectively). Three hundred and fifteen deaths were due to natural causes including 16 infant deaths from sudden infant death syndrome and undetermined causes; 93 deaths were due to external causes of morbidity or mortality (as per ICD-10 coding classifications), while 17 deaths were pending a cause of death at the time of reporting.

- Infants under 1 year accounted for 263 deaths; 73% of these deaths occurred within the first 28 days of life.
- Children aged 1–4 years accounted for 55 deaths (the second-highest number of deaths); drowning incidents were the leading cause of death, accounting for 15 deaths.
- Children aged 5–9 years accounted for 34 deaths; natural deaths (neoplasms and diseases of the nervous system) accounted for 13 deaths in this age group, with transport incidents accounting for 5 deaths.
- Children aged 10–14 years accounted for 30 deaths; suicide (5 deaths) and transport incidents (5 deaths) were the leading causes of death for children in this age group.
- Adolescents aged 15–17 years accounted for 44 deaths; 21 of those deaths were the result of transport incidents, while 10 were the result of suicide.

Overall, there were 55 fewer child deaths this year than in the previous 12-month period.

Transport

- Transport incidents were the leading external cause of death (41 deaths, 44.1% of deaths from external causes) and were the most common external cause of death for all age groups except 1–4 year olds (where drowning was the leading cause). There were 4 infant deaths under 1 year of age, 6 deaths of 1–4 year olds, 5 deaths of 5–9 year olds, 5 deaths of 10–14 year olds and 21 adolescent deaths aged 15–17 years.
- The greatest number of transport fatalities occurred in motor vehicles (26 deaths), followed by pedestrian deaths (11 deaths).
- The greatest risk for fatal teen motor vehicle collisions was 10pm–12am on a Saturday night. This period accounted for almost a quarter of all teen motor vehicle fatalities.
- Two pedestrian deaths were low-speed (driveway) run-overs involving children under the age of 4 years.

1 Refer to Chapter 2.
2 There were also 5 suicide deaths of 10–14 year olds.
Drowning

- Eighteen children and young people drowned.
- Drowning was the leading cause of death for 1–4 year olds in Queensland.
- Compared with the 12-month 2004–05 data, drowning has increased by 33.3% in the current reporting period.
- The majority of drowning-related incidents occurred in domestic swimming pools (8 deaths).
- After swimming pools, the most common place of drowning was bathtubs (4 deaths), followed by dams and lakes (3 deaths).
- Lack of supervision and inadequate or no fencing were factors in most of the drowning fatalities.

Suicide

- Fifteen children and young people were suspected of suiciding.
- Suicide accounted for the equal highest number of external cause deaths of children aged 10–14 years and the second-highest, after transport fatalities, for children aged 15–17 years.
- Aboriginal youth accounted for 20% of all child suicides. No Torres Strait Islander children were recorded as suiciding in this reporting period.
- The young age of children taking their own lives is of particular concern to the Commission.
- Five of the young people who died were known to the child protection system.
- The Commission is undertaking an in-depth research project into child and youth suicide that is due for release mid-2007.

‘Other’ non-intentional injury-related death

- Eleven children and young people died in an incident other than a fire, drowning or transport incident.
- Other non-intentional injury-related deaths accounted for 11.8% of all external cause deaths of children and young people in Queensland.
- The greatest number of other non-intentional injury-related deaths occurred in the 1–4 and 5–9 year age groups (3 deaths each, or 27.3% of the total deaths in this category).
- Male children were more likely than females to die of other non-intentional injury, with males constituting 63.6% of these deaths.
- Strangulation, suffocation and choking were the most common cause of ‘other’ non-intentional injury-related death.

Fatal assault

- Nine children and young people died as a result of fatal assault.
- Fatal assault accounted for 9.7% of deaths from external causes.
- The incidence of fatal assault was highest among infants and very young children aged less than 5 years.
- Fatal child abuse, domestic homicides and deaths from domestic violence were the three most common categories of assault.
- Children and young people known to the Department of Child Safety were over-represented constituting 66.7% of fatal assaults.
- The Commission is undertaking an in-depth study of fatal assault and neglect of children and young people in Queensland, due for release mid-2007.

3 Refer to Chapter 3.
4 There were also 5 transport incidents in the 10–14 year age group in the 2005–06 reporting period.
5 ‘Other’ non-intentional injury-related deaths include falls, electrocutions, poisoning, suffocation, strangulation and choking and ‘other’ non-intentional injury related deaths that are outside those discussed elsewhere in this report ie. fire, drowning and transport incidents.
Fire

- Two children and young people died in 2 residential house fires.
- Fire deaths represented 2.2% of all external deaths.
- It is unknown whether the homes were fitted with smoke alarms.
- The Department of Emergency Services, Queensland Fire and Rescue Service highlights the importance of smoke alarms in its initiatives to increase community awareness about fire safety.

Sudden unexpected deaths in infancy

- Sudden unexpected death in infancy (SUDI) is defined as death of an infant under 1 year of age with no immediately obvious cause.
- SUDIs accounted for 36 deaths of infants in the 12-month period 1 July 2005 to 30 June 2006.
- The cause of death for 11 cases of SUDI was certified as sudden infant death syndrome (SIDS), 9 were certified as infant illness, 5 were certified as undetermined and there were 8 causes of death pending at the time of reporting. Two were due to accidental suffocation and 1 additional case was due to anoxic brain damage of unknown cause.
- In 15 of the 36 cases of SUDI (excluding those later found to be due to natural causes), the infant was sharing a sleeping surface with one or more people at the time of death.
- Twelve of the 36 infants who died suddenly and unexpectedly were Indigenous (10 were Aboriginal, 1 was a Torres Strait Islander infant and 1 was identified as both). Aboriginal and Torres Strait Islander infants died at 7 times the rate of non-Indigenous infants.

Summary of recommendations

The Registry of Births, Deaths and Marriages

1. The Commission recommends that by 31 December 2006 the Registry of Births, Deaths and Marriages complete a review of its current practice and identify options to provide updated cause of death data to the Commission resulting from its receipt of Autopsy Certificates under section 24A of the Coroners Act 2003.

2. The Commission recommends that by 31 December 2006 the Registry of Births, Deaths and Marriages complete a review of its current practice with a view to maximising the timely capture of deaths reported by the State Coroner. Further, the Commission recommends that the Registry develop an organisational policy/procedure on the adopted practice.

6. The Commission recommends that by 31 December 2006 the Registry of Births, Deaths and Marriages review section 41(5)(b) of the Births, Deaths and Marriages Registration Act 2003 and provide advice to the Minister, Justice and Attorney General, about amending the restrictions on entering the word ‘suicide’ or words to ‘that effect’ in the register so as to more accurately reflect coronial findings.

Reasons:

It is the Commission’s opinion that the Registry of Births, Deaths and Marriages (the Registry) could enhance its mortality datasets for public health records and research. Currently a number of agencies, including the Commission, the Australian Bureau of Statistics (ABS), the Australian Institute of Health and Welfare and Queensland Health, rely on the datasets provided by the Registry to inform public policy, research and funding allocations.

Unregistered child deaths

The Commission has identified an anomaly between the number of deaths reported by the Registry
and the reportable deaths identified by the State Coroner. The Commission noted that a number of deaths of children and young people were not being registered, particularly the deaths of Indigenous children and young people. As at 30 June 2006, the Commission is aware of 9 deaths that remain unregistered. Of these, 7 are Aboriginal and/or Torres Strait Islander deaths.

Sections 42 and 43 of the Births, Deaths and Marriages Registration Act 2003 allow the Registrar to correct the register on the order of a Queensland court or to reflect a finding made on an inquiry by the Registrar to find out whether a registrable event has happened. The Act details that the Registrar may correct the register by adding, cancelling, amending or deleting an entry in the register. It is the Commission’s view that the Registrar should investigate using these sections of the Act to register these deaths.6

**Updated cause of death data as per the Autopsy Certificate and coronial findings**

Section 48A of the Births, Deaths and Marriages Registration Act states that the Registrar must give notice of the registration of a child death to the Commissioner for Children and Young People and Child Guardian (the Commissioner). The notice must include the cause of death of the child, to the extent that it is known to the Registrar. However, the Commission has experienced ongoing difficulty in receiving updated cause of death data.7

In accordance with section 24A of the Coroners Act 2003 the Registrar is provided with an Autopsy Certificate ‘as soon as is practicable’ after the completion of an autopsy.

It is the Commission’s view that Autopsy Certificates are provided to the Registry in its capacity to maintain an updated register and to provide reliable mortality datasets for public health records and research, and that the Register should maintain and provide this data accordingly.8

**Section 41(5)(b) of the Births, Deaths and Marriages Registration Act 2003**

The Coroners Act 1958 (repealed) expressly prohibited the finding of ‘felo de se’ or ‘one who feloniously commits suicide’ and stipulated that in their findings coroners must limit themselves to the medical cause of death only. Although a commentary on the circumstances accompanying a finding was allowed, until recently the use of the word ‘suicide’ was prohibited. When the Act was repealed in 2003, the use of the term ‘suicide’ or any reference to self-harming was amended and is now not prohibited.

When the Registry of Births, Deaths and Marriages Act was amended in 2003 it did not include a similar revision in relation to the use of the word ‘suicide’.

Section 37 of the Registration of Births, Deaths and Marriages Act 1962 (repealed) stipulated that “where an entry of the cause of death is made in any registry of death pursuant to this Act, and the death in question was self-inflicted, there shall not be added to the entry the word ‘suicide’ or any other word expressly indicating that the death was self-inflicted”. Similarly, section 41(5)(b) of the current Births, Deaths and Marriages Registration Act stipulates that, when registering an event, the Registrar must not enter the word ‘suicide’ or ‘words to that effect’ into the register.

It is the Commission’s view that the prohibition of the word ‘suicide’ or ‘words to that effect’ contributes to the under-appreciation and under-reporting of suicide, particularly childhood suicide, and also contributes to the reluctance of coroners and mortality coders to attribute a death to suicide – particularly for young children.9

This recommendation is discussed further in Chapter 2, ‘Methodology’.

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6 The Commission will continue discussions about this recommendation with the Registrar with a view to seeking agreement to add entries to the Register when coronial findings are finalised in relation to a child’s death. It is hoped these deaths will be registered early in the 2006/07 financial year. The outcome will be reported in the subsequent reporting period.


8 The Registry has indicated it will act to review the provision of data to the Commission with a view to providing updated cause of death data when this is received. The outcome will be reported in the subsequent reporting period.

9 The Director-General of the Department of Justice and Attorney-General has provided the Commission with early advice that the department will undertake a review of section 41(5)(b) of the Births, Deaths and Marriages Registration Act 2003. The outcome will be reported in the subsequent reporting period.
Australian Bureau of Statistics

4. The Commission recommends that the Australian Bureau of Statistics works with training bodies such as the National Centre for Classification of Health (a body responsible for the training of mortality coders in Australia), mortality coders, child death review teams in Australia and relevant national representatives of the coronial system to develop a method of coding intentional self-harm, for research and policy development purposes in Australia, that more accurately reflects causes of death where coroners have not clearly stipulated intent or cause because of coronial practices and constraints.

5. The Commission recommends that the Australian Bureau of Statistics publicly report on suicides of children and young people under 15 years of age.

Reasons:

Over the past decade a number of deficiencies in official data systems have contributed to the under-reporting of suicide statistics, resulting in:

- underestimates of suicide rates
- unknown numbers of suicides being classified as undetermined and accidental deaths
- under-reporting of child suicides, and
- serious contemporary problems in relation to classifying drug overdose deaths.

Coroners’ findings

It is well documented that coroners may be reluctant to classify self-inflicted deaths in children as suicides. In particular, Queensland coroners mostly confine their findings to a medical cause of death and rarely provide behavioural descriptions of fatality. Australian states and territories in general are inherently conservative in suggesting that deaths were intentionally self-inflicted, particularly in the case of child and youth suicides. This is consistent with the Commission’s findings from the Child Death Annual Report, 2004–05, with updated findings for this period indicating that only 7 out of 17 coronial findings received in the reporting period clearly indicated the intent of the child or young person (41.2%). For 8 deaths a coronial finding named ‘hanging’ as the cause of death, with no clear statement made about whether the injury was self-inflicted, accidental or otherwise.

Of the deaths registered between 1 July 2005 and 30 June 2006, the Commission identified 15 children who died because of suspected suicide. Of the available coronial findings (7), intent was clearly stated in 3 cases.

In discussions with the Queensland State Coroner in 2005, it was indicated that, if a coroner considers a death to be accidental or undetermined, this will be expressly stated in the coroner’s findings (for example, ‘accidental hanging’). In cases where the finding simply states the cause of death as ‘hanging’ (and the Police Report of Death to a Coroner indicates a suspected suicide), the absence of the term ‘accidental’ or ‘undetermined’ should be taken to imply that the death was intentional.

Without this understanding of coronial nuances, intent and restrictions at a state and national level, the ABS will continue to under-record suicide statistics in Australia.

Coding of intentional self-harm

Most official statistical bodies in Queensland use the International Classification of Diseases (ICD-10) to code underlying causes of death. However, this classification system is based on a legal premise requiring a high threshold of proof for a death to be coded to a suicide. In cases where police indicate that a death is a suspected suicide but a clear statement of intent has not been made by the young person before their death (in the form of a suicide note or other verbal statement of intent) and the coroner does not specify intent, deaths are coded to accidents (Australian Bureau of Statistics 2005, pers. comm., 20 December; Cantor et al. 1999:14; National Centre for Classification in Health 2005, pers. comm., 18 May).

This has resulted in a high number of childhood suicides, in particular, being classified as accidents...
in official statistics, and neglect of the issue of childhood suicide on the basis that the deaths do not appear to be occurring.

The ABS provides the official national, state and regional suicide statistics for Australia, using ICD-10 to code deaths. In a meeting with the ABS in December 2005, the Commission sought clarification of the information required and used to code a death as a suicide. It was confirmed that deaths were only coded to suicides in circumstances where the young person had either stated their intent before death or left a suicide note, or where the coroner clearly indicated the intent of the deceased (Australian Bureau of Statistics 2005, pers. comm., 20 December). Consequently, deaths which police note to be suspected suicides, but which do not meet the above conditions, are often coded to accidents.

Therefore the ABS’s suicide data are likely to under represent the true suicide numbers, as there has been an increase in the use of the undetermined and accidental death categories in more recent years.¹⁰

**Non-recording of suicide data**

Delays in resolving cases also affect the accuracy of the suicide data recorded by the ABS. For cases which are not finalised or where findings are not available to the ABS in time for publication of cause-of-death statistics, deaths are coded to other accidental, ill-defined or unspecified causes rather than suicide (Australian Bureau of Statistics 2006:14). Moreover, in cases which are not resolved before ABS processing is finalised (usually 2 years after registration of death), these deaths will remain coded to accidental, regardless of the likelihood of the death being deemed a suicide at a later date. These cases are never reported on and contribute to a significant under-representation of suicide numbers in Queensland and across Australia.

**Suicide of children under 15 years**

It is also noted that the ABS does not report on suicides for children aged under 15 years in the official statistics. For example, the most recent suicide publication released by the ABS, *Suicides: 1994 to 2004*, does not include any data specific to children under 15 years. This non-reporting of childhood suicide has been identified by the Commission as a key factor contributing to the under-appreciation of suicide in children. If these deaths are not reported on, it does not appear that they are occurring.

This recommendation is discussed further in Chapter 10, ‘Suicide’.

**Department of Child Safety**

3. The Commission recommends that the Department of Child Safety review the Child Safety Practice Manual with a view to clarifying the application of the child death review requirements in relation to the deaths of siblings of children who were known to the Department within the previous three years.

**Reasons:**

In the 2005–06 reporting period the Commission has identified 4 child deaths where information obtained from the Police Report of Death to a Coroner (Form 1) and/or the Commission’s own data sources indicates that, although contact with the deceased child had not been noted by the Department of Child Safety (DChS), the child’s sibling/s had been the subject of departmental involvement.

In these 4 cases, as there was no DChS contact recorded with the deceased child, the Department’s involvement with the child’s family was not required to be the subject of review in accordance with Chapter 7A of the *Child Protection Act 1999*.

It is unlikely that the 4 cases represent an exhaustive list, as the Commission is only able to identify such cases when the DChS involvement with the deceased child’s family is detailed on the Form 1, or when the Commission’s datasets reveal that a child’s siblings were ‘in care’ or the subject of a complaint.

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¹⁰ The ABS has provided an early indication that it will review the coding of intentional self harm for research and policy development purposes in Australia (Refer to Appendix 10.3). The outcome will be reported in the subsequent reporting period.
The Commission has identified three possible scenarios where the sibling/s of a deceased child may have been the subject of DChS involvement without the deceased child actually being recorded on departmental systems:

- **Scenario 1: failure to identify and/or record the deceased child as a subject child.** The deceased child was alive at the time a notification concerning the child’s sibling/s was received; however, because of a lack of effective information gathering and/or record-keeping, the deceased child was not identified and/or recorded as a subject child.

- **Scenario 2: failure to identify risk to an unborn child.** The deceased child was an unborn child during a period of active DChS involvement with the child’s mother or siblings; however, because of a practice error, the child was not recorded as being at risk of harm after s/he was born.

- **Scenario 3: the deceased child’s siblings were known to the Department before the deceased child’s birth or conception.** The deceased child was the sibling of a child who (before the deceased child’s birth or conception) was the subject of DChS involvement.

In scenarios 1 and 2 there appears to be an existing requirement for a review of DChS involvement with the deceased child’s family under Chapter 7A of the Child Protection Act. The reason for this is that the child was not recorded as a subject child because of administrative/practice issues, not because the Department was ‘unaware’ of the child protection concerns existing in the deceased child’s family. As the focus of the review is on the appropriateness of departmental involvement with a child and their family (as opposed to the cause of the child’s death), a failure to identify or record the deceased child as a subject constitutes a case practice issue that warrants examination. Therefore, in accordance with Part 14.1 (Child death case reviews) of the Child Safety Practice Manual, an external review may need to be conducted in these cases. However, scope would appear to exist for this issue to be clarified in the Child Safety Practice Manual.

For cases that fall within the scope of scenario 3, as there was no departmental involvement with the deceased child, such cases are not currently required to be the subject of review. However, the DChS may wish to consider extending its current practice to require reviews of its involvement in such circumstances, with a view to:

- identifying risk factors to inform future practice
- identifying potential points of intervention to inform future practice, and
- determining criteria for reassessment of family circumstances and support needs, particularly where further siblings are born.

From the information available to the Commission it is possible that some of the cases identified in the 2005–06 reporting period involved ongoing child protection concerns (rather than an isolated incident), and that the very young age of the children may offer a partial explanation of why they have not yet come to the attention of the DChS. Moreover, in the 2004–05 financial year, notifications on infants (aged less than 1 year) accounted for only 8% of the total notifications, although this age group is identified as at the greatest risk of death or serious injury from abuse. In Australia the rate is 2.68 deaths per 100,000 population in this age group. For females, this is the highest rate across the entire life-course spectrum. (The risk to infants comes predominantly from their physical vulnerability – so violent acts are more likely to have fatal outcomes.)

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11 External reviews should be undertaken when “it is apparent that there are specific issues regarding the management of the case that require particular scrutiny with a view to informing departmental policy and practice”. In addition to reading of all case documentation, preparing a chronology of departmental involvement with the child, detailing and analysing departmental responses to the issues of the case and identifying any policy, procedural or practice gaps, external reviews involve interviewing current departmental staff and ex-departmental officers and staff from other entities as appropriate.

12 In the 4 cases identified in the 2005–06 reporting period, the deceased child was aged 1 year or less, and in 3 of the 4 cases the deceased was a very young infant. It is impossible to determine whether there were ongoing child protection concerns without the benefit of a detailed child death review.

13 Notifications on children in the 1–4 year age group accounted for 25% of the total notifications, the 5–9 year age group for 31% and the 10–14 year age group for 28% (Department of Child Safety, Child Protection Queensland: 2004–05 Performance Report).
Therefore there may be the potential for organisational learning to be generated through an examination of cases where a deceased child’s sibling/s were known to the DChS (this could be achieved through an administrative process, such as amending the scope of child death reviews in the Practice Manual). However, regardless of the approach, there would probably be difficulties with the Department learning that the deaths have occurred, and the Commission would be able to help in this regard.

This recommendation is discussed further in Chapter 4, ‘Queensland Children and Young People, 2005–06’.

**Future directions**

In 2006–07 the Commission will work on its third annual report on the trends and patterns of the deaths of Queensland’s children and young people and will monitor the implementation of this year’s recommendations. In addition, the Commission will begin research into those causes of child deaths that it has identified as key areas needing further investigation, including fatal assault and neglect, suicide and rural deaths.

**Fatal assault and neglect research project**

The Commission is undertaking an in-depth research project analysing all child deaths from fatal assault and neglect, or which occurred in suspicious circumstances, registered in the period 1 January 2004 to 31 December 2006. Key project objectives include:

- developing a screening procedure to identify child deaths caused by assault or neglect, or in suspicious circumstances
- identifying social and demographic profiles of children who die from assault or neglect and identifying risk factors associated with fatal child abuse and neglect
- comparing Queensland’s data with statistics reported by other agencies and states, and
- making recommendations to reduce the likelihood of these child deaths and to assist in overcoming the under-reporting of fatal child abuse and neglect.

**Childhood suicide research project**

The Commission is analysing all child deaths due to suspected suicide between 1 January 2004 and 31 December 2006. Specifically, the project aims to identify and examine suicide prevention and intervention strategies which target children and young people in Queensland, and will identify gaps which may exist in the current delivery of these services. Key project objectives include:

- developing a screening procedure to identify cases of suicide and suspected suicide
- establishing an accurate social and demographic profile of the population of children and young people who suicide and are suspected of suiciding in Queensland
- identifying and examining the risk factors and circumstances associated with the suicides and suspected suicides of children and young people
- comparing the numbers of deaths the Commission has identified as suicide and suspected suicide with the classification of those deaths reported by other agencies who report on suicide statistics among children and young people
- identifying and examining the current government services, responses and strategies aimed at preventing suicide in Queensland which specifically target children and young people
- identifying the involvement of the child, and their family, with human service agencies before the child’s death
- identifying any gaps that may exist in the delivery of these services
- examining best-practice suicide prevention models, both nationally and internationally, and
- making recommendations about laws, policies and practices aimed at furthering our understanding, and reducing the incidence, of childhood suicide in Queensland, including improving the documentation of deaths from suicide among children in official records.
Rural deaths of children and young people research project

The purpose of this project is to produce a report analysing all child deaths in rural and remote areas, with the aim of making recommendations to reduce the likelihood of rural and remote child deaths due to external causes, and preparing comparable death data to those of other states and jurisdictions to facilitate the application of broader comparative research by other bodies.

The Commission will undertake a review of the deaths of children in rural and remote areas registered in the period 1 January 2004 to 31 December 2006, with a particular focus on:

- non-intentional injury-related deaths, and
- farm fatalities experienced by children not engaged in work activities.

Implementation of recommendations

In 2006–07, the Commission will monitor the implementation of the recommendations in this report in accordance with the Commission for Children and Young People and Child Guardian Act. The Commission will ask all relevant agencies to provide progress reports on the extent to which recommendations have been implemented, as well as strategies and time frames for continued implementation and reasons for any alternative action or non-implementation.

Liaison with stakeholders

The Commission acknowledges the need to engage with a range of stakeholders and to remain abreast of emerging research, policies and procedures focused on preventing deaths and injuries of children and young people, and Queenslanders generally.

During 2005–06 the Commission has:

- taken part in the first national meeting of Australian and New Zealand Child Death Review Teams in December 2005
- participated in the Australia and New Zealand Cause of Death Working Group
- been invited to participate in the ABS’s Suicide Coding Review Working Group
- become a member of the Queensland Government Suicide Prevention Steering Committee
- liaised with SIDS and Kids Australia in the development of a national ‘safe bed sharing policy’
- liaised with the State Coroner’s Office and the Queensland Police Service in a review of the Police Report of Death to a Coroner
- provided input at a workshop discussing the future direction of the National Coronial Information System
- presented at the Suicide and Self Harm Prevention Conference, Brisbane
- presented at the Indigenous Perinatal and Infant Mental Health Conference, Sydney
- presented at the Queensland Police Service: Juvenile Aid Bureau Officer in Charge Conference, Brisbane, and

The Commission will continue to encourage and engage in ongoing information exchange and sharing, with the aim of developing a commitment by all levels of government to develop reliable data sources and promote the safety and wellbeing of children and young people.

Report structure

The report is structured as follows:

Chapter 1 provides an overview of child death review teams in Australia and New Zealand. It describes the legislative bases, roles, functions and reporting requirements of these teams and outlines their current stages of implementation. This chapter also discusses the current undertakings and commitment of these teams in the development of comparable interstate data on child death.

Chapter 2 outlines the Commission’s data sources for this report and the methodology used to analyse the data in the child death register.
Chapter 3 provides an overview of the trends and patterns of the 481 Queensland children and young people whose deaths were registered for the 12-month period from 1 July 2004 to 30 June 2005. It contains a summary of all causes of death of children from birth to 17 years, an analysis of external causes of death and sudden infant death syndrome, and an overview of the trends and patterns in this period.

Chapter 4 provides a summary of the causes of deaths of the 426 Queensland children aged from birth to 17 years registered in the 12-month period from 1 July 2005 to 30 June 2006.

Chapters 5 to 11 provide detailed literature reviews and analyses of the following external causes of death of Queensland children and young people in the 12-month period examined: natural, transport, drowning, fire, other non-intentional injury-related death, suicide and fatal assault. A summary of the key findings from each chapter is presented earlier in this Executive Summary.

Chapter 12 contains a review of SUDI and the risk factors associated with SIDS. All SUDIs that occurred during the reporting period are counted and examined separately in this chapter.

Chapter 13 monitors the implementation of the recommendations from the Annual Report: Deaths of children and young people, Queensland, 2004–05.
Part I: Introduction and overview

Chapters 1–4

This section provides a historical overview of child death review in Australia, as well as the methodology employed for this report and an overview of child deaths in Queensland for both the 2004–05 and 2005–06 financial years.
Chapter 1
Child death review in Australia

“We usually know the cause of a child’s death, but we need to know the context of the death if we are to prevent it. Information about cause is often immediately available: the child was run over by a car; the young man shot himself; or the baby was beaten to death by her father. None of these causes tells us very much, yet the information needed to understand the context of these deaths often exists. It exists in a dozen different filing cabinets in a dozen different offices, but it is never brought together. The family general practitioner has information; the Children, Young Persons and Their Families Agency has information, the local church social service agency has information, the drug and alcohol services have information, the hospital has information, and the police have information – if it can be brought together we can start to understand the whole context” (Bob Simcock, New Zealand Child Mortality Review Board Bill, Second Reading, 28 April 1999).

Key issues

- Most states and territories of Australia have implemented child death review mechanisms in various forms and stages of development. The Northern Territory and Tasmania are in the process of drafting legislation and advocating for the introduction of formal child death review systems.
- Child death review teams from all states and territories are convening to progress the development of a minimum dataset for reporting, to ensure comparable data across all jurisdictions.

The child death review movement

The past 30 years have seen increased attention directed to the phenomenon of child abuse and neglect, and child protection systems have been created and reformed in the wake of public and official concern (Reder & Duncan 2004:96).

While child death review teams initially started as a response to the need for a systematic review of child deaths where abuse or neglect was suspected, the overall concern with child protection has incorporated an increased interest in studying the patterns and trends of all child deaths and serious injuries. Consequently many teams have an expanded focus on all child deaths – both natural deaths and coronial cases such as suicide and deaths from accidental injury (Durfee, Gellert & Tilton-Durfee 1992:3175).

In accordance with this development, the prevention of child death from ‘external’ or ‘preventable’ causes14 has become the focus of much of the research in this area. Public health research has challenged the belief that injury-related deaths are typically the result of unpreventable ‘accidents’, contending that many injuries are not accidents or random, uncontrollable acts of fate, but rather that a significant number of injuries are predictable and preventable (Houk, Brown & Rosenberg 1987:576). Examples of public health initiatives in the area of child injury prevention include changes and improvements to mandatory pool fencing, standards for children’s nursery products and reductions in speed limits on suburban roads.

The child death review movement can be considered an integral part of the public health approach to child death and injury prevention.15 As outlined by Onwuachi-Saunders and colleagues (1999:276), this approach entails:

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14 The Commission defines a preventable death as one which may have been avoided with reasonable medical, educational, social, legal or psychological intervention. These judgements are frequently made with the benefit of information unavailable at the time of death; therefore a finding of preventability does not imply that the circumstances leading to death were predictable. (Definition adapted from Durfee, Tilton-Durfee & West 2002).

15 Public health is defined as the “organised response by society to protect and promote health and to prevent illness, and implementing interventions, in the population as a whole, or population sub-groups”. Defined in this way, ‘public health’ encompasses research in the areas of public safety and injury prevention. Definition taken from ‘A Memorandum of Understanding: To establish a National Public Health Partnership for Australia’, 1997, and modified from that proposed in J. M. Last, Public Health and Human Ecology (Connecticut: Appleton and Lange, 1987).
... defining the issue through data collection or surveillance; analysing data to identify potential risk factors, enabling factors, and barriers; developing interventions based on the analysis; implementing interventions through community based programs; and using evaluation results to modify and re-evaluate original interventions.

The public health approach is reflected in the ultimate purpose of child death review: to integrate data collected from the investigation of child deaths and perform in-depth review and analysis to discover patterns, trends and risk factors in child death. This information can then be used to create informed policy and procedure aimed at preventing future child deaths (Bunting & Reid 2005:83; Durfee, Gellert & Tilton-Durfee 1992:3172; Elster & Alcalde 2003:303).

Systematic child death review can:

- assist in the accurate identification and uniform classification of causes of death, thereby decreasing their misclassification
- improve epidemiological understanding of causes of death and risk factors
- identify patterns and trends in child deaths
- identify gaps in service delivery and system weaknesses, and
- recommend programs, interventions and policy and/or legislative changes designed to prevent or decrease child morbidity and mortality (Elster & Alcalde 2003:304; Onwuachi-Saunders et al. 1999:279).

Child death review in Australia

Queensland

The impetus for the introduction of child death review functions in Queensland was provided by reports of two key government agencies that highlighted deficiencies in the Queensland child protection system. The Queensland Ombudsman’s 2003 report An investigation into the adequacy of the actions of certain government agencies in relation to the safety, wellbeing and care of the late baby Kate, who died aged 10 weeks (the Baby Kate Report) and the Crime and Misconduct Commission’s 2004 report Protecting Children: An inquiry into abuse of children in foster care made wide-ranging recommendations of reform to the child protection system. These included the establishment of child death research functions within the Commission for Children and Young People and Child Guardian.16

The Commission’s child death review functions commenced on 1 August 2004. Under Part 4A (Child Deaths) of the Commission for Children and Young People and Child Guardian Act, the Commission is responsible for:

- maintaining a register of the deaths of all children and young people in Queensland
- reviewing the causes and patterns of deaths of children and young people
- conducting broad research in relation to child deaths
- making recommendations for improvements to laws, policies, procedures and practices to help reduce the likelihood of child death, and
- preparing an annual report to Parliament and the public regarding child deaths.

These child death functions are undertaken by Commission employees. The team consults with expert advisers or convenes advisory committees as appropriate.17 Although reviewing all deaths, the Commission currently has a greater analytical focus on external causes of death and sudden unexpected deaths in infancy than on natural causes, as it is believed that the precipitating circumstances of external causes of death are more easily predicted, and thereby prevented.

The Commission’s inaugural Annual Report: Deaths of children and young people, Queensland, 2004–05 was released on 31 October 2005. This report provided a detailed discussion of the major external causes of child death: transport incidents, drowning, suicide, fire, fatal assault and accidental causes, as well as sudden unexpected deaths in infancy (SUDIs).
The Commission is currently working on a number of specialised research projects dedicated to youth suicide, fatal assault and neglect, and rural deaths.

**Child Death Case Review Committee**

Recommendations arising from the CMC and Baby Kate reports also stipulated the necessity for both internal and external review of the involvement of the agency with statutory responsibility for child protection in all cases of the death of a child within the child protection system. As well as undertaking child death research, the Commission provides full secretariat support to the Child Death Case Review Committee (CDCRC), an independent committee established to increase accountability and improve effectiveness in decision-making in the child protection system.

Since 1 August 2004, the Queensland Department of Child Safety (DChS) has been required to conduct a review of its involvement with such cases where the child was known to the Department within 3 years before death.\(^{18}\)

The CDCRC considers the adequacy of the review conducted by the DChS,\(^ {19}\) and makes recommendations about:

- improving policies which impact on services to children in the child protection system
- improving relationships between the Department and other agencies involved with the children and their families, and
- taking disciplinary action against any departmental staff in relation to their involvement with a child.

The CDCRC is a multi-disciplinary committee made up of experts in paediatrics, child health and investigations. The Commissioner for Children and Young People and Child Guardian is the Chair and the Assistant Commissioner is also a member. The Commission provides full secretariat support to this body.

The **Child Death Case Review Committee Annual Report, 2004–05: Reviews of child deaths in the Queensland child protection population** was tabled in Parliament by the Premier in November 2005.\(^ {20}\)

**New South Wales**\(^ {21}\)

The New South Wales (NSW) Child Death Review Team (CDRT) was established in 1995 under Chapter 7A of the NSW *Commission for Children and Young People Act 1998* as a result of reports indicating that the systematic collection of information regarding the circumstances of child deaths was necessary to inform policy and procedure in order to prevent future child deaths.

Under section 45N of the Act, the CDRT functions include:

- maintaining a register of all child deaths occurring in NSW
- classifying those deaths according to cause of death and other relevant factors such as demographics, and analysing the patterns and trends in child death which emerge
- undertaking research aimed at preventing or reducing the likelihood of child deaths
- making recommendations regarding legislation, policy and practice to help reduce child death, and
- identifying areas requiring further research by the team or other agencies or persons.

Meeting no less than four times per year, the team reports annually to Parliament. Additional research reports produced by the NSW CDRT have covered areas such as fatal assault and neglect, suicide and SUDI.

Although the legislation specifying the functions of child death review teams in both Queensland and New South Wales is notably similar, in contrast to Queensland’s team, the NSW CDRT is a multi-disciplinary team composed of independent experts in the fields of paediatrics and child health, forensic pathology, mental health and child protection. State government agencies concerned with the safety and

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18 Although the former Department of Families had a policy requiring the review of deaths of children in the child protection system, it is now a statutory requirement that the DChS conduct a review of its involvement in cases where a child is known to the Department within 3 years before death.

19 The DChS has 6 months from the time it learns of the child’s death to provide the CDCRC with a report.

20 This report provided a detailed overview of the history, role and functions of the CDCRC.

21 The following information was kindly provided by Gillian Calvert, Convenor, New South Wales Child Death Review Team and New South Wales Commissioner for Children and Young People.
wellbeing of children are also represented, with nominees from departments including Community Services; Education and Training; NSW Health; Ageing, Disability and Home Care; NSW Police; Attorney-General; and the Office of the State Coroner.

Like Queensland, the NSW CDRT focuses on the analysis of external causes of death and sudden unexpected death in infancy.

**New South Wales Ombudsman**

The NSW Ombudsman is responsible for undertaking reviews of the deaths of children in care, as well as children who were known to the Department of Community Services (DoCS) within 3 years before their death. The NSW Ombudsman also reviews the deaths of children who are siblings of a child known to the DoCS, children who may have died from abuse or neglect, or in suspicious circumstances, and children in detention. The Ombudsman focuses largely on systemic issues, with individual deaths reviewed as necessary. The NSW Ombudsman reports annually to Parliament.

**Victoria**

**Consultative Council on Obstetric and Paediatric Mortality and Morbidity**

Victoria’s Consultative Council on Obstetric and Paediatric Mortality and Morbidity (the Council) was established in 1962 under the Health Act 1958 (Vic.) and reviews all maternal, perinatal and paediatric deaths in Victoria. Its functions are:

- studying, researching and analysing the incidence and causes of maternal deaths, stillbirths and the deaths of children less than 18 years of age
- maintaining a perinatal data collection unit
- maintaining a register of congenital abnormalities
- providing information to be used in the instruction of medical and other healthcare professionals in the fields of obstetrics and paediatrics
- conducting additional research as requested by the Minister, and
- publishing an annual report.

Annual reports of the Council on infant deaths have been produced since 1984, and on child deaths since 1985.

In contrast to child death research in Queensland and New South Wales, the Council’s focus is primarily on the medical cause of death. Council reports discuss both natural and external causes of death, but detailed analysis of risk factors associated with child deaths that may have been preventable is not published.

**Office of the Child Safety Commissioner**

Before the establishment of a Child Safety Commissioner in Victoria, the Child Death Inquiry Unit of the Department of Human Services (DHS) prepared child death inquiry reports for those children known to the Department within 3 months of their death. The Child Wellbeing and Safety Act 2005, effective as at 1 June 2006, established the Office of the Child Safety Commissioner, and granted this body the statutory responsibility for conducting child death inquiries. The Inquiries and Review Unit undertakes this task, the object of which is to promote continuous improvement and innovation in policies and practices in relation to child protection and safety.

**Victorian Child Death Review Committee**

Performing a similar role to Queensland’s CDCRC, the Victorian Child Death Review Committee (VCDRC), formed in 1995, reviews child death inquiry reports prepared by the Child Safety Commissioner for those children known to the Victorian Child Protection service within 3 months of their death. This independent multi-disciplinary committee, composed of health, welfare, police,
legal and academic representatives, identifies common themes and patterns in child deaths. The Committee provides comment on service responses to children in the child protection system and develops recommendations based on child death inquiry findings. The Minister for Children/Minister for Community Services is then advised of the Committee’s deliberations and any recommendations arising from their review. An annual report is also prepared by the VCDRC and tabled in Parliament. The VCDRC and its functions are not currently enshrined in legislation.

**Western Australia**

The two major government bodies responsible for the review of child deaths in Western Australia are the Child Death Review Committee (CDRC) and the Advisory Council on the Prevention of Deaths of Children and Young People (Advisory Council). Both were established in 2003 in response to a report on levels of child abuse in Indigenous communities. The Perinatal and Infant Mortality Committee (PN&IMC) of Western Australia is a statutory committee under the *Health Act 1911*. It was established in 1978 and is covered by sections 336A, 340AK and 340AL of the *Health Act*. The PN&IMC was set up to audit perinatal and infant deaths and was aimed solely at increasing knowledge of medical science.

**Advisory Council on the Prevention of Deaths of Children and Young People**

The Advisory Council collects information relating to the deaths of children and young people aged 0–23 years who are born and die in Western Australia, for the purpose of identifying patterns and trends in child death and potential prevention initiatives. Both external and some natural causes (such as infections) are considered preventable by the Advisory Council and are discussed in detail.

Additional functions of the Advisory Council include:

- identifying areas which would benefit from further research
- evaluating the efficacy of existing intervention strategies, and
- making recommendations targeting the prevention or reduction of child deaths.

**Child Death Review Committee**

Under section 22 of the *Community Services Act 1972*, the CDRC provides advice to the Minister for Community Development in cases where children have been known to the Department within 24 months before their death. In a similar fashion to the Queensland and Victorian systems, the CDRC reviews the operation of policies, procedures and organisational systems, including the internal reviews conducted by the Department. From this, ‘best practice’ and effective systems are identified.

Both the Advisory Council and the CDRC report annually. The inaugural CDRC report covered the 2002–03 reporting period, while the Advisory Council’s *First Research Report: Patterns and trends in mortality of Western Australian infants, children and young people, 1980–2002* was released in May 2005. Although the Advisory Council has so far only analysed child deaths retrospectively, its first report recommended that it report annually on the patterns of child death in Western Australia.

**South Australia**

South Australia’s Child Death and Serious Injury Review Committee (CDSIRC) was established as a result of the recommendations of *Our Best Investment: A state plan to protect and advance the interests of children* (the Layton Report), released in 2003. This was an extensive review of South Australia’s child protection system, taking into consideration legislation, policies, practices and procedures of government and non-government child protection services. The CDSIRC has been provided for by funding from the South Australian Government’s ‘Keeping Them Safe’ initiative, aimed at the reform of child protection services.

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27 The following information was kindly provided by Jane Freemantle, Telethon Institute for Child Health Research.
29 It is intended that the scope of the Advisory Council will be extended to include the deaths of all children whose deaths are registered in Western Australia, regardless of their place of birth.
30 The following information was kindly provided by Sharyn Watts, Executive Officer, Child Death and Serious Injury Review Committee, South Australia.
The CDSIRC’s enabling legislation was proclaimed in February 2006 as part of certain amendments to the Children’s Protection Act 1993. Thirteen committee members and a committee chair have been appointed. Experts in the fields of child forensics, psychology, advocacy, health and justice are represented.

The deaths and serious injury of children aged 0–17 years in South Australia are considered by the CDSIRC, with a view to identifying systems, policies, procedures, practices, legislation and/or information strategies that should be upgraded, modified or introduced to prevent death and serious injury to children in the future. Section 52S of the Children’s Protection Act specifies two principal functions of the CDSIRC:

- to review cases in which children die or suffer serious injury, with a view to identifying legislative or administrative means of avoiding a recurrence of such cases in the future, and
- to make, and monitor the implementation of, recommendations for avoiding preventable child deaths or serious injury to a child.

Detailed reviews are to be conducted in cases where the death or injury was due to, or suspected of being due to, abuse or neglect, in addition to those cases where the incident may have been prevented by a systemic change or the child was in the custody of a government agency or detention facility.

Recommendations based on reviews will be provided to the Minister for Families and Communities and an annual report must be tabled in Parliament.

**Australian Capital Territory**

The 2004 report *The Territory as Parent: Review of the safety of children in care in the ACT and of ACT child protection management* (the Vardon Report) made recommendations regarding the establishment of a child death review team. It was proposed that a Commission for Children and Young People be established, incorporating a child death review function.

On 23 March 2004, the Minister for Health announced that a Child Death Review Team would be established within ACT Health. The Team, which began operation in April 2004, classifies the deaths of children aged 0–17 years (excluding stillbirths) according to cause of death, and maintains this information, along with relevant demographics, in the Child Death Register. Aside from the maintenance of the Child Death Register, the Team’s functions are to identify trends and patterns in child death and to make and monitor the implementation of ‘recommendations to address systemic, social and environmental issues which impact on child and young persons’ deaths’.

The Chief Health Officer chairs the Team, with membership which reflects a multi-disciplinary interagency approach to preventing and reducing the deaths of children and young people in the ACT. Members include experts in health care, research methodology, child development and child protection, and people who by nature of their experience or qualifications are likely to make a valuable contribution to the Team.

The first statistical report on the deaths of infants, children and young persons in the ACT for the period 1992 to 2003 (*Review of ACT Child Deaths*) has been compiled with guidance from the ACT Child Death Review Team.

The team is not currently provided for by any specific legislation, relying instead on the powers of the Chief Health Officer and his authority under the Public Health Act 1997, which allows investigation into matters of risk to public health. The Public Advocate Act 2005, the Coroners Act 1997 and the Children and Young People Act 1999 also lend support to the Team’s functions.

Concerns have been raised about the location of the Child Death Review Team within ACT Health, particularly in regard to potential conflicts of interest where deaths have been the result of a health intervention or lack thereof. The Vardon Report has suggested that locating a child death review team

31 The following information was kindly provided by Meredith Whitten, Director, Advocacy Review and Quality, ACT Department of Disability, Housing and Community Services.

32 Before 2004, the ACT reviewed only deaths of children in the neonatal period, reportable deaths under the Coroners Act 1997, and deaths resulting from abuse.

33 Simon Corbell, Minister for Health and Minister for Planning, media release ‘Child death review team to be established’, 23 March 2004.

34 This report may be accessed at http://www.health.act.gov.au
within an independent agency such as the proposed Commission for Children and Young People is “a more suitable response” (Vardon 2004:117).

The ACT Government agreed in principle in its response to the Territory as Parent report that a child death review team or committee be established within the recommended Commission for Children and Young People, subject to further analysis to ensure that this function is appropriate once the role and capacity of the Commission have been established. As at 30 June 2006, the Child Death Review Team remains within ACT Health.

Northern Territory

The Northern Territory (NT) Government’s ‘Caring for Our Children’ reform agenda was introduced in August 2004 with the aim of reforming and replacing existing legislation (the Community Welfare Act 1983), policy and administrative processes concerned with child protection.

A draft Care and Protection of Children and Young People Act 2005 has been prepared and, subject to government approval, will be introduced to Parliament in late 2006. The draft Act provides for the establishment of a Child Death Review and Prevention Committee, which it is currently proposed will consist of between 16 and 20 people, in addition to a Convenor, appointed by the Minister. Qualifications or expertise relevant to child protection are required, and at least 2 of the Committee members must be Aboriginal. The Deputy Coroner will also be a member of this Committee. The Committee will report annually to the Minister.

Tasmania

Tasmania’s Council of Obstetric and Paediatric Mortality and Morbidity (the Council) was established under the Perinatal Registry Act 1994. The Council collects, analyses and reports data on all child deaths in Tasmania. The focus of the Council has, to date, been medical. It makes recommendations aimed at improving policy and practice, principally targeted at health professionals. It also provides information for education and instruction in medical theory and practice.

Section 6 of the Act stipulates the following functions of the Council:

- to investigate the circumstances surrounding the conditions that may have caused maternal and perinatal deaths in Tasmania, as well as the deaths of children aged 29 days to 17 years37
- to investigate the circumstances surrounding congenital abnormalities in children, injuries, illness or defects suffered by pregnant women or viable foetuses at any time before or during childbirth, and
- to maintain a perinatal data collection for the purposes of researching and identifying trends in perinatal, maternal and paediatric health and providing information and education to health-care practitioners; a register of congenital abnormalities is also maintained.

Responsibility for fulfilling the Council’s functions in regards to paediatric deaths (29 days to 17 years of age) rests with the Paediatric Mortality and Morbidity Sub-Committee.38 Paediatric deaths are classified by the Committee into a four-category system: conditions determined at birth; acquired conditions; sudden infant death syndrome; and injuries (Council of Obstetric and Paediatric Mortality and Morbidity 2005:22). Recommendations regarding systemic issues relating to paediatric deaths are made by the Committee.

This Committee currently comprises 5 medical specialists. The Tasmanian Commissioner for Children has also recently become a member of the Committee. The Council reports annually to the Secretary of the Department of Health and Human Services (DHHS).

Tasmania does not currently have a formal mechanism for reviewing the circumstances of individual child deaths outside forensic, medical or police investigations. Historically, ‘critical case

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35 The following information was kindly provided by Dr Adam Tomison, Deputy Director – Reform, Family and Children’s Services, Northern Territory Department of Health and Community Services, 17 August 2006.

36 The following information was kindly provided by David Fanning, Commissioner for Children, Tasmania, 8 August 2006.

37 The Council previously reported on the deaths of children from 29 days to 14 years of age. After amendments to the Perinatal Registry Act 1994 in September 2005, this was extended to 17 years of age.

38 Perinatal deaths (20 completed weeks of gestation to 28 completed days after birth) and injuries are reported on by the Perinatal Mortality and Morbidity Sub-Committee.
reviews were undertaken by the former Child Protection Board (now disbanded) under the former Child Protection Act 1974. Critical case reviews were conducted if a child died as a result of abuse or neglect and where there had been previous departmental notification within the family. These reviews focused on systemic issues within the child protection system.

However, since the commencement of the Children, Young Persons and Their Families Act 1997 in 2000, there has been no established and uniform practice for the review of child deaths by a dedicated child death review body.

Recently the Minister for Health and Human Services convened an inquiry into the death of a child who was previously known to Child Protection Services (in the DHHS). The review team was established under the auspices of the Paediatric Sub-Committee, under section 9 of the Perinatal Registry Act 1997. However, this was a one-off review intended as an interim measure in the absence of a permanent child death review body.

The Commissioner for Children, David Fanning, raised his concerns about the lack of a formal child death review mechanism with the Minister for Health and Human Services in June 2005. After this, the Minister formally requested the Commissioner for Children to provide advice regarding the need for a child death review process and options for establishing this process.

The Commissioner for Children is currently finalising the advice to the Minister and intends to publish it in September this year. The advice will propose various options, including a preferred option.

**Child death review in New Zealand**

The issue of establishing a child death review team was first raised in New Zealand by the Office of the Commissioner for Children in 1993. Subsequent proposals highlighted the importance of qualitative data – information on the circumstances of death as collected by child death review teams enables thorough understanding of risk factors and preventability.

The Child and Youth Mortality Review Committee (CYMRC) was appointed by the Minister of Health in September 2001. Membership consists of 10 people selected by the Minister of Health, including a representative from the Ministry of Health and from Child Youth and Family. The structure of the child death review system in New Zealand was adapted from that in place in Michigan, USA. Local committees (based on district health areas) are supported by a national committee overview, such that recommendations can be made at both a local and a national level (Child and Youth Mortality Review Committee 2004:vii).

The CYMRC reviews the deaths of children and young people between the ages of 4 weeks and 24 years, aiming to reduce the numbers of deaths in this age group. The Committee functions to highlight systemic and social issues and make recommendations which can be used to improve policy and practice and contribute to further research. It meets 5 times per year, and its findings and progress are reported annually to the Minister of Health.

**Office of the Commissioner for Children**

The Office of the Commissioner for Children is responsible for monitoring the internal case reviews prepared by the Child Youth and Family Agency where a child was known to the Agency in the two years before death. These reviews focus on the case work and services provided by the child protection agency and do not investigate the death or its cause. Independent investigations into the death of a child may be conducted by the Office of the Commissioner where a child was previously known to Child Protection Services (DHHS). The review team was established under the auspices of the Paediatric Sub-Committee, under section 9 of the Perinatal Registry Act 1997. However, this was a one-off review intended as an interim measure in the absence of a permanent child death review body.

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39 The appointment of this Committee is subject to sections 11, 12, 18 of the New Zealand Public Health and Disability Act 2000 (Child and Youth Mortality Review Committee 2005).

40 2003 and 2004 were primarily ‘pilot’ years for the child death review processes in New Zealand. The CYMRC’s Second Report to the Minister of Health (2005:16) reported on the evaluation of this pilot, which indicated that the CYMRC review processes were both feasible and useful. However, structural changes to the way in which these processes function may occur in the near future. The terms for the CYMRC are currently under review.

41 Under section 12(1)(a) of the Children’s Commissioner Act 2003, the Commissioner can investigate any decisions or recommendations made, or any act done or omitted, in respect of any child (excluding the decisions of courts or tribunals).
Towards a nation-wide system

Australia and New Zealand Cause of Death Working Group

Representatives from the various child death review teams across Australia and New Zealand have recognised the public need to develop comparable interstate data on child deaths. As outlined above, the teams are at various stages of implementation and have varying legislative bases, functions, roles and reporting requirements through differing auspicing agencies.

In recognition of the need to develop nationally comparable data, nominated representatives from each of the child death teams convened in December 2005 to discuss the key issues involved in and problems surrounding the review and reporting of child deaths and to progress national collaboration. The key outcomes of the first meeting of Australian and New Zealand Child Death Review Teams included in-principle agreement that all Australian and New Zealand teams:

- use the ICD-10 or ICD-10-AM system of classification to code cause of death
- report on underlying cause of death, defined by the World Health Organisation as ‘the disease or injury which initiated the train of morbid events leading directly to death or the circumstances of the incident or violence which produced the fatal injury’
- work towards using an accredited mortality coder for classifying cause of death
- work towards a national minimum dataset, and
- develop and agree to a protocol that describes how deaths of children who usually reside in an Australian jurisdiction that differs from the state in which they died are reported.

In recognition of the need for the development of nationally comparable data, meeting participants also agreed in-principle to analyse and report on a number of core groups of death in detail. As a result, representatives from each of the child death review teams were nominated to form a working group to review the core groups of death on which all jurisdictions should report, and to progress agreement on minimum data reporting requirements. Since the initial meeting in December 2005, two working group teleconferences have been held. Work has progressed to develop in-principle agreement to report on the following by 2006–07:

- the amount and type of documentation available for coding and grouping cause of death
- the relevant qualifications and experience of the person(s) coding cause of death
- the rules used for coding cause of death
- the number of deaths for each ICD-10 (or ICD-10-AM) chapter (including diseases and morbid conditions and external causes of death), and
detailed analysis of SUDI; deaths due to diseases and morbid conditions, specifically perinatal conditions, congenital anomalies, neoplasms (cancers and tumours) and infections; transport incidents; drownings; suicide and suspected suicide; and fatal assault.

The working group also proposed that teams report on additional groups of death as appropriate and that teams should use their discretion in the reporting of cases where the ICD coding does not accurately reflect the circumstances of death.

It is recognised that the Cause of Death Working Group is in the early stages of development, but it is anticipated that this group will provide some useful direction in the bid to develop nationally comparable data and reporting.

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42 Deaths can be grouped to simply report on the number of children who die of particular causes to enable rudimentary cross-jurisdictional analysis (as in the fourth point above). Deaths can also be grouped to report in more detail on factors including causes of death, demographics and the circumstances surrounding the death. Developing a consistent core group of deaths for all teams to analyse and report on in detail will enable teams to identify issues associated with and risk factors for child death and enable a comparison of these factors across jurisdictions. Details to be reported will depend on forthcoming agreement on the minimum dataset.

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Chapter 2
Methodology

Key issues

- The Commission has identified an anomaly between the number of deaths reported by the Registry of Births, Deaths and Marriages and the reportable deaths identified by the State Coroner. As at 30 June 2006 the Commission is aware of 9 deaths that remain unregistered since 1 January 2004. Of these, 7 are Aboriginal or Torres Strait Islander children. The Commission has made a recommendation to the Registry of Births, Deaths and Marriages in relation to the registering of these deaths.

- Updated causes of death (from Autopsy Certificates and coronial findings) are provided to the Registry of Births, Deaths and Marriages in its capacity to maintain an updated register. The Commission has made recommendations that the Registry should forward this information on to the Commission and give consideration to forwarding this to other relevant agencies to provide the most accurate mortality datasets for public health records and research.

This chapter provides an overview of the methodology employed by the Commission in producing this report. As well, it explains the process of maintaining the Child Death Register and the methods used for the analysis of trends and patterns in the data.

Child Death Register

Under the Commission for Children and Young People and Child Guardian Act, the Commission has a statutory obligation to maintain a register of all deaths of children and young people under the age of 18 that occur in Queensland. The information in the register is required to be classified according to cause of death, demographic information and other relevant factors. The Commission is required to maintain the register of all child deaths from 1 January 2001. The Commission has responsibility for the centralised collection and coding of mortality information for both coronial and non-coronial child deaths.

The Commission analyses information in the Child Death Register to identify and report on patterns of child mortality and make recommendations about policies, practices and procedures aimed at reducing or preventing child deaths.

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.

Registry of Births, Deaths and Marriages

The information contained in the Child Death Register is based on death registration data from the Queensland Registry of Births, Deaths and Marriages. To help the Commission fulfil its child death functions, the Births, Deaths and Marriages Registration Act 2003 provides that the Registrar must give notice of the registration of all child deaths to the Commissioner. The data provided include the following information:

- the registration number
- the child’s name
- the child’s date and place of birth
- the child’s usual place of residence
- the child’s age
- the child’s sex
- the child’s occupation, if any
- Aboriginal or Torres Strait Islander status
- the duration of the last illness, if any, had by the child
- the date and place of death
- the cause of death, and
- the mode of dying.

44 Section 48A (details of stillborn children are not included in the information given to the Commission).

45 Section 48B of the Births, Deaths and Marriages Registration Act enables the Registrar to enter into an arrangement with the Commissioner to provide additional data. Aboriginal and Torres Strait Islander status, date of birth and mode of dying are provided by administrative arrangement only.
To the extent practicable this information is provided within 30 days after the death is registered. Where the death is a ‘natural death’ (that is, due to diseases and/or morbid conditions) and a Cause of Death Certificate is issued by a general practitioner, only death registration data are available for analysis. In coronial cases (see below), additional information on the death is available.

**Updated cause of death data**

Section 48A of the *Births, Deaths and Marriages Registration Act* states that the Registrar must give notice of the registration of a child death to the Commission. The notice must include the child’s cause of death, to the extent it is known to the Registrar. In practice the Registrar usually provides this information to the Commission within 30 days after the death is registered.

The Registrar receives Autopsy Certificates under section 24A of the *Coroners Act 2003*. These are provided ‘as soon as is practicable’ after the completion of an autopsy. Section 41(8) of the *Births, Deaths and Marriages Registration Act* states that, if the Registrar receives a coroner’s notice in relation to the death of a person, the Registrar *may* enter the information contained in the notice or certificate in the relevant register. When updating the cause of death on receipt of Autopsy Certificates or coronial findings, the Registrar does not routinely update the death registration data provided to the Commission. Rather, the cause of death is provided as ‘Autopsy Notice given – cause of death not yet determined’ (that is, cause of death pending). It is understood that this updated data is also not sent on to other agencies such as the Australian Bureau of Statistics (ABS) or the Australian Institute of Health and Welfare (AIHW).

In February 2006 the Commission wrote to the Registry requesting updated causes of death for 217 deaths registered between 1 January 2001 and 30 January 2006 where cause of death was pending. The Commission met with staff from the Registry to discuss this issue again in June 2006. As Autopsy Certificates are provided to the Registry to maintain an updated register, the Commission considers that there is scope for the Registry to be more active in forwarding this information to the Commission and give consideration to forwarding this information to other relevant agencies to provide the most accurate mortality datasets for public health records and research. For this reason:

**Recommendation 1**

The Commission recommends that by 31 December 2006 the Registry of Births, Deaths and Marriages complete a review of its current practice and identify options to provide updated cause-of-death data to the Commission resulting from its receipt of Autopsy Certificates under section 24A of the *Coroners Act 2003*.

As an interim measure the Registrar-General has agreed to fax updated cause-of-death information, in the form of the Autopsy Certificate, to the Commission. The Registry will give consideration to the resource implications of including updated cause-of-death information to the Commission. In the interests of providing consistent mortality data to statistical agencies, it is the Commission’s opinion that consideration should also be given to providing this updated data to other agencies.

**Chapter 10, ‘Suicide’, gives an example of the practical implications of unreliable data on government program development and service response in the area of suicide.**

**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
- the death was violent or unnatural
- the death happened in suspicious circumstances
- the death was not the reasonable expected outcome of a health procedure
- a Cause of Death Certificate was not issued or is not likely to be issued
- the death occurred in care, or
- the death occurred in custody.
A death in care occurs when the person who has died:

- had a disability (as defined under the *Disability Services Act 1992*) and was living in a residential service provided by a government or non-government service provider or a 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, taken to or undergoing treatment in a mental health service, or
- was a child in foster care or under the guardianship of the Department of Child Safety (DChS).

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

To help the Commission fulfil its child death research functions, the *Coroners Act* imposes an obligation on the State Coroner to notify the 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, and
- the coroner’s findings and comments.

Coronial information is largely narrative and is not entered into the register.

For the major categories of reportable deaths, which include deaths from external causes, and sudden unexpected deaths in infancy (SUDI), coronial information is reviewed. The Commission has identified variables relevant to the major categories of reportable deaths and has developed additional databases to capture and analyse this information. For example, in cases of SUDI, coronial information was reviewed for each death in order to extrapolate and record additional information about the circumstances of death, such as infant sleep position, shared sleeping arrangements, or evidence of smoking and drug or alcohol use in the household.

In comparing the Form 1s and the coroner’s findings received since January 2004 against the Registry of Births, Deaths and Marriages data received on a monthly basis, the Commission has identified a number of deaths that have not been registered.

**Unregistered child deaths**

In accordance with sections 28 and 29 of the *Births, Deaths and Marriages Registration Act*, a death must be registered by a spouse or relative of the deceased by means of a ‘death registration application’. This application must be completed within 14 days after the death. A death may also be registered by the person in charge of the place where a person has died, the person finding the body and the person arranging for the disposal of the deceased’s body.

The Commission has identified inconsistencies between the number of deaths reported by the Registry and the reportable deaths identified by the Office of the State Coroner. The Commission noted that a number of deaths of children and young people were not being registered, particularly the deaths of Indigenous children and young people.

As at 30 June 2006 the Commission is aware of 9 deaths that remain unregistered since 1 January 2004. Of these, 7 are Aboriginal or Torres Strait Islander deaths (see Table 2.1).

<table>
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<td>2</td>
<td>2</td>
</tr>
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<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>5</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2004–06)*

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46 Section 9 of the *Coroners Act 2003*.
47 Section 10 of the *Coroners Act 2003*.
48 Section 45 of the *Coroners Act 2003* provides that the Coroner must give written copies of his/her findings relating to child deaths to the Commissioner. Coroner’s 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 that in the case of a child death the Coroner must give written copies of his/her comments to the Commissioner. Coroner’s 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.
The causes of death for the above 9 cases include 3 drownings, 4 sudden unexpected deaths in infancy (including 2 due to sudden infant death syndrome and 2 where cause of death is pending), 1 suspected suicide and 1 death due to diseases and morbid conditions.

The Commission receives a copy of the Police Report of Death to a Coroner (Form 1) within 48 hours of a reportable death and then checks these records against death registration data provided by the Registry. Effectively, the Commission has been acting as a conduit, providing details such as a child’s name, usual place of residence, date of birth and date of death to the Registry, when it has been recognised that a death has not been registered. The Registry has subsequently endeavoured to seek an application for the death to be registered by the next of kin and/or the funeral director.

This process has been effective in registering 4 deaths to date, but the Commission has raised concerns about the ad hoc nature of this process. Further, this process has not been successful in registering all reportable deaths identified to the Registry to date.

To compound this problem, the Commission has been informed by the ABS that, if a death occurred more than 2 years before the ABS’s processing year, it will not be captured in ABS statistics. The ABS estimates that the undercount due to late registrations and outstanding coronial findings is currently about 5%.

The issue of under-recording Indigenous deaths has long been recognised in Australia. Although the Commission has only been able to identify small numbers of unregistered child deaths, it is nonetheless evident that the current practice of not registering known reportable deaths compounds the problem of undercounting Indigenous mortality. Given the significant inequalities in health status between Indigenous and non-Indigenous people in Australia, the size of the Aboriginal and Torres Strait Islander populations and their historical and political context, there is a strong case for ensuring that known information on Indigenous status is captured and recorded when available from credible sources.

Sections 42 and 43 of the Births, Deaths and Marriages Registration Act allow the Registrar to correct the register on the order of a Queensland court or to reflect a finding made on an inquiry by the Registrar to find out whether a registerable event has happened. The Act details that the Registrar may correct the register by adding, cancelling, amending or deleting an entry in the register. The Commission has raised with the Registrar the use of these sections of the Act to register these deaths.

Under section 45 of the Coroners Act 2003, a coroner investigating a death or a suspected death has the statutory obligation to find whether or not the death in fact happened, who the deceased person is, how, when and where the person died and what caused the person to die. The coronial information should be sufficient to satisfy the information requirements under sections 42 and 43 of the Births, Deaths and Marriages Registration Act, with the effect that the Registrar could be more active in registering deaths reported by the State Coroner, in a timely manner.

Recommendation 2

The Commission recommends that by 31 December 2006 the Registry of Births, Deaths and Marriages complete a review of its current practice with a view to maximising the timely capture of deaths reported by the State Coroner. Further, that the Registry develop an organisational policy/procedure on the adopted practice.

Unregistered deaths that occurred in the 2005–06 financial year have been referred to in the relevant chapters but have not been included in the overall data count and analysis. The Registry has committed to registering these deaths upon receipt of coronial findings, as such these cases will be considered in the 2006–07 annual report.49

49 It is expected that a number of these deaths will be registered early in the 2006/07 financial year.
Access to other data sources

Section 89ZG of the Commission for Children and Young People and Child Guardian Act enables other government entities to enter into an arrangement with the Commission to provide information or documents reasonably needed for the child death research functions. By providing such information, another agency does not contravene any statutory confidentiality provisions.

The Commission has developed agreements with the following agencies:

- Registry of Births, Deaths and Marriages
- Office of the State Coroner
- Department of Child Safety and
- Department of Industrial Relations.

The Commission is currently in the process of enhancing existing information-sharing agreements with the following agencies for its research functions:

- Department of Child Safety
- Queensland Health
- Department of Education and the Arts
- Department of Housing, and
- Queensland Police Service.

Access to information held by these agencies will provide valuable insights into the lives of, and circumstances leading to the deaths of, some of Queensland’s most vulnerable children.

Queensland Injury Surveillance Unit

The Queensland Injury Surveillance Unit (QISU) has provided injury data to the Commission. QISU collects and analyses injury data from emergency departments of participating hospitals throughout Queensland. Participating hospitals include Mater Children’s, Mater Adult, Queen Elizabeth II Jubilee, Princess Alexandra, Redland, Logan, Royal Children’s, Mount Isa, Mackay Base, Mackay Mater, Proserpine, Sarina, Clermont, Dysart, Moranbah and Mareeba. As the data are taken from selected hospitals, they do not give a complete overview of all childhood injury in Queensland, but they do give an indication of injury trends in Queensland.

Confidentiality

Accompanying the Commission’s privileged access to information is a duty of confidentiality that is specified in legislation. Section 153 (Confidentiality of Other Information) of the Commission for Children and Young People and Child Guardian Act states:

- If a person gains confidential information through involvement in this Act’s administration, the person must not –
  - make a record of the information or intentionally disclose the information to anyone, other than under subsection (4),
  - recklessly disclose the information to anyone.

Coding cause of death

The Commission uses the International Classification of Diseases and Related Health Problems, Revision 10 (ICD-10) to code underlying causes of death. ICD-10 was developed by the World Health Organisation 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 World Health Organisation has defined the underlying cause of death as:

50 The agreement between the Registry of Births, Deaths and Marriages and the Commission has been developed in accordance with the provisions of section 48B of the Births, Deaths and Marriages Registration Act.
51 The agreement between the Office of the State Coroner and the Commission has been developed in accordance with the provisions of section 54A of the Coroners Act 2003.
52 QISU estimated that in 1998–99 participating hospitals collected 20–25% of all injury emergency department presentations.
53 Subsection 4 permits 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.
54 In many cases, death certificates only record a single cause of death. These are relatively simple to deal with – the single cause reported is coded using the ICD-10. However, in other cases two or more conditions may have contributed to the death, and are all recorded on the death certificate. In such cases it necessary to select one of the causes of death for classification purposes. This single cause is usually referred to as the underlying cause of death.
• the disease or injury which initiated the train of morbid events leading directly to death, or
• the circumstances of the incident or violence which produced the fatal injury.

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

The National Centre for Classification in Health

The National Centre for Classification in Health (Brisbane) (NCCH) is the internationally recognised Australian centre of expertise in the classification of morbidity and mortality data. The NCCH has developed collaborative relationships with several external organisations, including the ABS and the AIHW, to provide coding, data quality and education expertise.

The Commission has a formal secondment arrangement with the NCCH whereby the centre employs a qualified Health Information Manager who is subsequently seconded on a part-time basis to the Commission. The aim of this position is to provide the Commission with contemporary coding expertise.

For each death in the register, the Health Information Manager reviewed all available information and coded the death according to ICD-10 cause of death coding regulations.

Limitations of ICD-10

The Commission recognises that ICD-10 carries certain inherent limitations. A classification is used to group conditions, diseases, external causes and health-related problems into homogeneous groups to assist with statistical collection and analysis of health information. In the process of grouping and classifying using ICD-10, various specificities in cause or circumstances of death are missed. For example, a case in which a child dies in a car–pedestrian incident while being escorted across the road by an adult is qualitatively different from a case in which a chronically unsupervised child is struck by a car while crossing a busy street alone. For coding purposes the manner and cause of death are the same, but the circumstances are distinctly different. Additionally, some specific categories of death that are of interest to the Commission are not specified in ICD-10 coding. These are listed below:

• dam drowning
• driveway run-overs of toddlers
• four-wheel motorcycle (quad-bike) incidents.

Consequently, the Commission has developed databases based on research categories to assist with the capture and analysis of this information.

Research categories

To help overcome the limitations of ICD-10, the Commission also classifies deaths according to their circumstances – referred to as ‘research categories’ throughout this report. Based on the information contained in the Police Report of Death to a Coroner (Form 1), research categories enable the Commission to discuss deaths occurring in similar circumstances together, even where an official cause of death has not yet been established. Research categories are also used when the ICD-10 code does not accurately reflect the circumstances of death. For example, as discussed in Chapter 10, ‘Suicide’, in Queensland a number of child and adolescent suicides are being coded as accidents. According to current coding practice, a high standard of proof is generally required for a suicide to be coded as such, and in the absence of a clear statement of intent before the child’s death (for example, a note or an oral statement) and in cases where coroners do not specify that the death was self-inflicted (for example, where the cause of death is listed as ‘hanging’), these deaths, which would ordinarily be categorised as suicides in clinical or research situations, are coded as accidents.

It is widely acknowledged that childhood suicides are under-reported in official statistics and a large proportion are mistakenly recorded as accidents. Therefore the Commission has endeavoured to reduce the likelihood of suicides being undercounted by classifying all cases where police

55 The NCCH is also the developer of the Australian modification of the ICD-10 (known as ICD-10-AM). ICD-10-AM is used for morbidity coding only.

56 Where cases have not received an official cause of death as established at autopsy, they are unable to be coded according to ICD-10.
have indicated that a death may be a suspected suicide in the research category 'suicide'.

All reportable deaths are classified as transport, drowning, fire, other injury-related deaths, suicide or fatal assault. SUDI are also grouped together for the purpose of analysis.

As outlined above, discrepancies may exist between research category and ICD-10 figures. In this report, while ICD-10 classifications have coded 93 child deaths as due to external causes, there are a total of 96 children included in the Commission’s research categories. Three cases have been included in the fatal assault research category based on the circumstances of their death, despite their cause of death being as yet unknown or undetermined. Any figures reporting the percentage of external cause deaths are calculated on a denominator of 93 (based on ICD-10 coding).

Geographical distribution (ARIA+)

The Commission uses the latest version of the Accessibility/Remoteness Index of Australia (ARIA), commonly referred to as ARIA+, to code geographical remoteness.

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 Commonwealth Department of Health and Aged Care.

It interprets remoteness on the basis of 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.57

ARIA+ defines five categories of remoteness:

- **Major Cities of Australia:** relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction
- **Inner Regional Australia:** some restrictions to accessibility of some goods, services and opportunities for social interaction
- **Outer Regional Australia:** significantly restricted accessibility of goods, services and opportunities for social interaction
- **Remote:** very restricted accessibility of goods, services and opportunities for social interaction, and
- **Very Remote:** very little accessibility of goods, services and opportunities for social interaction.

All child deaths registered between 1 July 2005 and 30 June 2006 were classified according to the ARIA+ index. The analysis of geographic distribution in this report refers to the child’s usual place of residence, unless otherwise stated, which may differ from the place of death or the incident location. Transport incidents are an exception, however, as the geographical distribution of transport deaths has been reported according to the place of incident.

For the purposes of analysis in this report, ARIA+ categories have been combined into three more general categories:

- **Metropolitan:** includes major cities of Queensland
- **Regional:** includes inner and outer regional Queensland, and
- **Remote:** includes remote and very remote Queensland.

Socio-economic status (SEIFA)

The Socio-Economic Indexes for Areas (SEIFA) developed by the ABS have been used to code disadvantage. This index provides four measures of the social and economic conditions of geographic areas across Australia:

- **Index of Advantage/Disadvantage**
- **Index of Disadvantage**
- **Index of Economic Resources,** and
- **Index of Education and Occupation.**

The SEIFA Index of Advantage/Disadvantage is used in this 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.

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

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57 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).

58 These are ABS-determined category names. GISCA ARIA+ uses the following category names: highly accessible, accessible, moderately accessible, remote, very remote.
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 persons in low-skilled occupations.

The Index of Advantage/Disadvantage is used more frequently by the Queensland State Government than other SEIFA indexes.

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 used in this report are measures of the status of the areas in which children and young people reside, not the socio-economic status of each individual child or their family.

Aboriginal and Torres Strait Islander status

The identification of Aboriginal and Torres Strait Islander people continues to be less than satisfactory in many administrative collections. While the identification of the deaths of Aboriginal and Torres Strait Islander people has improved considerably in recent years, it is not known how many Indigenous deaths are not identified. Therefore, the number of deaths registered as Aboriginal or Torres Strait Islander in a given year is expected to be an undercount of the actual number of deaths of Indigenous people.

Aboriginal and Torres Strait Islander status is recorded on both the Registry of Births, Deaths and Marriages death registration data and the Police Report of Death to a Coroner (Form 1). However, it is probable that these sources undercount the number of Aboriginal and Torres Strait Islander child deaths.

The Child Death Register captures Aboriginal and Torres Strait Islander status as recorded both in the death registration data and on the Form 1. Several cases have been identified where a child has been identified as Indigenous by the reporting officer in completing the Form 1, but family members did not identify as Indigenous when registering the death. These cases have been recognised, where applicable, throughout the report.

The Commission recognises that in Queensland Aboriginal and Torres Strait Islander children and young people aged 0–17 comprise approximately 46.5% of the Aboriginal and Torres Strait Islander populations (Commission for Children and Young People and Child Guardian 2005:7) and, as reported earlier in this chapter, the Commission is pursuing means to improve the undercounting of Aboriginal and Torres Strait Islander child deaths.59

Child protection population

The deaths of children known to the Department of Child Safety have been analysed as a distinct cohort as the Commission has significant responsibilities in relation to these child deaths.

In addition to maintaining the Child Death Register and the research and analysis contained in this report, the Commission provides full secretariat support to the Child Death Case Review Committee (CDCRC), an independent committee established to increase accountability and improve effectiveness in decision-making in the child protection system.

Since 1 August 2004, the DChS has been required to conduct a review of its involvement in each case where a child dies who was known to the Department in the previous 3 years. The DChS has 6 months from the time it learns of the child’s death to provide the CDCRC with a report. The CDCRC considers the DChS report and makes recommendations about:

- improving policies which impact on services to children in the child protection system
- improving relationships between the Department and other agencies involved with the children and their families, and
- whether disciplinary action should be taken against any departmental staff in relation to their involvement with a child.

The CDCRC is a multi-disciplinary committee composed of experts in paediatrics, child health and welfare and investigations. The Commissioner and Assistant Commissioner are standing members of the CDCRC, with the Commissioner permanently appointed as the chairperson.

59 In New South Wales, for example, when an Aboriginal member of the Child Death Review Team can identify the family as an Aboriginal family, the child is coded as Aboriginal (New South Wales Child Death Review Team 2001:23).
It should be noted that the rates of death of children known to the DChS due to all causes exceeded the rates in the general population, which may be explained by the complex contextual factors associated with children and young people known to DChS that place children at higher risk.

**Disability status**

There are difficulties in defining disability status because of the differing working definitions of disability. Disability Services Queensland, Education Queensland and Queensland Health define disability differently. The DChS does not systematically collect information in relation to disability, and the Queensland Police Service and the Registry of Births, Deaths and Marriages only note a disability on official records if the child's disability is seen to be relevant to the cause or mode of death.

Because of the paucity and inconsistency of information on the disability status of the children and young people who have died, it has not been possible for the Commission to code a child's disability status. Therefore the deaths of children and young people with disabilities have not been analysed in this report. (Refer to ‘Improving data collection’ later in this chapter.)

**Analysis and reporting**

**Analysis period**

The register was analysed according to date of death registration (rather than date of death). This is in accordance with national datasets managed by the ABS and the child deaths data managed by the New South Wales Child Death Review Team.

**Reporting period**

This report examines the deaths of 426 children and young people aged from birth to 17 years, registered between 1 July 2005 and 30 June 2006.

**Incidence**

With the exception of Chapter 3, ‘Queensland Children and Young People, 2004–05’, this report uses age- and gender-specific death rates, calculated using ABS population projections for 2004–05. These rates show the number of deaths per 100,000 children in each age and/or gender group in the population. For infants under 1 year, rates per 1000 live births were also calculated. Rates allow comparisons over time, across states and internationally.

Population estimates for 2003–04 have been used in Chapter 3. These population figures have been revised and any comparisons with the rates reported in the *Annual Report: Deaths of children and young people, Queensland, 2004–05* will need to be interpreted with caution.

**Indigenous child death rates**

The ABS has published experimental estimates and projections of the Indigenous population. However, identifying children and young people under the age of 18 is problematic because of the age groupings used by the ABS. Rates for the Indigenous population of children and young people in this publication are based on high series projections for 30 June of the specified financial year. Estimated resident population by statistical local area, single year of age and sex was disaggregated into Indigenous status using Census 2001 Indigenous proportions by statistical local area. These Indigenous proportions were then benchmarked to the ABS *Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians figures*, 30 June 1991 to 30 June 2009 (cat. no. 3238.0).

Rates for births by Indigenous status in this publication used total births from 2003–04 unpublished births data from the ABS and 2004–05 births data from the Queensland Government Population Projections. Indigenous births were calculated by applying the proportion of Indigenous births for the last 2 calendar years of published data to the 2003–04 and 2004–05 births figures.

Rates were not calculated where cases numbered less than 4 because of the unreliability of such calculations.
Rates in the child protection population

The Commission reports on the number of deaths where children have died within 3 years of coming to the attention of the DChS. Rates of death for children in the child protection population are calculated on the number of distinct children notified in the 3-year period from 2002–03 to 2004–05. These data, disaggregated by age category, sex and Indigenous status, were provided to the Commission by the DChS.

Table 2.1: Distinct children notified by sex, Indigenous status and age group, 1 July 2002 to 30 June 2005

<table>
<thead>
<tr>
<th>Sex and Indigenous status</th>
<th>Unborn</th>
<th>Under 1</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Unknown/not stated</th>
<th>All ages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>23</td>
<td>152</td>
<td>371</td>
<td>651</td>
<td>618</td>
<td>145</td>
<td>4</td>
<td>1,964</td>
</tr>
<tr>
<td>Other*</td>
<td>96</td>
<td>2,542</td>
<td>7,234</td>
<td>8,835</td>
<td>7,451</td>
<td>1,555</td>
<td>31</td>
<td>27,744</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>2,694</td>
<td>7,605</td>
<td>9,486</td>
<td>8,069</td>
<td>1,700</td>
<td>35</td>
<td>29,708</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>18</td>
<td>157</td>
<td>332</td>
<td>557</td>
<td>679</td>
<td>203</td>
<td>1</td>
<td>1,947</td>
</tr>
<tr>
<td>Other*</td>
<td>85</td>
<td>2,315</td>
<td>6,913</td>
<td>8,231</td>
<td>8,306</td>
<td>2,531</td>
<td>44</td>
<td>28,425</td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>2,472</td>
<td>7,245</td>
<td>8,788</td>
<td>8,985</td>
<td>2,734</td>
<td>45</td>
<td>30,372</td>
</tr>
<tr>
<td><strong>Unknown (2)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>5</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>5</td>
</tr>
<tr>
<td>Other*</td>
<td>153</td>
<td>24</td>
<td>49</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td>10</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>158</td>
<td>24</td>
<td>49</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td>10</td>
<td>255</td>
</tr>
<tr>
<td><strong>Total persons</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>46</td>
<td>309</td>
<td>703</td>
<td>1,208</td>
<td>1,297</td>
<td>348</td>
<td>5</td>
<td>3,916</td>
</tr>
<tr>
<td>Other*</td>
<td>334</td>
<td>4,881</td>
<td>14,196</td>
<td>17,074</td>
<td>15,762</td>
<td>4,087</td>
<td>85</td>
<td>56,419</td>
</tr>
<tr>
<td>Total</td>
<td>380</td>
<td>5,190</td>
<td>14,899</td>
<td>18,282</td>
<td>17,059</td>
<td>4,435</td>
<td>90</td>
<td>60,335</td>
</tr>
</tbody>
</table>

Data source: Department of Child Safety, Performance Monitoring and Evaluation Unit, 8 August 2006

* Including non-Indigenous and those whose Indigenous status is unknown or not stated.

Notes: 1. The data for unborn children only apply from the 2004–05 financial year. Data were not available before this date.
2. The ‘unknown’ entries relate to cases where the age or sex of the child was unknown – these can remain unknown if the notification was not investigated (e.g. protective advice) or the investigation was unable to proceed (e.g. the family went overseas the next day).
3. Totals for children identified as Indigenous at notification stage are considered to be an under-representation because a notifier will not always be aware of a child’s Indigenous status.

There is a growing body of research that shows that a higher proportion of children known to child protection agencies die than do children in the overall population. This was noted in Hansard on 14 July 2004 by the then Minister for the Department of Child Safety, the Honourable Mike Reynolds MP. The complexity of the issues faced by families of ‘at risk’ children may in part explain the disparity between outcomes for children known to child protective services and those for other Queensland children.

Quality of data

As the Queensland Child Death 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 Commission and the information contained in the Child Death Register.

Rates and percentages provided in this report have been quality assured by the Office of Economic and Statistical Research.

The Annual Report: Deaths of Children and Young People 2005–06 brings together information from a number of key sources and presents it in a way that 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
Torres Strait Islander children and young people and children in the child protection population. However, as noted throughout the report, caution must be exercised 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 findings when working with small numbers.

**Recommendations**

Under section 89ZE(c) of the *Commission for Children and Young People and Child Guardian Act*, the Commissioner is required to make recommendations about laws, policies and practices to help reduce the likelihood of child deaths.

Section 89ZF(e) further requires that the Commission for Children and Young People and Child Guardian Annual Report of all Queensland Child Deaths report on the extent to which previous recommendations have been implemented.

Updates on the progression of recommendations made to agencies in 2004–05 are given in Chapter 13 of this report.

In 2006–07 all agencies to which recommendations have been directed will be asked to provide progress reports on the extent to which the recommendations from the 2005–06 period have been implemented, and strategies and time frames for continued implementation, as well as reasons for any alternative action and/or non-implementation.

**Improving data collection**

**Police Report of Death to a Coroner**

One of the key data sources used in the Commission’s child death research is the Police Report of Death to a Coroner (Form 1).

The Form 1 was developed by the Queensland Police Service and the Office of the State Coroner to improve the type and consistency of initial information provided to assist the pathologist in determining the cause of death. The Office of the State Coroner and the Queensland Police Service should be commended for the successful implementation of Form 1, which is a rich qualitative and quantitative data source used extensively by the Commission in analysing the deaths of children and young people in Queensland.

The Commission acknowledges that completion of these forms is an administrative task that police officers must undertake with sensitivity when interviewing a family grieving the loss of a child. However, as with all other administrative data collections used for research purposes, areas for improvement may be identified. For example, in relation to the investigation of infant deaths, the Form 1 identifies whether there was “any evidence of alcohol or drug use at [the] location of [the] event”. However, it does not require officers to record the extent of alcohol or drug use; therefore, unless it is stated in the form’s ‘Summary of Circumstances’, the extent is not clear.

Improvements in such areas will help to clarify current ambiguities and thereby improve the utility of the data for research purposes.

The Office of the State Coroner undertook a review of the Form 1 in August 2006. The Commission provided extensive input into this review process and will continue to work collaboratively to identify areas that may improve the information captured on Form 1s in future years.

**Indigenous status**

As noted earlier in this chapter, during the 2004–05 reporting period the Commission received notification from the Office of the State Coroner of 6 Indigenous deaths which did not appear to have been registered with the Registry of Births, Deaths and Marriages. Two of these remain unregistered at the time of reporting. The deaths of a further 5 Indigenous and 2 non-Indigenous children during 2005–06 have not yet been registered.

The Registry employs a range of strategies to increase the registration of Indigenous births and
deaths in Queensland. More recently it has released a range of commemorative Aboriginal and Torres Strait Islander birth certificates that are intended to recognise the importance of Queensland’s Indigenous heritage. It is hoped that these certificates will help to break down some of the cultural barriers surrounding birth registration, which may, in turn, assist with death registration.

The Registry has supplied birth and death registration forms and posters to Justice of the Peace Trainers to take into Indigenous communities and is currently working with Legal Aid Queensland outreach workers to have death registration packs issued with birth registration ones so that these may also be taken into the communities.

Development of strategies to improve Indigenous birth and death registration is included as part of the business plan for the Registry in the coming year.

The issue of registration of Indigenous deaths has been recognised for some time. To assist with notification of Indigenous deaths, a provision was inserted into the Births, Deaths and Marriages Registration Act (section 30(9)) which allows the doctor to forward the Cause of Death Certificate even if there has been a failure of the funeral director to do so. This notifies the Registry about a death and triggers follow-up work to get the death registered.

Disability status

The Commission will work with Disability Services Queensland, the Department of Child Safety, the Queensland Police Service and the Registry of Births, Deaths and Marriages to improve the systematic collection of this data in future years.
Chapter 3
Queensland children and young people, 2004–05

Child deaths in Queensland, 1 July 2004 – 30 June 2005

Key issues

- In the 12-month period examined, 481 children and young people died. Of these deaths, 21% were due to external causes, 72% were due to natural causes and 6.7% due to sudden infant death syndrome (SIDS) and undetermined causes.
- The leading external cause of death for the 12-month period was transport-related deaths (46), followed by suicides (15) and non-intentional injury-related deaths (15), then drowning (12) and fatal assaults (9).
- Suicide was the leading cause of death in 10–14 year olds (6 deaths, equal with transport), and the second leading cause in 15–17 year olds (9 deaths).
- In addition to classification by research categories (above), the Commission analyses and classifies child deaths by medical cause of death (ICD-10 coding). Of the medical causes of death, certain conditions originating in the perinatal period were the most frequent (32.4%).
- Sudden unexpected deaths in infancy (SUDIs) from the 2004–05 period have been updated to reflect the medical cause of death.

Overview

The deaths of 481 children and young people aged from birth to 17 years were registered in the 12 months from 1 July 2004 to 30 June 2005 (a rate of 50.1 per 100,000 children and young people aged from birth to 17 years in Queensland); 284 were male (59.0%) and 197 were female (41.0%). Table 3.1 presents the gender and age of all child deaths in this period.

Two hundred and ninety-nine deaths were of infants under 1 year of age, comprising 62.2% of all child deaths. Two hundred and ten (70.2%) of these occurred within the first 28 days of life. The next highest number of deaths occurred in toddlers aged 1–4 years (62 deaths, 12.9%). The 5–9 year age group recorded the lowest number of deaths (32), followed by 10–14 year olds with 33 deaths. Children aged 15–17 years accounted for 55 of the 481 total deaths.

Table 3.1: Summary of child deaths by gender and age group (2004–05)

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
<th>% Per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 28 days</td>
<td>88</td>
<td>122</td>
<td>210</td>
<td>43.7</td>
</tr>
<tr>
<td>Between 28 and 364 days</td>
<td>37</td>
<td>52</td>
<td>89</td>
<td>18.5</td>
</tr>
<tr>
<td>Total deaths under 1 year</td>
<td>125</td>
<td>174</td>
<td>299</td>
<td>62.2</td>
</tr>
<tr>
<td>1–4 years</td>
<td>28</td>
<td>34</td>
<td>62</td>
<td>12.9</td>
</tr>
<tr>
<td>5–9 years</td>
<td>13</td>
<td>19</td>
<td>32</td>
<td>6.7</td>
</tr>
<tr>
<td>10–14 years</td>
<td>12</td>
<td>21</td>
<td>33</td>
<td>6.9</td>
</tr>
<tr>
<td>15–17 years</td>
<td>19</td>
<td>36</td>
<td>55</td>
<td>11.4</td>
</tr>
<tr>
<td>Total deaths 1–17 years</td>
<td>72</td>
<td>110</td>
<td>182</td>
<td>37.8</td>
</tr>
<tr>
<td>Total</td>
<td>197</td>
<td>284</td>
<td>481</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

Notes: 1. Percentages are calculated on the total number of deaths.
2. Rates of death for infants under 28 days and between 28 and 364 days are calculated per 1000 live births.
3. Rates of death for other age groups are calculated per 100,000 children and young people in that age group.

62 Deaths due to falls, poisonings, suffocations, strangulation and choking as well as deaths due to falling objects, medical care and animal-related death (refer to the relevant section of this chapter).
63 Rates for the 2004–05 reporting period are based on the estimated resident population of Queensland for 2003–04.
Coronial findings

There were 180 reportable deaths registered in the 12-month period. Coronial findings for 138 of these had been received at the time of reporting. Autopsy notices only had been received in 40 cases. In a further 2 cases the Commission has received a death certificate only.

All causes of child death

Tables 3.2 and 3.3 outline all causes of child death broken down by gender and age respectively.

Table 3.2: All causes of child death per ICD-10 chapter classifications by gender (2004–05)

<table>
<thead>
<tr>
<th>ICD-10 chapter descriptions</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Natural causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certain conditions originating in the perinatal period (P00–P96)</td>
<td>69</td>
<td>87</td>
<td>156</td>
<td>32.4</td>
</tr>
<tr>
<td>Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)</td>
<td>35</td>
<td>48</td>
<td>83</td>
<td>17.3</td>
</tr>
<tr>
<td>Neoplasms (C00–D48)</td>
<td>14</td>
<td>21</td>
<td>35</td>
<td>7.3</td>
</tr>
<tr>
<td>Diseases of the nervous system (G00–G99)</td>
<td>14</td>
<td>12</td>
<td>26</td>
<td>5.4</td>
</tr>
<tr>
<td>Diseases of the respiratory system (J00–J99)</td>
<td>6</td>
<td>11</td>
<td>17</td>
<td>3.5</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases (A00–B99)</td>
<td>8</td>
<td>5</td>
<td>13</td>
<td>2.7</td>
</tr>
<tr>
<td>Diseases of the circulatory system (I00–I99)</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td>Diseases of the digestive system (K00–K93)</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>1.0</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases (E00–E90)</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Diseases of the musculoskeletal system and connective tissue (M00–M99)</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Mental and behavioural disorders (F00–F09)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Disease of the eye and adnexa (H00–H59)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Diseases of the ear and mastoid process (H60–H95)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Diseases of the skin and subcutaneous tissue (L00–L99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Diseases of the genitourinary system (N00–N99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Pregnancy, childbirth and the puerperium (O00–O08)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total number of deaths from natural causes</strong></td>
<td>154</td>
<td>194</td>
<td>348</td>
<td>72.3</td>
</tr>
<tr>
<td><strong>SIDS and undetermined causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)</td>
<td>11</td>
<td>21</td>
<td>32</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>External causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External causes of morbidity and mortality (V01–Y98)</td>
<td>32</td>
<td>69</td>
<td>101</td>
<td>21.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>197</td>
<td>284</td>
<td>481</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

Note: 1. Causes of death are sorted by frequency and are not in chapter order.

---

A reportable death is defined by the Coroners Act 2003 as one in which the identity of the person is unknown; a death which was violent or otherwise unnatural; happened in suspicious circumstances; was not a reasonably expected outcome of a health procedure; was a death in care or a death in custody; or a cause of death certificate has not been and is not likely to be issued. Information on reportable deaths is received by the Commission via the Police Report of Death to a Coroner (Form 1).
Table 3.3: All causes of child death per ICD-10 chapter classifications by age group (2004–05)

<table>
<thead>
<tr>
<th>ICD-10 chapter descriptions</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural causes</td>
<td>203</td>
<td>59</td>
<td>29</td>
<td>25</td>
<td>16</td>
<td>16</td>
<td>348</td>
<td>72.3</td>
</tr>
<tr>
<td>SIDS and undetermined causes</td>
<td>5</td>
<td>25</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>32</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)

| External causes of morbidity and mortality (V01–Y98) | 2 | 5 | 32 | 7 | 17 | 38 | 101 | 21.0 |

Total | 210 | 89 | 62 | 32 | 33 | 55 | 481 | 100.0 |

Data source: Queensland Child Death Register (2004–05)

Natural causes

The most common natural causes of death in the 12-month period examined were certain conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities, accounting for 156 (32.4%) and 83 (17.3%) respectively of the 348 deaths due to natural causes. More males died as a result of natural causes (194 deaths, 55.7%) than females (154 deaths, 44.3%). Two hundred and sixty-two children who died of natural causes were aged under 1 year (5.4 deaths per 1000 live births; 535.2 deaths per 100,000 children under 1 year) and 86 were aged 1–17 (9.4 deaths per 100,000 children 1–17 years).

External causes

Between July 2004 and June 2005, 101 children and young people died from external causes (21.0% of all child deaths). Males comprised 68.3% of external causes of deaths (69 deaths), compared with 31.7% (32 deaths) for females. Seven of these children were aged under 1 year (0.1 death per 1000 live births; 14.3 deaths per 100,000 children under 1) and 94 were aged 1–17 years (10.3 deaths per 100,000 population).
Causes of death by research category

For the purpose of research and analysis, the Commission has broken down all external cause deaths into the subcategories presented in Table 3.4.

Table 3.4: Research categories by age group (2004–05)

<table>
<thead>
<tr>
<th>Research categories</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>0</td>
<td>2</td>
<td>12</td>
<td>4</td>
<td>6</td>
<td>22</td>
<td>46</td>
<td>4.8</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>9</td>
<td>15</td>
<td>1.6</td>
</tr>
<tr>
<td>Other non-intentional injury-related</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>1.6</td>
</tr>
<tr>
<td>Drowning</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2</strong></td>
<td><strong>5</strong></td>
<td><strong>32</strong></td>
<td><strong>7</strong></td>
<td><strong>17</strong></td>
<td><strong>38</strong></td>
<td><strong>101</strong></td>
<td><strong>10.5</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

Note: 1. Rates are calculated per 100,000 children and young people 0–17 years.

Transport

- In the 12 months between July 2004 and June 2005, transport incidents accounted for the deaths of 46 children and young people in Queensland (4.8 deaths per 100,000 children from 0 to 17 years).
- Transport was the leading external cause of death in this period. Transport incidents were also the leading cause of death in the 1–4 and 15–17 year age groups (37.5% and 57.9% respectively). Transport incidents were also the leading cause in 10–14 year olds, equal with suicide (35.3%).
- Over 58% of transport deaths involved occupants of motor vehicles (27 deaths). Seven of the young people were drivers of the vehicles involved, while 20 were passengers.
- Pedestrian deaths were the next most common type of transport incident, accounting for 10 deaths (21.7%). Seven of these were the result of low-speed/driveway run-overs involving young children.
- Three children died in incidents involving all-terrain vehicles (ATVs) in the 12-month period.
- Recommendations were made by the Commission in the Annual Report: Deaths of children and young people, Queensland, 2004–05 (Child Death Annual Report, 2004–05) regarding low-speed run-overs and ATVs. Updates on the progress of these recommendations are presented in Chapter 13 of this report.

Suicide

- In the 12-month period the Commission reported the suspected suicide deaths of 15 children and young people (1.6 deaths per 100,000 0-17 years).
- Suicide was the second-leading external cause of death (equal with other non-intentional injury-related deaths). Suicide was the leading cause of death in 10–14 year olds (equal with transport incidents, representing 6 deaths each), and the second most common cause for 15–17 year olds, after transport fatalities.
- Most children who suicided were male (11 deaths, 73.3%).
- Three of the 15 deaths were of Indigenous children (20.0%).

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66 ICD-10 codes as shown in Tables 3.2 and 3.3 are used to categorise the medical cause of death as established at autopsy. In addition, research categories are used to classify deaths according to their circumstances. Information gathered from the Police Report of Death to a Coroner (Form 1) is used to allocate a death to one of the following categories: transport, suicide, drowning, other non-intentional injury, fatal assault or fire.
The majority of these deaths were the result of hanging (13 deaths, 86.7%).

Several risk factors and adverse life circumstances were identified that may have contributed to suicidal behaviour in children and young people, including:
- mental health issues in 7 cases (46.7%)
- previous suicidal behaviour in 5 cases (33.3%)
- history of childhood abuse in 3 cases (20.0%)
- precipitating incidents and life stressors in 13 cases (86.7%).

The Commission was particularly concerned by the young age at which children are suiciding and has undertaken consultation with a range of agencies in relation to prevention strategies for childhood suicide.

Other non-intentional injury-related deaths

- Fifteen children and young people died as a result of other non-intentional injury in the reporting period (1.6 per 100,000 0-17 years). Three of these deaths were sudden unexpected deaths in infancy which were later found to be a result of accidental asphyxiation.
- Other non-intentional injury-related deaths constituted 14.9% of all external cause deaths in the 12-month period, being the second-leading external cause (along with suicide).
- Most deaths resulting from other non-intentional injury occurred in the 1–4 year age group (6 deaths or 40.0% of all deaths in this category). The types of other non-intentional injury-related death observed in this period included falls, poisonings, suffocation, strangulation and choking, as well as other categories such as being struck by a falling object, misadventure during medical care and animal-related death.

Drowning

- In the 12-month period, 12 children and young people drowned (1.2 deaths per 100,000 children).
- Drowning was the third leading external cause of death overall, and was the second leading cause of death in 1–4 year olds (8 deaths, 25% of deaths in the 1–4 year age group).
- Swimming pools and dams were the most frequent locations of drownings. Four deaths occurred in swimming pools and 6 in dams and other rural hazards such as culverts and water troughs.
- Most drownings occurred when the child fell, wandered or jumped into the water. A lack of supervision appeared to be a factor in 4 of the drownings, while the level of supervision was unknown in an additional 4 cases.
- In the Child Death Annual Report, 2004–05, a recommendation was made to explore the risks posed by dams and other rural water hazards. Action on this recommendation is discussed in Chapter 13 of this report.

Fatal assault

- Fatal assault accounted for the deaths of 9 children and young people in the 12-month period, constituting 8.9% of external cause deaths (0.9 per 100,000 0-17 years).
- The majority of fatal assaults in this period were of 15–17 year olds and children under the age of 5 (4 deaths, 44.4% each).
- Forty-four percent of these deaths were of children known to the Department of Child Safety (DChS).

Fire

- Four children died in residential house fires in the reporting period. Two of these deaths occurred in the same incident (0.4 per 100,000 0-17 years).
- Fire was the least common external cause of death, accounting for 4.0% of external cause deaths.
- Three of these 4 deaths were of Indigenous children, and all 4 children were in the 1–4 year age group.
- The absence of smoke detectors has been raised by the Commission as an issue. None of the dwellings involved in these deaths were equipped with functioning smoke alarms.
Sudden unexpected death in infancy (SUDI)

Sudden unexpected death in infancy (SUDI) is defined as the death of an infant less than 1 year of age in which no cause of death is immediately obvious. SUDI is not a cause of death. Rather, a death is classified as a SUDI if, when initially reported (prior to investigation and autopsy), the death was of an infant under 12 months of age, was sudden in nature and unexpected, and occurred after the infant had been placed to sleep. SUDI therefore includes the deaths of infants where a medical cause of death is later established. Deaths due to unrecognised illness, anatomical or developmental abnormalities, sleep accidents due to unsafe sleep environments and deaths later found to be the result of intentional injury are included within the SUDI classification. Also included are deaths due to sudden infant death syndrome (SIDS) and other undetermined or ill-defined causes.

Once coronial findings are completed, a definitive cause of death can be assigned. Coroner’s findings are usually provided after a full death scene investigation, and once autopsy and toxicology results are known.

Sudden unexpected death in infancy, like external cause deaths, is a reportable death, and is therefore considered as a research category for analysis. As mentioned previously, this is an initial classification – the definitive cause of death is later established. SUDI cases are counted under the research category (or natural cause) that best represents their cause of death.

In the 12-month period examined, the deaths of 43 infants were classified as SUDI. Table 3.5 lists the causes of death for these infants.

Table 3.5: SUDI cases by cause of death (2004–05)

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS and other ill-defined causes of mortality</td>
<td></td>
</tr>
<tr>
<td>Sudden infant death syndrome</td>
<td>28</td>
</tr>
<tr>
<td>Undetermined</td>
<td>2</td>
</tr>
<tr>
<td>External causes of non-intentional injury</td>
<td></td>
</tr>
<tr>
<td>Accidental suffocation and strangulation in bed</td>
<td>3</td>
</tr>
<tr>
<td>Natural causes</td>
<td></td>
</tr>
<tr>
<td>Bronchopneumonia</td>
<td>5</td>
</tr>
<tr>
<td>Cytomegaloviral disease</td>
<td>1</td>
</tr>
<tr>
<td>Hypertrophy of tonsils</td>
<td>1</td>
</tr>
<tr>
<td>Pneumonia due to Klebsiella pneumoniae</td>
<td>1</td>
</tr>
<tr>
<td>Pneumonia due to Streptococcus pneumoniae</td>
<td>1</td>
</tr>
<tr>
<td>Scabies</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

- In 17 cases, the child was sharing a sleep surface such as an adult bed or couch with an adult and/or sibling.
- An additional 8 infants died while sleeping alone on a non-infant-designated sleep surface such as a couch, sofa or chair.
- Seventeen infants died while sleeping alone in an infant-designated sleep surface such as a bassinet, cot or cradle.
- The sleep environment of 1 infant was unknown.

The Commission recommended that Queensland Health develop, implement and promote a state-wide policy regarding safe sleeping practices for parents and caregivers. The Commission also recommended the development and implementation of appropriate training of Queensland Health staff in relation to this policy. Chapter 13 of this report outlines the progress of this recommendation to date.

67 A reportable death is defined by the Coroners Act 2003 as one in which the identity of the person is unknown; a death which was violent or otherwise unnatural; happened in suspicious circumstances; was not a reasonably expected outcome of a health procedure; was a death in care or a death in custody; or a cause of death certificate has not been and is not likely to be issued. Information on reportable deaths is received by the Commission via the Police Report of Death to a Coroner (Form 1).
Sudden infant death syndrome (SIDS) and undetermined causes

Of the 43 SUDI cases, 28 were certified as being due to SIDS (0.6 per 1000 live births; 57.2 per 100,000 children under 1 year). Two deaths were certified as due to undetermined causes. Males were more likely to die of SIDS than females, accounting for 20 of the 28 deaths (71.4%). Male sex has been consistently associated with a statistically increased risk of SIDS. The remaining SUDI cases were certified as due to certain infectious and parasitic diseases (2 deaths), diseases of the respiratory system (8 deaths) and accidental causes (3 deaths).

Cause of death undetermined (≥ 1 year of age)

An additional 2 children over the age of 1 year died of undetermined causes.

Most common causes/categories of death by age

Table 3.6 outlines the five most common causes/categories of death by age across the 12-month period for all children and young people in Queensland.

The ICD-10 chapter levels give an indication of the natural causes of death for each age category. External causes have been categorised into transport, drowning, suicide, other non-intentional injury-related death, fatal assault and fire. SUDI deaths are not shown here but have been allocated to their respective research categories, based on their ICD-10 chapter levels.

Under 28 days

The leading causes of death for infants under 28 days were certain conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities, accounting for 140 (66.7%) and 59 (28.1%) deaths respectively. Five deaths were attributed to symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (2.4%). This includes SIDS and those cases where a cause of death was not able to be determined. Other non-intentional injury-related deaths and diseases of the nervous system accounted for 2 deaths each.

Between 28 and 364 days

Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified accounted for the greatest proportion of deaths of children between 28 and 364 days, with 25 deaths (28.1%). Perinatal conditions and congenital malformations, deformations and chromosomal abnormalities accounted for 14 (15.7%) and 12 (13.5%) deaths respectively. Diseases of the respiratory system also accounted for 12 deaths, while diseases of the nervous system accounted for 11 deaths. Two deaths were recorded for fatal assault and transport, and 1 for other non-intentional injury-related deaths.

1–4 years

Transport incidents were the leading cause of death for 1–4 year olds (12 deaths, 19.4%). Neoplasms and drowning each accounted for 8 deaths (12.9%). Six deaths were recorded for diseases of the nervous system and other non-intentional injury-related deaths, while certain infectious and parasitic diseases accounted for 5 deaths. Fire and fatal assault recorded 4 and 2 deaths respectively.

5–9 years

The leading causes of death in 5–9 year old children were neoplasms and diseases of the nervous system, with 11 (34.4%) and 6 (18.8%) deaths respectively. Transport incidents accounted for 4 deaths, and 3 deaths resulted from diseases of the circulatory system. Two other non-intentional injury-related deaths were recorded, while 1 death in this age group was due to drowning.

10–14 years

Suicide and transport incidents were the leading causes of death for 10–14 year old children, accounting for 6 deaths each (18.2%). Five deaths were the result of malformations or deformations, and 4 were the result of neoplasms. Other non-intentional injury-related deaths and drowning each recorded 2 deaths, while 1 death was the result of a fatal assault.

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68 These deaths were not discussed or analysed in detail in the Child Death Annual Report, 2004–05. Deaths where cause of death is undetermined for children older than 1 year are examined in Chapter 4 of the 2005–06 report.
### Table 3.6: Leading causes of death by age group (2004–05)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Certain conditions originating in the perinatal period ( (n = 140) )</td>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified ( (n = 25) )</td>
<td>Transport ( (n = 12) )</td>
<td>Neoplasms ( (n = 11) )</td>
<td>Suicide; transport ( (n = 6) )</td>
<td>Transport ( (n = 22) )</td>
</tr>
<tr>
<td>2</td>
<td>Congenital malformations, deformations and chromosomal abnormalities ( (n = 59) )</td>
<td>Certain conditions originating in the perinatal period ( (n = 14) )</td>
<td>Neoplasms; drowning ( (n = 8) )</td>
<td>Diseases of the nervous system ( (n = 6) )</td>
<td>Congenital malformations, deformations and chromosomal abnormalities ( (n = 5) )</td>
<td>Suicide ( (n = 9) )</td>
</tr>
<tr>
<td>3</td>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified ( (n = 5)^{69} )</td>
<td>Congenital malformations, deformations and chromosomal abnormalities; diseases of the respiratory system ( (n = 12) )</td>
<td>Diseases of the nervous system; other non-intentional injury-related ( (n = 6) )</td>
<td>Transport ( (n = 4) )</td>
<td>Neoplasms ( (n = 4) )</td>
<td>Neoplasms ( (n = 8) )</td>
</tr>
<tr>
<td>4</td>
<td>Other non-intentional injury-related ( (n = 2) )</td>
<td>Diseases of the nervous system ( (n = 11) )</td>
<td>Certain infectious and parasitic diseases ( (n = 5) )</td>
<td>Diseases of the circulatory system ( (n = 3) )</td>
<td>Other non-intentional injury-related; drowning ( (n = 2) )</td>
<td>Fatal assault ( (n = 4) )</td>
</tr>
<tr>
<td>5</td>
<td>Diseases of the nervous system ( (n = 2))^{70}</td>
<td>Fatal assault; transport ( (n = 2) ); other non-intentional injury-related ( (n = 1))^{71}</td>
<td>Fire ( (n = 4) ); fatal assault ( (n = 2))^{72}</td>
<td>Other non-intentional injury-related ( (n = 2) ); drowning ( (n = 1))^{73}</td>
<td>Fatal assault ( (n = 1))^{74}</td>
<td>Other non-intentional injury-related ( (n = 2) ); drowning ( (n = 1))^{75}</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

---

69 This ICD-10 chapter incorporates causes of death such as SIDS and other undetermined deaths.

70 One natural cause death also occurred in each of the following two categories in this age group: neoplasms; and endocrine, nutritional and metabolic diseases.

71 Five deaths in this age group were also a result of certain infectious and parasitic diseases, 3 deaths were a result of neoplasms, and 2 of diseases of the digestive system.

72 Four deaths in this age group were a result of congenital malformations, deformations and chromosomal abnormalities. Two natural cause deaths also occurred in each of the following two categories in this age group: diseases of the respiratory system; and certain conditions originating in the perinatal period. One death was also the result of a disease of the digestive system, and one was a result of a disease of the circulatory system. The cause of death in one case was unascertainable.

73 One natural cause death also occurred in each of the following five categories in this age group: certain infectious and parasitic diseases; diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism; endocrine, nutritional and metabolic diseases; diseases of the respiratory system; congenital malformations, deformations and chromosomal abnormalities.

74 Two natural cause deaths also occurred in each of the following three categories in this age group: endocrine, nutritional and metabolic diseases; diseases of the circulatory system; and diseases of the respiratory system. One natural cause death was due to a disease of the digestive system.

75 Two natural cause deaths also occurred in each of the following two categories in this age group: certain infectious and parasitic diseases; and congenital malformations, deformations and chromosomal abnormalities. One natural cause death also occurred in each of the following four categories: disease of the nervous system; diseases of the circulatory system; diseases of the digestive system; and diseases of the musculoskeletal system and connective tissue. The cause of death in one case was unascertainable.
15–17 years

Twenty-two of the 55 deaths of 15–17 year olds were due to transport incidents (40%). Suicide and neoplasms accounted for 9 and 8 deaths respectively, while fatal assault recorded 4 deaths. Two deaths were the result of other non-intentional injury, and 1 resulted from drowning.

Aboriginal and Torres Strait Islander deaths

Between 1 July 2004 and 30 June 2005, 56 of the children and young people whose deaths were registered were identified as Aboriginal, 5 as Torres Strait Islander and 4 as both Aboriginal and Torres Strait Islander. Indigenous children comprised 13.5% of all child deaths in the 12-month period 2004–05. Table 3.7 presents the cause of death for all children and young people identified as Aboriginal and/or Torres Strait Islander by age group. Over 70% of Indigenous children who died were under 1 year of age (46 deaths). In contrast, 60.8% of non-Indigenous children who died were under 1 year (253 deaths). The 1–4 year age category recorded the next greatest number of Indigenous child deaths (11 deaths, 16.9%).

Table 3.7: Aboriginal and Torres Strait Islander child deaths by cause of death and age group76 (2004–05)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural causes</td>
<td>28</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>43</td>
<td>66.2</td>
<td>68.2</td>
</tr>
<tr>
<td>SIDS and undetermined causes</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>10.8</td>
<td>214.4</td>
</tr>
<tr>
<td>Research category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>6.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4.6</td>
<td>*</td>
</tr>
<tr>
<td>Other non-intentional injury-related</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4.6</td>
<td>*</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3.1</td>
<td>*</td>
</tr>
<tr>
<td>Drowning</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.5</td>
<td>*</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
<td>*</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>14</td>
<td>21.5</td>
<td>22.2</td>
</tr>
<tr>
<td>Undetermined ≥1 year</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.5</td>
<td>*</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>16</td>
<td>11</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>65</td>
<td>100.0</td>
<td>103.2</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates are calculated per 100,000 Indigenous children aged 0–17 years.
2. The rate of death for SIDS and undetermined causes is calculated per 100,000 Indigenous infants under 1 year of age.

76 A number of children were identified on the Police Form 1 to be Aboriginal or Torres Strait Islander where this information was not provided by the family at the time of registration. The Commission currently reports on official data as it is received from the Registry of Births, Deaths and Marriages. The data presented in this table may therefore undercount Indigenous child deaths. The Commission is investigating this issue further. See Chapter 2 of this report for further details.
Table 3.8 gives the causes of death for non-Indigenous children by age group.

<table>
<thead>
<tr>
<th>Cause/ category of death</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural causes</td>
<td>175</td>
<td>51</td>
<td>26</td>
<td>23</td>
<td>15</td>
<td>15</td>
<td>305</td>
<td>73.3</td>
<td>34.0</td>
</tr>
<tr>
<td>SIDS and undetermined causes</td>
<td>4</td>
<td>19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>5.5</td>
<td>50.3</td>
</tr>
</tbody>
</table>

Research category

<table>
<thead>
<tr>
<th>Cause</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>4</td>
<td>6</td>
<td>22</td>
<td>42</td>
<td>10.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>13</td>
<td>3.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Other non-intentional injury-related</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>12</td>
<td>2.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Drowning</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>2.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>1.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>*</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>1</td>
<td>3</td>
<td>25</td>
<td>7</td>
<td>15</td>
<td>36</td>
<td>87</td>
<td>20.9</td>
<td>9.7</td>
</tr>
<tr>
<td>Undetermined ≥1 year</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.2</td>
<td>*</td>
</tr>
<tr>
<td>Total</td>
<td>180</td>
<td>73</td>
<td>51</td>
<td>30</td>
<td>30</td>
<td>52</td>
<td>416</td>
<td>100.0</td>
<td>46.4</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates are calculated per 100,000 non-Indigenous children aged 0–17 years.
2. The rate of death for SIDS and undetermined causes is calculated per 100,000 non-Indigenous infants under 1 year of age.

Overall, Indigenous children died at a higher rate than non-Indigenous children. While non-Indigenous children died at a rate of 46.4 deaths per 100,000 non-Indigenous children aged from birth to 17 years, Indigenous children died at a rate of 103.2 deaths per 100,000 Indigenous children aged from birth to 17 years. This trend was evident across all causes of death.77

Natural causes

The majority of Indigenous child deaths were due to natural causes (66.2%, 43 deaths). Similarly, natural causes accounted for the majority of non-Indigenous child deaths (305 deaths, 73.3% of non-Indigenous deaths). Perinatal conditions were the leading natural cause of death among Aboriginal and Torres Strait Islander children (23 deaths). This is consistent with trends evident in the non-Indigenous child population.

External causes

Fourteen Aboriginal and Torres Strait Islander children died from external causes in the 12-month period examined, representing 21.5% of Indigenous child deaths. In comparison, 20.9% of non-Indigenous child deaths were the result of external causes. Indigenous children die from external causes at a higher rate than non-Indigenous children (22.2 per 100,000 Indigenous children 0–17 years, compared with 9.7 per 100,000 non-Indigenous children 0–17 years). The leading external causes of death for Indigenous children were transport incidents and fire, with 4 and 3 deaths respectively.

---

77 Rates of death are not able to be calculated for numbers less than 4. The rates of Indigenous child deaths for fire, other non-intentional injury-related death, suicide, drowning and fatal assault are therefore not able to be accurately determined and compared with the rate of non-Indigenous child death in these research categories.
**Sudden unexpected deaths in infancy**

The deaths of 12 Aboriginal and Torres Strait Islander children were classified as SUDI in the 12-month period (18.5%). Seven of these were later certified as SIDS, 2 as due to a disease of the respiratory system, 2 as due to certain infectious and parasitic diseases and 1 as due to accidental asphyxiation. Indigenous infants die of SIDS at a much higher rate (2.1 per 1000 live births, 214.4 per 100,000 Indigenous infants under 1 year) than non-Indigenous infants (0.5 per 1000 live births, 50.3 per 100,000 non-Indigenous infants under 1 year).

Sudden unexpected deaths in infancy, in general, occur much more frequently in the Indigenous population. While SUDI deaths accounted for 18.5% of Indigenous child deaths (3.5 per 1000 live births, 367.6 deaths per 100,000 Indigenous children under 1), SUDI deaths only accounted for 7.5% of the non-Indigenous child deaths (0.7 per 1000 live births, 67.9 deaths per 100,000 non-Indigenous children under 1).

**Geographical distribution (ARIA+)**

Children died at a greater rate in remote areas of Queensland (72.0 deaths per 100,000 children 0–17 years living in remote areas, 44 deaths) than in other areas of Queensland. Children in regional areas died at a rate of 48.7 per 100,000 children (181 deaths), while metropolitan areas had the lowest rate of child death at 46.8 per 100,000 children (247 deaths).

Natural causes accounted for the greatest proportion (and occurred at the highest rate per 100,000 population) of deaths in all areas. Transport incidents were the leading external cause of death in all areas, but were much more frequent in rural and remote areas (8.2 and 7.0 deaths per 100,000 in remote and regional areas respectively, compared with 2.3 deaths per 100,000 in metropolitan areas).

SIDS deaths occurred at a rate of 49.9 per 100,000 children under 1 year in metropolitan areas, 62.0 per 100,000 in regional areas and 158.0 per 100,000 in remote areas.

These figures are given in Table 3.9.

---

**Table 3.9: Region of child deaths by research category (2004–05)**

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Metropolitan</th>
<th>Regional</th>
<th>Remote</th>
<th>N/A</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Per 100,000</td>
<td>n</td>
<td>Per 100,000</td>
<td>n</td>
</tr>
<tr>
<td>Natural</td>
<td>192</td>
<td>36.4</td>
<td>123</td>
<td>33.1</td>
<td>27</td>
</tr>
<tr>
<td>SIDS and undetermined (2)</td>
<td>14</td>
<td>49.9</td>
<td>11</td>
<td>62.0</td>
<td>5</td>
</tr>
<tr>
<td>Research category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>12</td>
<td>2.3</td>
<td>26</td>
<td>7.0</td>
<td>5</td>
</tr>
<tr>
<td>Suicide</td>
<td>7</td>
<td>1.3</td>
<td>8</td>
<td>2.2</td>
<td>0</td>
</tr>
<tr>
<td>Other non-intentional injury-related</td>
<td>8</td>
<td>1.5</td>
<td>4</td>
<td>1.1</td>
<td>3</td>
</tr>
<tr>
<td>Drowning</td>
<td>4</td>
<td>0.8</td>
<td>5</td>
<td>1.3</td>
<td>3</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>8</td>
<td>1.5</td>
<td>0</td>
<td>*</td>
<td>1</td>
</tr>
<tr>
<td>Fire</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td>*</td>
<td>0</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>40</td>
<td>7.6</td>
<td>46</td>
<td>12.4</td>
<td>13</td>
</tr>
<tr>
<td>Undetermined ≥ 1 year</td>
<td>1</td>
<td>*</td>
<td>1</td>
<td>*</td>
<td>0</td>
</tr>
<tr>
<td>Grand total</td>
<td>247</td>
<td>46.8</td>
<td>181</td>
<td>48.7</td>
<td>44</td>
</tr>
</tbody>
</table>

* Rates are unable to be calculated for numbers less than 4.

**Notes:**

1. Nine children were not classified as their usual residence was outside Queensland. For further details, see Appendix 3.1.
2. Rates are calculated per 100,000 children 0–17 years living in regional, metropolitan and remote areas of Queensland.
3. The rate of death for SIDS and undetermined causes is calculated per 100,000 children under 1 year living in regional, metropolitan and remote areas of Queensland.
Table 3.10 presents the socio-economic status of all children and young people who died between July 2004 and June 2005. While children from disadvantaged socio-economic regions had the highest number of deaths (207), higher socio-economic areas had a marginally higher rate of child death (53.1 deaths per 100,000 children in high to very high socio-economic areas, compared with 52.0 deaths per 100,000 children in low to very low areas). Children in moderate areas had the lowest rate of death (36.5 per 100,000 children in moderate areas, 73 deaths).

Natural deaths were the most common across all socio-economic areas. Transport incidents were highest in low socio-economic areas, occurring at a rate of 6.5 per 100,000 children 0–17 years in low socio-economic areas, compared with 3.9 and 2.5 per 100,000 in moderate and high areas respectively. Deaths from SIDS also occurred at a much higher rate in low socio-economic areas. SIDS deaths occurred at a rate of 88.8 per 100,000 children under 1 in low areas, compared with 48.1 per 100,000 in moderate areas and 41.2 per 100,000 in high areas.

Deaths from SIDS also occurred at a much higher rate in low socio-economic areas. SIDS deaths occurred at a rate of 88.8 per 100,000 children under 1 in low areas, compared with 48.1 per 100,000 in moderate areas and 41.2 per 100,000 in high areas.

Table 3.10: Socio-economic status of child deaths by research category (2004–05)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Metropolitan</th>
<th>Regional</th>
<th>Remote</th>
<th>N/A (1)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Per 100,000</td>
<td>n</td>
<td>Per 100,000</td>
<td>n</td>
</tr>
<tr>
<td>Natural</td>
<td>136</td>
<td>34.1</td>
<td>49</td>
<td>24.2</td>
<td>157</td>
</tr>
<tr>
<td>SIDS and undetermined (3)</td>
<td>17</td>
<td>88.8</td>
<td>5</td>
<td>48.1</td>
<td>8</td>
</tr>
<tr>
<td>Research categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>26</td>
<td>6.5</td>
<td>8</td>
<td>3.9</td>
<td>9</td>
</tr>
<tr>
<td>Suicide</td>
<td>7</td>
<td>1.8</td>
<td>1</td>
<td>*</td>
<td>7</td>
</tr>
<tr>
<td>Other non-intentional injury-related</td>
<td>7</td>
<td>1.8</td>
<td>3</td>
<td>*</td>
<td>5</td>
</tr>
<tr>
<td>Drowning</td>
<td>7</td>
<td>1.8</td>
<td>2</td>
<td>*</td>
<td>3</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>5</td>
<td>1.3</td>
<td>2</td>
<td>*</td>
<td>2</td>
</tr>
<tr>
<td>Fire</td>
<td>2</td>
<td>*</td>
<td>2</td>
<td>*</td>
<td>0</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>54</td>
<td>13.6</td>
<td>18</td>
<td>8.9</td>
<td>26</td>
</tr>
<tr>
<td>Undetermined ≥ 1 year</td>
<td>0</td>
<td>*</td>
<td>2</td>
<td>*</td>
<td>0</td>
</tr>
<tr>
<td>Grand total</td>
<td>207</td>
<td>52.0</td>
<td>74</td>
<td>36.5</td>
<td>191</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)

* Rates are unable to be calculated for numbers less than 4.

Notes:
1. Nine children were not classified as their usual residence was outside Queensland. For further details, see Appendix 3.1.
2. Rates are calculated per 100,000 children 0–17 years living in regional, metropolitan and remote areas of Queensland.
3. The rate of death for SIDS and undetermined causes is calculated per 100,000 children under 1 year living in low, moderate and high socio-economic areas of Queensland.
Deaths per region by gender are shown in Figure 3.2.

**Figure 3.2:** Socio-economic status of child deaths by gender (2004–05)

<table>
<thead>
<tr>
<th>Socio-economic area</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>0</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
</tr>
<tr>
<td>Moderate</td>
<td>30</td>
</tr>
<tr>
<td>High</td>
<td>40</td>
</tr>
<tr>
<td>Very high</td>
<td>50</td>
</tr>
</tbody>
</table>

**Notes:**
1. Nine children were not classified as their usual residence was outside Queensland. For further details, see Appendix 3.1.
2. Represents the actual number of child deaths, not rates.

### Child protection population

Of the 481 children whose deaths were registered in Queensland in the 12-month period examined, 30 were known to the DChS, representing 6.2% of all child deaths. Since 1 August 2004, the Department has been required to conduct a review of the service delivery provided to a child if the child was known to the Department within the 3 years before death. The Department is required to provide a report to the Child Death Case Review Committee (CDCRC) within 6 months of becoming aware of a child’s death. The CDCRC is an independent committee responsible for considering the Department’s review.

Of the 30 children and young people known to the Department, 20 were male (66.7%) and 10 were female (33.3%). Thirty percent of these children were Aboriginal or Torres Strait Islander (9 deaths).

In general, during 2004–05, children known to the DChS died at a slightly lower rate than that of all children (49.7 per 100,000 children in the child protection system aged 0–17, compared with 50.1 per 100,000 for all children aged 0–17). Children known to the DChS died of natural causes at a rate of 24.9 per 100,000, while the rate of death from natural causes for all children was 36.2 per 100,000. Children known to the DChS were, however, more likely to die from external causes, at a rate of 21.5 per 100,000 children in the child protection system, compared with 10.5 per 100,000 for all children.

Table 3.11 outlines the cause of death by age group for children known to the DChS.

**Table 3.11:** Cause of death of children known to the Department of Child Safety by age group (2004–05)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural causes</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>15</td>
<td>24.9</td>
</tr>
<tr>
<td>SIDS and undetermined causes</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>*</td>
</tr>
<tr>
<td>Research categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drowning</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>6.6</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Transport</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>13</td>
<td>21.5</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>6</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>30</td>
<td>49.7</td>
</tr>
</tbody>
</table>

**Data source:** Queensland Child Death Register (2004–05)

**Notes:**
1. Rates are unable to be calculated for numbers less than 4.
2. Rates are based on the number of distinct children with notifications with the DChS for the 3-year period between 1 July 2002 and 30 June 2005.

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78 As at 30 June 2005, 9 of these deaths had been reviewed by the Child Death Case Review Committee (2 of these children died in the same incident and were the subject of a joint review). For more information, refer to the Child Death Case Review Committee Annual Report 2004–05.
Key issues

- In the 12-month period between July 2005 and June 2006, 426 children and young people died. Almost 22% of these deaths were due to external causes.

- The Commission has identified 4 cases of deaths of young children where there appeared to be ongoing child protection concerns in the family, that have not been subject to a statutory review. The very young age of these children may offer a partial explanation of why these cases had not yet come to the attention of the Department of Child Safety (DChS). The Commission has developed recommendations in relation to this issue for the consideration of the DChS.

- Indigenous children die from external causes at a higher rate than non-Indigenous children. In 2005–06, Indigenous children died from external causes at a rate of 21.6 per 100,000 Indigenous children aged 0–17 years, compared with 9.0 deaths per 100,000 children in the non-Indigenous population.

Leading cause of death by age:

- Infants under 1 year accounted for 263 deaths; 73% of these deaths occurred within the first 28 days of life.

- Children aged 1–4 years accounted for 55 deaths; drowning was the leading cause of death, accounting for 15 deaths.

- Children aged 5–9 years accounted for 34 deaths; natural deaths accounted for 13 deaths (neoplasms and diseases of the nervous system). Transport incidents then accounted for 5 deaths in this age group.

- Children aged 10–14 years accounted for 30 deaths; suicide (5 deaths) and transport incidents (5 deaths) were the leading causes of death for children in this age group.

- Adolescents aged 15–17 years accounted for 44 deaths; 21 of those deaths were the result of transport incidents, while 10 were the result of suicide.

Profile of Queensland children and young people

The Commission for Children and Young People and Child Guardian's annual publication *Snapshot: Children and young people in Queensland* compiles data on a variety of issues including child protection, families, health, education and social issues. Snapshot helps to present a comprehensive picture of the characteristics of Queensland's children and young people.

The following is a summary of some of the data presented in the most recent *Snapshot* about Queensland's population of children and young people.

Population

Of the total Queensland population in 2005, children and young people aged from birth to 17 years made up 24.6%.

Over 520,000 of these were aged 0–9 years (522,655 individuals or 13.2% of the population),
while young people aged 10–17 years comprised 11.4% of the population (450,820 individuals aged 10–17 years).

**Indigenous children**

In 2005, Indigenous children and young people comprised 6.3% of all young people under the age of 18 in Queensland.

Of the total Indigenous population in Queensland, 45.2% were under the age of 18. In contrast, 23.8% of the non-Indigenous population were under the age of 18. Young people made up a much higher proportion of the Indigenous population than of the non-Indigenous population.

**Children born overseas**

Of children aged 0–14 years in Queensland, only 6% were born in a country other than Australia, with New Zealand being the most common overseas place of birth.

**Family**

The majority (69%) of Queensland children aged 0–17 years lived in intact-couple families. A further 10% lived in step or blended families. In Queensland, 19% of children under the age of 18 lived with single mothers and almost 2% with single fathers.

The proportion of children living in single-parent families throughout Australia is increasing. In 1987, 12.7% of Australian children under the age of 15 lived in single-parent families. This had increased to 18.9% by 2005.

**Births and family size**

Birth numbers have increased slightly, with 25,586 males and 24,354 females born in Queensland in 2004. This is up from 24,847 male births and 23,495 female births in 2003.

The number of children per family varied by type of family, with an average of 1.9 children in intact-couple families, 2.3 in step or blended families and 1.6 in single-parent families.

**Age of parents**

The majority of babies born in 2003 were born to mothers aged 25–34 years (61%). This was also the most common age group for fathers of new babies (54%).

Parents of Indigenous babies tended to be younger, with 55% of babies born to mothers aged 20–29 years and 43% born with fathers aged 20–29.

Eighteen percent of Indigenous babies were born to a teenage mother, compared with 6% in the general Queensland population.

**Family income**

Single-parent families tended to have much lower incomes than other families. Whereas only 14% of couple families had a weekly income less than $600 (gross), 63% of single-parent families earned less than $600 per week.

Indigenous families also had lower incomes than other families, with 45% of Indigenous families earning less than $600 per week, compared with 31% of non-Indigenous families. Further, as Indigenous families were larger, with on average 3.6 people per Indigenous family compared with 2.9 per non-Indigenous family, the disparity in lower incomes would be more marked on a per-person basis.

**Remote births**

In Queensland 20% of Indigenous babies are born in remote or very remote areas, compared with only 4% of non-Indigenous babies.

**Premature births**

In 2004, 7.1% of babies had a low birth weight and 8.6% were born before 37 weeks gestation. The proportion of babies born with low birth weight has increased slightly in the last decade.

Indigenous babies were more likely to have a low birth weight and/or shorter gestation than non-Indigenous babies.

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83 Updated data were not available at publication. Data given here are the same as those presented in Children and Young People in Queensland: A snapshot 2005.

84 These percentages have been updated to 2004 data.

85 Updated data were not available at publication. Data given here are the same as those presented in Children and Young People in Queensland: A snapshot 2005.
Breastfeeding
At 5 months of age, 60% of Queensland babies are still being breastfed. However, only 3% are exclusively breastfed at that age. World Health Organisation guidelines recommend exclusive breastfeeding for the first 6 months.

Long-term health conditions
The most common long-term health conditions experienced by children and young people in Queensland were:

- asthma (12% of 0−14 year olds and 10% of 15−17 year olds)
- mental health and behavioural problems (10% of 0−14 year olds and 11% of 15−17 year olds), and
- hay fever and allergic rhinitis (6% of 0−14 year olds and 12% of 15−17 year olds).

Disability
Disabilities restricting communication, mobility, self-care or schooling affected 12% of males and 8% of females aged 5−14 years in 2003. Approximately 1 in 10 children over the age of 4 years had a disability.

Injury
Injuries requiring hospitalisation varied by age group.

In 2004−05, hospitalisation of children aged 1−4 years was most associated with injuries caused by falls, poisoning and burns and scalds.

Falls and transport incidents were the most common causes of injuries requiring hospitalisation in children aged 5−9 years and 10−14 years.

Adolescents aged 15−19 were mainly admitted to hospital for injuries caused by transport incidents, falls, intentional self-harm and assault.

Abuse and neglect
The rates of Queensland children with child abuse and neglect notifications have increased substantially in recent years.

In 2004−05, 13.4 per 1000 children and young people aged 0−17 years were the subject of a substantiated notification of harm or risk of harm. This was similar to the rate noted in 2003−04 (13.3 per 100,000 children).

In 2004−05, 27% of all children who suffered substantiated child abuse were also the subject of a second substantiation within 12 months, compared with 28% in 2003−04.

Single-parent and step or blended families had higher rates of all types of child abuse and neglect. Younger parents were also associated with an increased risk of child abuse and neglect.

Children on protective orders
As at 30 June 2005, 5857 children were on protective orders (up from 4950 in 2004). Of these, 5657 were in out-of-home care (up from 4413 in 2004).

The number of children in out-of-home care has steadily increased since 2002. Six percent of children on protective orders continued to live with one or both parents, while 26% were living with other relatives. Sixty-two percent were living in foster care.

A further 4% were in residential facilities (including residential care with paid carers) and on protective orders in other facilities such as detention, hospitals or disability services, while 2% were living independently.

Indigenous children and young people were over-represented in the child protection system, with rates of out-of-home care more than 3 times higher than the state average (the Indigenous out-of-home care rate was 20.8 per 1000 children, compared with the state average of 5.8 per 1000).

Participation in education
In 2005, 91.5% of 15 year olds and 80.4% of 16 year olds were attending school, compared with only 48.9% of 17 year olds. Fifteen to 17 year old males were slightly less likely to be participating in education than females.
Retention to Year 12

The rate of students continuing their education through to Year 12 has declined slightly over the past few years. Retention rates in Queensland were 81.2% in 2004 and 79.9% in 2005.

Like participation rates, the retention rate was lower for males (75.3%) compared with 84.7% for females.

Employment

In 2004–05, 41.7% of secondary students aged 15–19 years were engaged in part-time employment and 7.2% were looking for work.

Use of tobacco, alcohol and illicit drugs86

The proportion of Australians aged 14–19 years who smoked daily decreased between 2001 and 2004 from 14.1% to 9.5% for males and from 16.2% to 11.9% for females.

In the same age group, the proportion of young people drinking alcohol weekly decreased from 31.2% to 26.6% for males and from 25.4% to 22.2% for females.

Overall, 3.3% of 12–15 year olds and 21.6% of 16–17 year olds were drinking weekly in 2004.

Between 1998 and 2004 the proportion of Australian 14–19 year olds who had used illicit drugs in the previous 12 months decreased from 38.3% to 20.9% for males and 37.1% to 21.8% for females.

Homelessness87

In 2001, the rate of homelessness in Queensland was estimated to be 7 per 1000 people.

Indigenous people were over-represented in the homeless population in Australia.

In 2004–05, 14% of all clients using Supported Accommodation Assistance Program (SAAP) accommodation were unaccompanied children and young people aged under 18 years.

Kids Help Line

In 2005, Kids Help Line responded to 47,957 calls from Queensland. Of these, 41% were about relationships, 9% related to difficulties with emotional responses (such as anger) and 6% were about child abuse and neglect.

Child deaths in Queensland,
1 July 2005 – 30 June 2006

Overview

Between 1 July 2005 and 30 June 2006, the deaths of 426 children and young people were registered in Queensland. Of these, 266 were male and 160 were female (62.4% and 37.6% respectively). Table 4.1 illustrates the gender and age breakdowns for all deaths during the reporting period.

Table 4.1: Child deaths by gender and age group (2005–06)

<table>
<thead>
<tr>
<th>Age category</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
<th>% Per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 28 days</td>
<td>72</td>
<td>120</td>
<td>192</td>
<td>45.1</td>
</tr>
<tr>
<td>Between 28 and 364 days</td>
<td>30</td>
<td>41</td>
<td>71</td>
<td>16.7</td>
</tr>
<tr>
<td>Total deaths under 1 year</td>
<td>102</td>
<td>161</td>
<td>263</td>
<td>61.7</td>
</tr>
<tr>
<td>1–4 years</td>
<td>21</td>
<td>34</td>
<td>55</td>
<td>12.9</td>
</tr>
<tr>
<td>5–9 years</td>
<td>13</td>
<td>21</td>
<td>34</td>
<td>8.0</td>
</tr>
<tr>
<td>10–14 years</td>
<td>9</td>
<td>21</td>
<td>30</td>
<td>7.0</td>
</tr>
<tr>
<td>15–17 years</td>
<td>15</td>
<td>29</td>
<td>44</td>
<td>10.3</td>
</tr>
<tr>
<td>Total deaths 1–17 years</td>
<td>58</td>
<td>105</td>
<td>163</td>
<td>38.3</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>266</td>
<td>426</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Notes:
1. All percentages are calculated on the total number of deaths.
2. Rates of death for infants under 28 days, between 28 and 364 days and total deaths under 1 year are calculated per 1000 live births.

86 Updated data were not available at publication. Data given here are the same as those presented in Children and Young People in Queensland: A snapshot 2005.

87 Updated data were not available at publication. Data given here are the same as those presented in Children and Young People in Queensland: A snapshot 2005. Details of Supported Accommodation Assistance Program statistics are included in the 2006 Snapshot report.
The majority of all child deaths (263 deaths, 61.7%) were of children under 1 year of age. Over 73% of these (192 deaths) occurred within the first 28 days of life. The second-highest number of deaths occurred in the 1–4 year age group with 55 deaths (12.9% of all deaths). Fifteen to 17 year olds recorded the next highest number of deaths (44 deaths, 10.3% of all deaths), followed by 5–9 year olds (34 deaths, 8.0% of all deaths). Ten to 14 year olds had the lowest number of deaths in the 12-month period examined (30 deaths, 7.0%).

Coronial findings

Of the 426 total deaths in the 2005–06 reporting period, 169 were reportable. At the time of reporting, coronial findings were available for 52 of these. Autopsy notices only were available in a further 100 cases. The official cause of death was pending in 17 cases.

All causes of child death

Tables 4.2 and 4.3 list all causes of child death in the 12-month period by ICD-10 chapter level, broken down by gender and age category respectively.

Table 4.2: All causes of child death per ICD-10 chapter classifications by gender (2005–06)

<table>
<thead>
<tr>
<th>ICD-10 chapter descriptions</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural causes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certain conditions originating in the perinatal period (P00–P96)</td>
<td>62</td>
<td>85</td>
<td>147</td>
<td>34.5</td>
</tr>
<tr>
<td>Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)</td>
<td>18</td>
<td>42</td>
<td>60</td>
<td>14.1</td>
</tr>
<tr>
<td>Neoplasms (C00–D48)</td>
<td>10</td>
<td>14</td>
<td>24</td>
<td>5.6</td>
</tr>
<tr>
<td>Diseases of the nervous system (G00–G99)</td>
<td>3</td>
<td>13</td>
<td>16</td>
<td>3.8</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases (E00–E90)</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>2.8</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases (A00–B99)</td>
<td>3</td>
<td>9</td>
<td>12</td>
<td>2.8</td>
</tr>
<tr>
<td>Diseases of the respiratory system (J00–J99)</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>2.3</td>
</tr>
<tr>
<td>Diseases of the circulatory system (I00–I99)</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>1.6</td>
</tr>
<tr>
<td>Diseases of the genitourinary system (N00–N99)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Diseases of the digestive system (K00–K93)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Mental and behavioural disorders (F00–F99)</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Diseases of the ear and mastoid process (H60–H95)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Diseases of the musculoskeletal system and connective tissue M00–M99)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Disease of the eye and adnexa (H00–H59)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Diseases of the skin and subcutaneous tissue (L00–L99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Pregnancy, childbirth and the puerperium (O00–O08)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total number of deaths from natural causes</td>
<td>113</td>
<td>184</td>
<td>297</td>
<td>69.7</td>
</tr>
</tbody>
</table>

A reportable death is defined by the Coroners Act 2003 as one in which the identity of the person is unknown; a death which was violent or otherwise unnatural; happened in suspicious circumstances; was not a reasonably expected outcome of a health procedure; was a death in care or a death in custody; or a cause of death certificate has not been and is not likely to be issued. Information on reportable deaths is received by the Commission via the Police Report of Death to a Coroner (Form 1).
### Table 4.2 (cont.): All causes of child death per ICD-10 chapter classifications by gender (2005–06)

<table>
<thead>
<tr>
<th>ICD-10 chapter descriptions</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>$n$</td>
<td>$n$</td>
<td>%</td>
</tr>
<tr>
<td><strong>SIDS and undetermined causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)</td>
<td>8</td>
<td>11</td>
<td>19</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>External causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External causes of morbidity and mortality (V01–Y98)</td>
<td>32</td>
<td>61</td>
<td>93</td>
<td>21.8</td>
</tr>
<tr>
<td>Cause of death pending 89</td>
<td>7</td>
<td>10</td>
<td>17</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td>160</td>
<td>266</td>
<td>426</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Note: 1. Causes of death are sorted by frequency and are not in chapter order.

### Table 4.3: All causes of child death per ICD-10 chapter classifications and age group (2005–06)

<table>
<thead>
<tr>
<th>ICD-10 chapter descriptions</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total $n$</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural causes</td>
<td>187</td>
<td>37</td>
<td>24</td>
<td>22</td>
<td>18</td>
<td>9</td>
<td>297</td>
<td>69.7</td>
</tr>
<tr>
<td><strong>SIDS and undetermined causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)</td>
<td>2</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>19</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>External causes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External causes of morbidity and mortality (V01–Y98)</td>
<td>0</td>
<td>9</td>
<td>28</td>
<td>10</td>
<td>11</td>
<td>35</td>
<td>93</td>
<td>21.8</td>
</tr>
<tr>
<td>Cause of death pending</td>
<td>3</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td>192</td>
<td>71</td>
<td>55</td>
<td>34</td>
<td>30</td>
<td>44</td>
<td>426</td>
<td>100</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

**Natural causes**

Certain conditions originating in the perinatal period were the most common natural cause of death, accounting for 147 of 297 deaths (49.5% of natural causes). Congenital malformations, deformations and chromosomal abnormalities also accounted for a significant proportion of natural deaths (60 deaths, 20.2%). More males than females died of natural causes (184 and 113 deaths respectively). Two hundred and twenty-four natural cause deaths (75.4%) were of children under 1 year of age (4.3 per 1000 live births, 433.6 per 100,000 children under 1 year in Queensland), with 83.5% of these being of children aged under 28 days. Children over the age of 1 year died at a rate of 7.9 per 100,000 children and young people aged 1–17 years in Queensland (73 deaths).

**External causes**

Of the 93 children who died from external causes between July 2005 and June 2006, 61 were male (65.6%) and 32 were female (34.4%). Nine were under 1 year of age (9.7%, 0.2 per 1000 live births, 1.7 per 100,000 children under 1 year), while 84 were 1 year of age or over (90.3%, 9.11 per 100,000 population). External deaths comprised 21.8% of all child deaths.

---

89 Includes the following causes of death: “Autopsy Notice given – cause of death not yet determined”, “Not yet determined pending test results”, and “Not yet established, tests required”. There is a routine time lapse in coronial findings being made available. As a result, the cause of death is not able to be determined in those cases unless autopsy findings are available.
Causes of death by research category

The Commission has categorised all external cause deaths into the categories listed by age group in Table 4.4.

**Table 4.4: Research categories by age group** (2005–06)

<table>
<thead>
<tr>
<th>Research category</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Grand total</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian injured in transport accident (V01–V09)</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Pedal cyclist injured in transport accident (V10–V19)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Motorcycle rider injured in transport accident (V20–V29)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Car occupant injured in transport accident (V40–V49)</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>17</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Pedestrian injured in transport accident (V01–V09)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Car occupant injured in transport accident (V40–V49)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water transport accidents (V90–V94)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Transport total</strong></td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>21</td>
<td>41</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>Drowning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accidental drowning and submersion (W65–W74)</td>
<td>0</td>
<td>3</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td><strong>Drowning total</strong></td>
<td>0</td>
<td>3</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td><strong>Suicide</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intentional self-harm (X60–X84)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Event of undetermined intent (Y10–Y34)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td><strong>Suicide total</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Other non-intentional injury</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falls (W00–W19)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Exposure to inanimate mechanical forces (W20–W49)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Exposure to animate mechanical forces (W50–W64)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other accidental threats to breathing (W75–W84)</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Contact with venomous animals and plants (X20–X29)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Complications of medical and surgical care (Y40–Y84)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Other non-intentional injury total</strong></td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>1.1</td>
</tr>
</tbody>
</table>

90 The research categories are based on information gathered by police as reported in the Police Report of Death to a Coroner (Form 1). Although a medical cause of death as established by autopsy may be pending (these cases are shown in Table 4.2), from the information received in the Form 1 these cases are able to be included in the research categories.
### Table 4.4 (cont.): Research categories by age group (2005–06)

<table>
<thead>
<tr>
<th>Research category</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fatal assault</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feotus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00–P04)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ill-defined and unknown causes of mortality (R95–R99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Contact with heat and hot substances (X10–X19)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Assault (X85–Y09)</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Pending</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Fatal assault total</strong></td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Fire</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to smoke, fire and flames (X00–X09)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Fire total</strong></td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1</td>
<td>10</td>
<td>28</td>
<td>10</td>
<td>12</td>
<td>35</td>
<td>96</td>
<td>9.9</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Note: 1. Rates of death are calculated per 100,000 children and young people aged 0–17 years in Queensland.

Table 4.5 shows those deaths which were undetermined or were pending an official cause of death and could not be classified as any of the above research categories.

### Table 4.5: Undetermined cause of death by age group (2005–06)

<table>
<thead>
<tr>
<th>Research category</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Undetermined ≥ 1 year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ill-defined and unknown causes of mortality (R95–R99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Undetermined ≥ 1 year total</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td><strong>Unknown – pending test results</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ill-defined and unknown causes of mortality (R95–R99)</td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pending</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Unknown – pending test results total</strong></td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Note: 1. Rates of death are calculated per 100,000 children and young people aged 0–17 years in Queensland.
Transport incidents were the leading external cause of fatality among all children and young people (41 deaths, 44.1%), followed by drowning (18 deaths, 19.4%). Suicide and other non-intentional injury were the next most common causes, with 15 and 11 deaths respectively.

Gender differences were more pronounced for transport, suicide and other non-intentional injury.

Transport incidents were the most frequent external cause of death for infants under 1 year of age (4 deaths). Drowning accounted for the greatest number of deaths in the 1–4 year age group (15 deaths), while 5–9 year olds most frequently died as a result of transport incidents (5 deaths). Suicide and transport incidents were the leading causes of death for 10–14 year olds (5 deaths each), and the highest number of deaths in the 15–17 year age group was the result of transport incidents (21 deaths).

Sudden unexpected death in infancy

Sudden unexpected death in infancy (SUDI) is defined as the death of an infant less than 1 year of age in which no cause of death is immediately obvious. SUDI is not a cause of death. Rather, a death is classified as a SUDI if, when initially reported (prior to investigation and autopsy), the death was of an infant under 12 months of age, was sudden in nature and unexpected, and occurred after the infant had been placed to sleep. SUDI therefore includes the deaths of infants where a medical cause of death is later established. Deaths due to unrecognised illness, anatomical or developmental abnormalities, sleep accidents due to unsafe sleep environments and deaths later found to be the result of intentional injury are included within the SUDI classification. Also included are deaths due to sudden infant death syndrome (SIDS) and other undetermined or ill-defined causes.

Once coronial findings are completed, a definitive cause of death can be assigned.

Sudden unexpected death in infancy, like external cause deaths, is a reportable death, and is therefore considered as a research category for analysis. As mentioned previously, this is an initial classification – the definitive cause of death is established later. SUDI cases are counted under the research category (or natural cause) that best represents their cause of death. However, these deaths share many similarities and they are grouped together for the purpose of analysis in Chapter 12 of this report.

In the 12-month period examined, the deaths of 36 infants were classified as SUDI. The cause of death for these infants is given in Table 4.6.

Table 4.6: SUDI cases by cause of death (2005–06)

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIDS and other ill-defined causes of mortality</strong></td>
<td></td>
</tr>
<tr>
<td>Sudden infant death syndrome</td>
<td>11</td>
</tr>
<tr>
<td>Undetermined</td>
<td>5</td>
</tr>
<tr>
<td><strong>External causes of non-intentional injury</strong></td>
<td></td>
</tr>
<tr>
<td>Accidental suffocation and strangulation in bed</td>
<td>2</td>
</tr>
<tr>
<td><strong>Natural causes</strong></td>
<td></td>
</tr>
<tr>
<td>Acute bronchiolitis, unspecified</td>
<td>1</td>
</tr>
<tr>
<td>Acute epiglottitis</td>
<td>1</td>
</tr>
<tr>
<td>Anoxic brain damage, not elsewhere classified</td>
<td>1</td>
</tr>
<tr>
<td>Enteroviral encephalitis</td>
<td>1</td>
</tr>
<tr>
<td>Gastro-oesophageal reflux disease without oesophagitis</td>
<td>1</td>
</tr>
<tr>
<td>Myocarditis, unspecified</td>
<td>1</td>
</tr>
<tr>
<td>Otitis media, unspecified</td>
<td>1</td>
</tr>
<tr>
<td>Sepsis of newborn due to Staphylococcus aureus</td>
<td>1</td>
</tr>
<tr>
<td>Streptococcal infection, unspecified</td>
<td>1</td>
</tr>
<tr>
<td>Streptococcal meningitis</td>
<td>1</td>
</tr>
<tr>
<td>Pending test results</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

91 A reportable death is defined by the Coroners Act 2003 as one in which the identity of the person is unknown; a death which was violent or otherwise unnatural; happened in suspicious circumstances; was not a reasonably expected outcome of a health procedure; was a death in care or a death in custody; or a cause of death certificate has not been and is not likely to be issued. Information on reportable deaths is received by the Commission via the Police Report of Death to a Coroner (Form 1).
Sudden infant death syndrome (SIDS) and undetermined causes

During the 12-month period analysed, 11 of the 36 SUDI cases were certified as due to SIDS (0.2 per 1000 live births, 21.3 per 100,000 infants under 1), while 5 children died of undetermined causes (0.1 per 1000 live births, 9.7 per 100,000 infants under 1). Males were more likely to die from SIDS than females, accounting for 63.6% of cases (7 deaths). Studies have consistently shown that males are at a statistically increased risk of SIDS.

Most common causes/categories of death by age group

The five most common causes/categories of death for each age group are illustrated in Tables 4.7 to 4.12. ICD-10 chapter levels are given for natural causes, while external causes are categorised into transport, drowning, suicide, other non-intentional injury-related deaths, fatal assault and fire, as discussed previously. SUDI deaths are not shown here but have been allocated to their respective research categories, based on their ICD-10 chapter levels. Natural causes are further discussed in Chapter 5. Chapters 6 to 12 of this report analyse external causes of death in detail.

Under 28 days

As shown in Table 4.7, conditions originating in the perinatal period (132 deaths, 68.8%) were the most frequent cause of death for infants under the age of 28 days.92 This was followed by congenital malformations, deformations and chromosomal abnormalities, with 47 deaths (24.5%). The cause of death was pending in 3 cases, while infectious diseases; endocrine, nutritional and metabolic diseases; and signs and symptoms not elsewhere classified93 each accounted for 2 deaths. Fatal assault accounted for 1 death in this age group, as did diseases of the circulatory system; diseases of the musculoskeletal system and connective tissue; and diseases of the nervous system.

| Table 4.7: Most common causes of death for infants under 28 days (2005–06) |
|-----------------------------|---|---|---|
| Cause/category of death | n | % | Rate per 1000 live births |
| Certain conditions originating in the perinatal period | 132 | 68.8 | 2.6 |
| Congenital malformations, deformations and chromosomal abnormalities | 47 | 24.5 | 0.9 |
| Cause of death pending | 3 | 1.6 | * |
| Certain infectious and parasitic diseases | 2 | 1.0 | * |
| Endocrine, nutritional and metabolic diseases total | 2 | 1.0 | * |
| Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified total | 2 | 1.0 | * |

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Note: 1. This table does not include all causes of death. Consequently, the percentage column does not add to 100%. The percentage of deaths refers to the proportion of all infants aged less than 28 days who died.

Between 28 and 364 days

Table 4.8 shows that symptoms and findings not elsewhere classified (SIDS and undetermined causes) was the most frequent cause of death in infants between the ages of 28 and 364 days (14 deaths, 19.7%). Ten deaths were the result of perinatal conditions and an additional 10 were still awaiting an official cause of death (14.1%). Congenital malformations/deformations accounted for 8 deaths, and infectious diseases accounted for 5. Four deaths in this age group were the result of transport incidents, and 4 resulted from respiratory diseases. Diseases of the nervous system and drowning accounted for 3 deaths each, while non-intentional injury and neoplasms each accounted for 2 deaths.

92 One of these deaths was the result of an assault on the mother. This death has also been counted in Chapter 11, Fatal Assault.
93 The ICD-10 chapter ‘Signs, symptoms and abnormal clinical and laboratory findings, not elsewhere classified’ incorporates causes of death such as sudden infant death syndrome (SIDS) and other undetermined deaths.
One natural cause death was recorded for each of the following five categories: diseases of the blood, blood-forming organs and certain disorders involving the immune mechanism; diseases of the circulatory system; diseases of the digestive system; diseases of the ear and mastoid process; diseases of the genitourinary system.

Table 4.8: Most common causes of death for infants 28 to 364 days (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>n</th>
<th>%</th>
<th>Rate per 1000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified</td>
<td>14</td>
<td>19.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Certain conditions originating in the perinatal period</td>
<td>10</td>
<td>14.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Cause of death pending</td>
<td>10</td>
<td>14.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Congenital malformations, deformations and chromosomal abnormalities</td>
<td>8</td>
<td>11.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases</td>
<td>5</td>
<td>7.0</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Note: 1. This table does not include all causes of death. Consequently, the percentage column does not add to 100%. The percentage of deaths refers to the proportion of all infants aged between 28 and 364 days who died.

1–4 years

As shown in Table 4.9, the leading cause of death in 1–4 year olds was drowning (15 deaths, 27.3%). This was followed by neoplasms (8 deaths, 14.5%) and transport incidents (6 deaths, 10.9%). Four deaths were the result of a disease of the nervous system, and 3 resulted from infectious or parasitic diseases. Congenital malformations, non-intentional injury and fatal assault also accounted for 3 deaths each. Two deaths were the result of diseases of the respiratory system, and the cause of death was pending for an additional 2 deaths.

One natural cause death occurred in each of the following five categories: certain conditions originating in the perinatal period; diseases of the circulatory system; diseases of the genitourinary system; mental and behavioural disorders; and symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. Fire also accounted for 1 death in this age group.

Table 4.9: Most common causes/categories of death for toddlers 1–4 years (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>n</th>
<th>%</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drowning</td>
<td>15</td>
<td>27.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>8</td>
<td>14.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Transport</td>
<td>6</td>
<td>10.9</td>
<td>3.0</td>
</tr>
<tr>
<td>Diseases of the nervous system</td>
<td>4</td>
<td>7.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases</td>
<td>3</td>
<td>5.5</td>
<td>*</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. This table does not include all causes of death. Consequently, the percentage column does not add to 100%. The percentage of deaths refers to the proportion of all children aged 1–4 years who died.

2. Rates are calculated per 100,000 children aged 1–4 years in Queensland.
5–9 years

Table 4.10 shows that 5–9 year olds were most likely to die of neoplasms in 2005–06 (8 deaths, 23.5%). Five deaths (14.7%) were caused by diseases of the nervous system and transport incidents, while endocrine, nutritional and metabolic diseases accounted for 4 deaths (11.8%). Other non-intentional injury accounted for 3 deaths, and infectious and parasitic diseases were responsible for 1 death.

One natural cause death occurred in each of the following four categories: certain conditions originating in the perinatal period; diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism; diseases of the respiratory system; and symptoms, signs and clinical and laboratory findings, not elsewhere classified. One death was caused by fatal assault, and 1 by fire. The cause of death in 1 case was pending.

Table 4.10: Most common causes/categories of death for children 5–9 years (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>n</th>
<th>%</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoplasms</td>
<td>8</td>
<td>23.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Diseases of the nervous system</td>
<td>5</td>
<td>14.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Transport</td>
<td>5</td>
<td>14.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases</td>
<td>4</td>
<td>11.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Other non-intentional injury</td>
<td>3</td>
<td>8.8</td>
<td>*</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. This table does not include all causes of death. Consequently, the percentage column does not add to 100%. The percentage of deaths refers to the proportion of all children aged 5–9 years who died.
2. Rates are calculated per 100,000 children aged 5–9 years in Queensland.

10–14 years

As can be seen from Table 4.11, suicide and transport incidents were the leading causes of death in 10–14 year olds, accounting for 5 deaths each (16.7%). Three deaths were recorded for diseases of the circulatory system; diseases of the nervous system; endocrine, nutritional and metabolic diseases; and neoplasms.

Two deaths were recorded for each of the 3 categories that follow: certain conditions originating in the perinatal period; congenital malformations, deformations and chromosomal abnormalities; and diseases of the respiratory system. Fatal assault and non-intentional injury also accounted for 1 death each.

Table 4.11: Most common causes/categories of death for children 10–14 years (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>n</th>
<th>%</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide</td>
<td>5</td>
<td>16.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Transport</td>
<td>5</td>
<td>16.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Diseases of the circulatory system</td>
<td>3</td>
<td>10.0</td>
<td>*</td>
</tr>
<tr>
<td>Diseases of the nervous system</td>
<td>3</td>
<td>10.0</td>
<td>*</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases</td>
<td>3</td>
<td>10.0</td>
<td>*</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>3</td>
<td>10.0</td>
<td>*</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. This table does not include all causes of death. Consequently, the percentage column does not add to 100%. The percentage of deaths refers to the proportion of all children aged 10–14 years who died.
2. Rates are calculated per 100,000 children aged 10–14 years in Queensland.

15–17 years

Table 4.12 shows that almost half of the deaths of 15–17 year olds were the result of transport incidents (21 deaths, 47.7%). Suicide was the next leading cause with 10 deaths (22.7%). Endocrine, nutritional and metabolic diseases and neoplasms each accounted for 3 deaths (6.8%), while other non-intentional injury and fatal assault each accounted for 2 deaths.
One death was recorded for each of the following: diseases of the circulatory system; diseases of the digestive system; and diseases of the respiratory system.

Table 4.12: Most common causes/categories of death for children 15–17 years (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
<th>Rate (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>21</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>30</td>
<td>58.8</td>
<td>46.3</td>
</tr>
<tr>
<td>Suicide</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5.9</td>
<td>*</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases</td>
<td>3</td>
<td>6.8</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neoplasms</td>
<td>3</td>
<td>6.8</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other non-intentional injury</td>
<td>2</td>
<td>4.5</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes:
1. This table does not include all causes of death. Consequently, the percentage column does not add to 100%. The percentage of deaths refers to the proportion of all children aged 15–17 years who died.
2. Rates are calculated per 100,000 young people aged 15–17 years in Queensland.

Aboriginal and Torres Strait Islander deaths

Forty-eight of the 426 children and young people who died in the reporting period were identified as Aboriginal or Torres Strait Islander; 42 were identified as Aboriginal, 4 as Torres Strait Islander and 2 as both Aboriginal and Torres Strait Islander. Over 11% of all deaths during this period were of Indigenous children.

In a further 3 cases the Police Report of Death to a Coroner (Form 1) indicated that the children were Indigenous (2 Aboriginal and 1 Torres Strait Islander). This brings the percentage of Indigenous child deaths to 12.0% of all child deaths.

Table 4.13 outlines the causes of death by age group for the total 51 children and young people identified as Aboriginal and/or Torres Strait Islander. Of the Indigenous children who died during the reporting period, the greatest proportion were under 28 days of age (21 deaths, 41.2%). In comparison, 45.2% (171 deaths) of the non-Indigenous children who died in the same period were in this age group. The second-highest number of Indigenous child deaths occurred among children between 28 and 364 days, accounting for 14 deaths (27.5%).

Table 4.13: Aboriginal and Torres Strait Islander child deaths by cause of death and age group (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural causes</td>
<td>20</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>30</td>
<td>58.8</td>
<td>46.3</td>
</tr>
<tr>
<td>SIDS and undetermined causes</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5.9</td>
<td>*</td>
</tr>
<tr>
<td>Research category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>11.8</td>
<td>9.3</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5.9</td>
<td>*</td>
</tr>
<tr>
<td>Drowning</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5.9</td>
<td>*</td>
</tr>
<tr>
<td>Other non-intentional injury</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2.0</td>
<td>*</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.0</td>
<td>*</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>14</td>
<td>27.5</td>
<td>21.6</td>
</tr>
<tr>
<td>Cause of death pending</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>7.8</td>
<td>*</td>
</tr>
<tr>
<td>Grand total</td>
<td>21</td>
<td>14</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>51</td>
<td>100.0</td>
<td>78.7</td>
</tr>
</tbody>
</table>

Data Source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes:
1. Rates are calculated per 100,000 Indigenous children and young people aged 0–17 years in Queensland.
2. Rates for SIDS and undetermined causes are calculated per 100,000 Indigenous children under the age of 1 in Queensland.
Causes of death for non-Indigenous children are given in Table 4.14.

**Table 4.14: Non-Indigenous child deaths by cause of death and age group (2005–06)**

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Under 28 days</th>
<th>Between 28 and 364 days</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Total %</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>166</td>
<td>31</td>
<td>22</td>
<td>22</td>
<td>9</td>
<td>9</td>
<td>266</td>
<td>70.9</td>
<td>29.3</td>
</tr>
<tr>
<td>SIDS and undetermined causes</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>3.5</td>
<td>26.9</td>
</tr>
<tr>
<td>Research categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>21</td>
<td>35</td>
<td>9.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Drowning</td>
<td>0</td>
<td>2</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>4.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>26</td>
<td>3.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Other non-intentional injury</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>2.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>24</td>
<td>4.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.3</td>
<td>*</td>
</tr>
<tr>
<td>Subtotal of research categories</td>
<td>1</td>
<td>7</td>
<td>24</td>
<td>7</td>
<td>10</td>
<td>33</td>
<td>82</td>
<td>21.9</td>
<td>9.0</td>
</tr>
<tr>
<td>Undetermined ≥ 1 year</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.3</td>
<td>*</td>
</tr>
<tr>
<td>Pending</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>13</td>
<td>3.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td>57</td>
<td>49</td>
<td>30</td>
<td>26</td>
<td>42</td>
<td>375</td>
<td>100.0</td>
<td>41.3</td>
</tr>
</tbody>
</table>

* Data source: Queensland Child Death Register (2005–06)
* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates are calculated per 100,000 non-Indigenous children and young people aged 0–17 years in Queensland.
2. Rates for SIDS and undetermined causes are calculated per 100,000 non-Indigenous children under the age of 1 in Queensland.

Indigenous children died at a higher rate than non-Indigenous children for all causes of death. While non-Indigenous children died at a rate of 41.3 per 100,000 non-Indigenous children and young people aged 0–17 years, Indigenous children died at a rate of 78.7 per 100,000 Indigenous children.

**Natural causes**

58.8% of Aboriginal and Torres Strait Islander child deaths were due to natural causes (30 deaths). In contrast, natural causes accounted for 70.9% of non-Indigenous child deaths. Indigenous children were, however, more likely to die from natural causes than non-Indigenous children, with a rate of death of 46.3 per 100,000 Indigenous children 0–17 years, compared with 29.3 per 100,000 for non-Indigenous children.

Conditions originating in the perinatal period were the most common natural cause of death for both Indigenous and non-Indigenous children, with 17 and 130 deaths respectively. This was followed by congenital malformations, deformations and chromosomal abnormalities, with 3 Indigenous child deaths and 57 non-Indigenous child deaths.

**External causes**

Fourteen Aboriginal and Torres Strait Islander children died from external causes during the reporting period (27.5% of Indigenous child deaths). External causes accounted for 21.9% of non-Indigenous child deaths (82 deaths). External cause deaths occurred at a higher rate in Indigenous children (21.6 per 100,000 children, compared with 9.0 per 100,000 for non-Indigenous children).
Transport incidents were the leading external cause of death for both Indigenous and non-Indigenous children (6 and 35 deaths respectively). Suicide and drowning were the next most common external cause of death in Indigenous children (3 deaths each). Similar patterns emerged for non-Indigenous children, with drowning accounting for 15 deaths, and suicide 12 deaths.

**Sudden unexpected death in infancy (SUDI)**

Of the 12 Aboriginal and Torres Strait Islander child deaths classified as SUDI, 1 was later certified as being a result of SIDS, while 2 were undetermined. A further 3 cases are pending test results. Because of the low numbers of Indigenous infant deaths due to SIDS and undetermined causes, rates were not able to be calculated, and therefore cannot be compared with the number of non-Indigenous SIDS deaths. The remaining 6 cases were classified as diseases of the nervous system (1 death); diseases of the respiratory system (2 deaths); diseases of the digestive system (1 death); certain conditions originating in the perinatal period (1 death); and diseases of the ear and mastoid process (1 death).

These figures are given in Table 4.15.

**Table 4.15: Region of child deaths by research category (2005–06)**

<table>
<thead>
<tr>
<th>Research category</th>
<th>Metropolitan</th>
<th>Regional</th>
<th>Remote</th>
<th>N/A</th>
<th>Grand total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Per 100,000</td>
<td>n</td>
<td>Per 100,000</td>
<td>n</td>
</tr>
<tr>
<td>Natural</td>
<td>185</td>
<td>34.5</td>
<td>91</td>
<td>24.2</td>
<td>13</td>
</tr>
<tr>
<td>SIDS and undetermined</td>
<td>8</td>
<td>27.2</td>
<td>8</td>
<td>42.4</td>
<td>0</td>
</tr>
<tr>
<td>Transport</td>
<td>11</td>
<td>2.1</td>
<td>21</td>
<td>5.6</td>
<td>6</td>
</tr>
<tr>
<td>Drowning</td>
<td>10</td>
<td>1.9</td>
<td>6</td>
<td>1.6</td>
<td>2</td>
</tr>
<tr>
<td>Suicide</td>
<td>5</td>
<td>0.9</td>
<td>8</td>
<td>2.1</td>
<td>2</td>
</tr>
<tr>
<td>Other non-intentional injury</td>
<td>5</td>
<td>0.9</td>
<td>3</td>
<td>*</td>
<td>2</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>3</td>
<td>*</td>
<td>5</td>
<td>1.3</td>
<td>1</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>*</td>
<td>1</td>
<td>*</td>
<td>1</td>
</tr>
<tr>
<td>Subtotal research category</td>
<td>34</td>
<td>6.3</td>
<td>44</td>
<td>11.7</td>
<td>14</td>
</tr>
<tr>
<td>Undetermined ≥ 1 year</td>
<td>1</td>
<td>*</td>
<td>0</td>
<td>*</td>
<td>0</td>
</tr>
<tr>
<td>Pending</td>
<td>10</td>
<td>1.9</td>
<td>4</td>
<td>1.1</td>
<td>3</td>
</tr>
<tr>
<td>Grand total</td>
<td>238</td>
<td>44.4</td>
<td>147</td>
<td>39.1</td>
<td>30</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Eleven children were not classified as their usual residence was outside Queensland. For further details, see Appendix 4.1.
2. Rates are calculated per 100,000 children and young people aged 0–17 years in metropolitan, regional and remote areas of Queensland.
3. The rate of death for SIDS and undetermined causes is calculated per 100,000 children under 1 year living in regional, metropolitan and remote areas of Queensland.

**Geographical distribution (ARIA+)**

The greatest rate of child death was found in remote areas of Queensland, with 49.4 per 100,000 children aged 0–17 living in remote areas (30 deaths). Metropolitan regions recorded the next highest rate of child death (44.4 deaths per 100,000 children in metropolitan areas, 238 deaths). Regional areas had the lowest rate of child death at 39.1 per 100,000 children living in regional areas (147 deaths).

Natural cause deaths occurred with the greatest frequency in metropolitan areas (34.5 per 100,000 children), compared with regional and remote areas with 24.2 and 21.4 per 100,000 children respectively. External cause deaths were more frequent in remote areas (a rate of 23.1 per 100,000), compared with 11.7 per 100,000 in regional areas and 6.3 per 100,000 in metropolitan areas. Transport deaths were the most common external cause in all areas.

Rates of death from SIDS and undetermined causes were higher in regional areas than metropolitan areas (remote areas did not record any SIDS deaths).
Figure 4.1 illustrates the breakdown for each region by gender.

**Figure 4.1: Region of child deaths by gender (2005–06)**

**Geographical distribution**

Data source: Queensland Child Death Register (2005–06)

Notes: 1. Eleven children were not classified as their usual residence was outside Queensland. For further details, see Appendix 4.1.
2. Represents the actual number of child deaths, not rates.

Queensland was not the usual place of residence for 11 of the 426 children and young people who died in Queensland during the 12-month period examined. See Appendix 4.1 for further details.

**Socio-economic status (SEIFA)**

As outlined in Table 4.16, children living in higher socio-economic regions recorded the highest rate of child deaths (45.1 deaths per 100,000 children aged 0–17 living in high to very high socio-economic areas of Queensland, 165 deaths). However, this rate was only marginally higher than that found in low to very low socio-economic areas (44.5 per 100,000 children living in low socio-economic areas, 179 deaths). Moderate socio-economic areas recorded the lowest rate of child death at 34.4 per 100,000 children (71 deaths).

Natural cause deaths were more common in high to very high areas (35.8 per 100,000 children, compared with 28.9 per 100,000 in low areas and 20.4 per 100,000 in moderate areas). External cause deaths, however, were more common in low and moderate socio-economic areas, with 11.7 and 11.6 deaths per 100,000 children respectively. Transport deaths were the leading external cause in all areas. The next most common external cause was suicide in low areas, and drowning in moderate and high socio-economic areas.

Low socio-economic areas had a higher rate of SIDS and undetermined infant deaths than high areas, with 39.1 per 100,000 in low areas, compared with 29.7 per 100,000 in high areas (rates were not able to be calculated for SIDS deaths in moderate areas because of the low numbers of deaths).
94 Source: Qld Child Death Register – caution needs to be exercised in relation to the interpretation of Table 4.17 because of the relatively small numbers involved. The numbers may also differ slightly from those of the Child Death Case Review Committee's Annual Report 2005–06, as the Committee reports on deaths that occurred in the financial year where children are known to the DChS, while the Child Death Annual Report 2005–06 reports on deaths that are registered in Queensland with the Registry of Births, Deaths and Marriages each financial year.
The CDCRC reviewed 15 of the deaths that were registered in Queensland in the 2005-06 reporting period. The remaining cases will be reviewed by CDCRC in 2006–07.

Twenty-six of the 48 children were male (54.2%) and 22 were female (45.8%). Twelve of these children were Aboriginal or Torres Strait Islander (25.0%).

Table 4.17 outlines the cause of death by age group for children known to the Department.

Table 4.17: Cause of death of children known to the DChS by age group (2005–06)

<table>
<thead>
<tr>
<th>Cause/category of death</th>
<th>Under 1 year</th>
<th>1–4 years</th>
<th>5–9 years</th>
<th>10–14 years</th>
<th>15–17 years</th>
<th>Total n</th>
<th>Rate per 100,000 in child protection population</th>
<th>Rate per 100,000 all Queensland children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>23(^{95})</td>
<td>38.1</td>
<td>32.4</td>
</tr>
<tr>
<td>Research category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>13.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Fatal assault</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>9.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Suicide</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>13</td>
<td>8.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Drowning</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>6.6</td>
<td>1.8</td>
</tr>
<tr>
<td>Other non-intentional injury related</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Subtotal research categories</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>23</td>
<td>38.1</td>
<td>9.9</td>
</tr>
<tr>
<td>Pending</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>*</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>7</td>
<td>48</td>
<td>79.6</td>
<td>43.8</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates are based on the number of distinct children with notifications with the DChS for the 3-year period between 1 July 2002 and 30 June 2005.
2. Natural represents all deaths from diseases and morbid conditions, including deaths from SIDS and undetermined causes.

Of the children known to the DChS in the 3 years before their death, 47.9% died as a result of natural, SIDS and undetermined causes, while 16.6% died in transport-related incidents; 12.5% died as a result of fatal assault, 10.4% were suspected suicides and 8.3% died due to drowning.

Children known to the Department are an at-risk cohort and were over-represented across all causes of death, with a rate of 79.6 deaths per 100,000 children in the child protection population, compared with 43.8 deaths per 100,000 for all Queensland children.\(^{96}\)

Specifically:
- Children known to the DChS were 11 times more likely to have been fatally assaulted than all Queensland children, with 9.9 deaths per 100,000 children in the child protection population compared with 0.9 deaths per 100,000 Queensland children.
- Children known to the DChS were 5.5 times more likely to suicide, with 8.3 deaths per 100,000 children in the child protection population compared with 1.5 deaths per 100,000 Queensland children (23.3 suicides per 100,000)\(^{96}\)

\(^{95}\) One foetal death coded as per ICD-10 as due to a disease or morbid condition occurred in the context of an assault on the child’s mother. For research purposes this has been analysed as a fatal assault in this table.

\(^{96}\) Caution must be exercised 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 findings when working with small numbers.
Children in the child protection population aged 10–17 years, compared with 3.3 suicides for children 10–17 years per 100,000 Queensland children

- Children known to the DChS were 3.6 times more likely to have drowned, with 6.6 deaths per 100,000 children in the child protection population compared with 1.8 deaths per 100,000 Queensland children (19.9 drowning deaths per 100,000 children in the child protection population aged 0–4 years, compared with 7.1 drownings for children 0–4 years per 100,000 Queensland children), and
- Children known to DChS were 3.2 times more likely to die in a transport incident, with 13.3 deaths per 100,000 children in the child protection population compared with 4.2 deaths per 100,000 Queensland children.

**The Department of Child Safety’s Child Death Reviews**

The Commission has identified a further 4 cases through the Police Report of Death to a Coroner (Form 1) and/or the Commission’s records indicating a history of departmental involvement with the deceased child’s siblings only. In 2 cases the cause of death falls into the ‘natural’ research category, while 1 was a ‘drowning’. One cause of death has been analysed as a ‘sudden unexplained infant death’ as the coronial findings have not been finalised and the cause is not immediately obvious.

These cases have not been subject to a statutory review because the deceased children, although in high-risk families, were not technically known to the DChS.

### Case study 1

The deceased infant (aged less than 1 month) had been co-sleeping with a sibling and their parent. The infant’s parent asked the eldest sibling to watch the younger two for a short time (5–10 minutes) while she showered. The eldest sibling noticed that the infant was purple in colour, with blood coming from the nose.

A domestic violence order was put in place before the birth of the child. The other siblings had been the subject of a number of notifications over the previous 4 years. Emotional and physical abuse notifications were substantiated 2 years previously, but sexual abuse allegations were not. The mother was identified by a health service as being at ‘high risk’ at the birth of the infant because of domestic violence, maternal and/or financial problems.

Coronial findings indicate the cause of death as being due to natural causes.

This case was not subject to a statutory review by the DChS (or the CDCRC).

In the 4 cases identified, as there was no DChS contact recorded with the deceased child in question, the Department’s involvement with the child’s family was not required to be the subject of review in accordance with Chapter 7A of the *Child Protection Act 1999*.

It is unlikely that these 4 cases represent an exhaustive list, as the Commission is only able to identify such cases where DChS involvement with the deceased child’s family is detailed on the Police Report of Death to a Coroner (Form 1), or when the Commission’s datasets reveal that that a child’s siblings were ‘in care’ or the subject of a complaint.

The Commission has identified the following 3 scenarios where the sibling/s of a deceased child may be the subject of DChS involvement without the deceased child actually being recorded on departmental systems.

### Scenario 1: failure to identify and/or record the deceased child as a subject child

*The deceased child was alive at the time a notification concerning the child’s sibling/s was received. However, because of a lack of effective information gathering and/or record-keeping, the deceased child was not identified and/or recorded as a subject child.*

97 In addition to these 4, there is 1 other case that has been identified. In this instance the death has not been registered by the family. The Commission is working with the Registry of Births, Deaths and Marriages in relation to the registration of this death and the DChS in relation to the review of this death. Refer to Chapter 2, ‘Methodology’, for further information.
Part 2.17 (Investigation and assessment outcomes) of the Child Safety Practice Manual requires that “any additional children [not originally recorded as subject children in the notification] identified as being harmed or at risk of harm during the investigation and assessment should be added as subject children to the ‘relevant persons table’ of the investigation and assessment document and assessed accordingly”.98

The quality of the decisions made during the intake and investigation and assessment phases is affected by the quality of information gathered by the Child Safety Officer (CSO) about the child, the child’s family and the child protection concerns. Every effort must be made to gather accurate information about the subject children and other relevant persons, including given names, surnames, aliases, nicknames, ages and dates of birth, gender, cultural identity, addresses and relationships.

Scenario 2: failure to identify risk to an unborn child

The deceased child was an unborn child during a period of active DChS involvement with the child’s mother or siblings, but because of a practice error the child was not recorded as being at risk of harm after s/he was born.

Case study 2

The deceased (aged less than 1 year) and the child’s toddler sibling had been placed in a running shower and left unattended. A parent returned after a brief period and found clothes and toys covering the bottom of the bath, with the infant lying face down in about 10 cm of water. The sibling was playing with the toys in the bath.

In this case there had been a number of notifications regarding physical and emotional abuse and neglect of the toddler sibling, and on one occasion the mother was charged with assaulting the sibling. The mother was approximately 7 months pregnant at the time of the most recent notification on the deceased child’s toddler sibling.

Part 10 (Unborn children) of the Child Safety Practice Manual states that concerns about an unborn child who is reasonably suspected to be at risk of harm after he or she is born, because of the current behaviour or circumstances of the parent, should be screened in as a notification.

Section 246A(2) of the Child Protection Act 1999 also requires that a review be conducted if ‘the child was born and before the child was born the chief executive reasonably suspected that the child might be in need of protection after he or she was born’.

If child protection concerns co-exist in a family at a time when the mother is known to be pregnant, then the environment of the pregnant woman could indicate future risk for the child. Departmental officers should be aware of and document this risk.99

Scenario 3: the deceased child’s siblings were known to the Department before the deceased child’s birth or conception

The deceased child was the sibling of a child who (before the deceased child’s birth or conception) was the subject of DChS involvement.

In scenarios 1 and 2 there appears to be an existing requirement for a review of DChS involvement with the deceased child’s family under Chapter 7A of the Child Protection Act 1999. This is because the child was not recorded as a subject child as the result of administrative/practice issues, not because the Department was ‘unaware’ of the child protection concerns existing in the deceased child’s family. As the focus of the review is on the appropriateness of departmental involvement with a child and their family (as opposed to the cause of the child’s death), a failure to identify or record the deceased child as a subject constitutes a case practice issue that warrants examination.

98 Part 2.17 (Information requirements) similarly requires that “during an investigation and assessment, the CSO check the details of the subject children and other relevant persons provided by the notifier with the children and family to ensure that departmental records are accurate and kept up-to-date. Where information received is not correct, the CSO is responsible for ensuring that client profiles are amended and updated.”

99 With respect to unborn children, child death case reviews are not undertaken where a child is stillborn or the pregnancy is miscarried.
Therefore, in accordance with Part 14.1 (Child death case reviews) of the Child Safety Practice Manual, an external review may need to be conducted in these cases. However, the Commission is of the view that the Practice Manual could benefit from clarification of the jurisdiction in this regard.

For cases that fall within the scope of scenario 3, as there was no current departmental involvement with the family/deceased child, such cases are not currently required to be the subject of review. However, the DChS may wish to consider extending its current practice to require reviews of its involvement in such circumstances, with a view to:

- identifying risk factors to inform future practice
- identifying potential points of intervention to inform future practice, and
- determining criteria for reassessment of family circumstances and support needs, particularly where further siblings are born.

From the information available to the Commission, it is possible that some of the cases identified in the 2005–06 reporting period involved ongoing child protection concerns (rather than an isolated incident), and that the very young age of the children may offer a partial explanation of why they had not come to the attention of the DChS. Moreover, in the 2004–05 financial year, notifications on infants (aged less than 1 year) accounted for only 8% of the total notifications, although this age group is identified as at the greatest risk of death or serious injury from abuse. In Australia the rate is 2.68 deaths per 100,000 population in this age group. For females, this is the highest rate across the entire life-course spectrum. (The risk to infants comes predominantly from their physical vulnerability – so violent acts are more likely to have fatal outcomes.)

Therefore, there may be the potential for organisational learning to be generated through an examination of cases where a deceased child’s sibling/s were known to the Department (this could be achieved through an administrative process, such as amending the scope of child death reviews in the DChS Practice Manual). However, regardless of the approach, it is likely that there would be an issue in relation to the DChS learning that the deaths have occurred, and the Commission would be able to help in this regard.

In a Ministerial Statement of 11 May 2004, the Honourable Mike Reynolds MP, Minister for Child Safety stated that DChS child death inquiries were to “apply to a very wide range of children”, including cases where “just one phone call has been made to the department”. In the second reading of the Child Safety Legislation Amendment Bill (16 June 2004) he further stated that the amendments which legislated DChS death review requirements and the role and functions of the CDCRC would ensure that “the Department of Child Safety and the system of child safety and child protection that we have in Queensland [is] as open, as transparent, and as accountable as we possibly can make it”.

The Commission considers that there is scope for DChS reviews to include deceased children whose siblings were the subject of departmental involvement. This would accord with the Minister for Child Safety’s intention “to have a very high standard of accountability, transparency and openness”.

Precedents for reviews of cases where a deceased child’s siblings have had recent involvement with child protective services have been established in other Australian jurisdictions and internationally.

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100 External reviews should be undertaken when “it is apparent that there are specific issues regarding the management of the case that require particular scrutiny with a view to informing departmental policy and practice”. In addition to reading of all case documentation, preparing a chronology of departmental involvement with the child, detailing and analysing departmental responses to the issues of the case and identifying any policy, procedural or practice gaps, external reviews involve interviewing current departmental staff and ex-departmental officers and staff from other entities as appropriate.

101 In the 4 cases identified in the 2005–06 reporting period, the deceased child was aged 1 year or less, and in 3 of the 4 cases the deceased was a very young infant.

102 Notifications on children in the 1–4 year age group accounted for 25% of the total notifications, the 5–9 year age group for 31% and the 10–14 year age group 28%. Source: Department of Child Safety, Child Protection Queensland: 2004–05 Performance Report.
New South Wales

Under Part 6 of the Community Services (Complaints, Reviews and Monitoring) Act 1993 the Ombudsman is required to monitor, review and formulate recommendations in relation to deaths of certain children, including a child who died within 3 years of being the subject of a risk of harm report to the Department of Community Services or was a sibling of such a child.¹⁰³

South Australia

Under Part 7C of the Children’s Protection Act 1993, the Child Death and Serious Injury Review Committee should review certain cases of child death or serious injury, including cases where there had been, within 3 years before the incident resulting in the death or serious injury, a notification to the Department of Families and Communities of suspected abuse or neglect of the child or a member of the child’s family.

Tasmania

Child and Family Services (a division of the Department of Health and Human Services) must conduct a Critical Case Review when a child or young person dies from possible abuse or neglect and there is current or recent involvement by Child and Family Services with the child, young person or any of his or her siblings over the previous 12-month period.¹⁰⁴

Internationally

There are similar child death review processes in many Canadian provinces/territories. In Manitoba, for example, if parents, siblings or a deceased child received services from a child welfare agency 2 years before a child’s death, the case is reviewed.

Recommendation 3

The Commission recommends that the Department of Child Safety review the Child Safety Practice Manual with a view to clarifying the application of the child death review requirements in relation to the deaths of siblings of children who were known to the Department within the previous 3 years.

Part II: Deaths from diseases and morbid conditions

Chapter 5

This section provides details of child deaths from diseases and morbid conditions, ranging from congenital abnormalities and perinatal conditions through to cancer and infections.
Chapter 5
Deaths due to diseases and morbid conditions

Between 1 July 2005 and 30 June 2006, 315 children and young people died from diseases and morbid conditions in Queensland, representing 74.0% of all child deaths and a rate of 32.4 deaths per 100,000 children and young people aged from birth to 17 years.

Key issues

- Children in the first year of life are significantly more likely to die from diseases and morbid conditions than any other age group.
- Indigenous infants die at a higher rate than non-Indigenous infants due to diseases and morbid conditions. Indigenous infants died at a rate of 820.3 per 100,000 Indigenous children under 1, compared with 439.4 per 100,000 non-Indigenous children under 1.
- Two-thirds of the children who died from infections were living in low or very low socio-economic areas.
- The leading causes of deaths from diseases and morbid conditions in 2005–06 remain the same as those seen in the 2004–05 12-month period: certain conditions originating in the perinatal period; congenital malformations, deformations and chromosomal abnormalities; neoplasms; and symptoms, signs and abnormal and clinical and laboratory findings, not elsewhere classified.

Diseases and morbid conditions: trends and patterns, 2005–06

Table 5.1 shows the causes of all child deaths from diseases and morbid conditions broken down by ICD-10\textsuperscript{105} chapter level classifications and gender.

Table 5.1: Deaths due to diseases and morbid conditions by ICD-10 chapter level classification and gender

<table>
<thead>
<tr>
<th>Diseases and morbid conditions ICD-10 chapter descriptions</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain conditions originating in the perinatal period (P00–P96)</td>
<td>62</td>
<td>85</td>
<td>147</td>
<td>46.7%</td>
</tr>
<tr>
<td>Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)</td>
<td>18</td>
<td>42</td>
<td>60</td>
<td>19.0%</td>
</tr>
<tr>
<td>Neoplasms (C00-D48)</td>
<td>10</td>
<td>14</td>
<td>24</td>
<td>7.6%</td>
</tr>
<tr>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)</td>
<td>8</td>
<td>10</td>
<td>18</td>
<td>5.7%</td>
</tr>
<tr>
<td>Diseases of the nervous system (G00–G99)</td>
<td>3</td>
<td>13</td>
<td>16</td>
<td>5.1%</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases (A00–B99)</td>
<td>3</td>
<td>9</td>
<td>12</td>
<td>3.8%</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases (E00–E90)</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>3.8%</td>
</tr>
<tr>
<td>Diseases of the respiratory system (J00–J99)</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>3.2%</td>
</tr>
<tr>
<td>Diseases of the circulatory system (I00–I99)</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>2.2%</td>
</tr>
<tr>
<td>Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Diseases of the digestive system (K00–K93)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

\textsuperscript{105} ICD-10 was developed by the World Health Organisation and is designed to promote international comparability in the collection, processing, classification and presentation of morbidity and mortality statistics.
Table 5.1 (cont.): Deaths due to diseases and morbid conditions by ICD-10 chapter level classification and gender

<table>
<thead>
<tr>
<th>Diseases and morbid conditions ICD-10 chapter descriptions</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diseases of the genitourinary system (N00–N99)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Mental and behavioural disorders (F00–F09)</td>
<td>1</td>
<td></td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Diseases of the ear and mastoid process (H60–H95)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Diseases of the musculoskeletal system and connective tissue M00–M99)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Disease of the eye and adnexa (H00–H59)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Diseases of the skin and subcutaneous tissue (L00–L99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Pregnancy, childbirth and the puerperium (O00–O08)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**Total number of deaths from diseases and morbid conditions**: 121 194 315 100.0%

Data source: Queensland Child Death Register (2005–06)

The main causes of mortality from diseases and morbid conditions were conditions originating in the perinatal period (147 deaths, 46.7%) and congenital malformations, deformations and chromosomal abnormalities (60 deaths, 19.0%). These were followed by neoplasms (24 deaths, 7.6%) and symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (18 deaths, 5.7%). All deaths from symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified were due to sudden infant death syndrome (SIDS) and undetermined causes. Deaths of children from SIDS and undetermined causes are discussed in detail in Chapter 12, ‘Sudden Unexpected Deaths in Infancy’.

**Gender**

Of the 315 children who died, 194 were males (61.6%) and 121 were females (38.4%). Male children were significantly more likely to die from diseases and morbid conditions than females, with a rate of 38.8 deaths per 100,000 male children and young people aged birth to 17 years, compared with 25.5 deaths per 100,000 female children in the same age range.

These considerable gender differences in child death rates reflect the fact that males in developed countries today have higher mortality than females in every age group and for most causes of death. Research indicates that males are more vulnerable than females to mortality, although the causes of this genetic-biological vulnerability are not well understood (Waldron 1983:321).

**Age**

Figure 5.1 shows the proportion of deaths due to diseases and morbid conditions for each age category.

![Figure 5.1: Proportion of deaths due to diseases and morbid conditions by age](image)

Data source: Queensland Child Death Register (2005–06)

**Infants under 1 year**

Children were significantly more likely to die from diseases and morbid conditions in the first year of life than in any other age group, with infants under 1 year accounting for 76.2% of deaths due to diseases and morbid conditions (240 deaths), a rate of 464.5 deaths per 100,000 infants (4.6 deaths per 1000 live births).
Infant deaths are divided into neonatal and postneonatal periods. Neonatal deaths are those that occur in the first 28 days after birth (0–27 days), while postneonatal deaths occur during the remainder of the first year (28–364 days). The numbers of deaths from diseases and morbid conditions decrease significantly with the increasing age of the infants.

Table 5.2 shows the age and cause of infant deaths. In the reporting period, 54.6% of all deaths from diseases and morbid conditions occurred on the day of birth and a further 14.6% had occurred by the end of the first week. In total, 78.8% of infant deaths occurred in the neonatal period, a rate of 3.7 neonatal deaths per 1000 live births. The remaining 21.2% of infant deaths occurred in the postneonatal period.

The vast majority of infants in the neonatal period died because of conditions originating in the perinatal period (133 deaths, 70.4% of neonatal deaths), followed by congenital malformations, deformations and chromosomal abnormalities (47 deaths, 24.9%). Although accounting for only 1.1% of neonatal deaths (2 deaths), SIDS and undetermined causes (symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified) was the equal third most common cause of death in the neonatal period.

The neonatal mortality rate is seen as a reflection of the quality of access to hospital-based medical services such as obstetric care and neonatal intensive care. Determinants include low birth weight, genetic defects and lack of access to adequate antenatal and obstetric services (Lin 2006:2141).

Fifty-one infants died from diseases and morbid conditions in the postneonatal period, a rate of 1.0 deaths per 1000 live births. In the postneonatal period, SIDS and undetermined causes (symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified) was the leading cause of death from diseases and morbid conditions, accounting for 14 deaths (27.5% of postneonatal deaths). The numbers of deaths become more evenly distributed in the postneonatal period, with conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities accounting for 19.6% (10 deaths) and 15.7% (8 deaths) of postneonatal deaths respectively.

The postneonatal mortality rate mainly reflects the availability and quality of primary health care and paediatric care within the community. It is affected by external factors such as a poor environment, insufficient nutrition and infectious diseases. (Lin 2006:2141).
Table 5.2: Age and cause of infant deaths

<table>
<thead>
<tr>
<th>Cause of death (ICD-10 chapter)</th>
<th>Neonatal (age in days)</th>
<th>Neonatal (total)</th>
<th>Postneonatal (age in months)</th>
<th>Postneonatal (total)</th>
<th>Total Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;1</td>
<td>1-6</td>
<td>7-27</td>
<td>1*</td>
<td>2</td>
</tr>
<tr>
<td>Certain conditions originating in the perinatal period (P00–P96)</td>
<td>95</td>
<td>27</td>
<td>11</td>
<td>133</td>
<td>3</td>
</tr>
<tr>
<td>Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)</td>
<td>35</td>
<td>5</td>
<td>7</td>
<td>47</td>
<td>1</td>
</tr>
<tr>
<td>Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99)</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases (A00–B99)</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Diseases of the nervous system (G00–G99)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Diseases of the respiratory system (J00–J99)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Neoplasms (C00–D48)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases (E00–E90)</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Diseases of the circulatory system (I00–I99)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other**</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>131</td>
<td>35</td>
<td>23</td>
<td>189</td>
<td>13</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* 28 days to 2 months.
** Includes diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50–D89), diseases of the ear and mastoid process (H60–H95), diseases of the digestive system (K00–K93), diseases of the musculoskeletal system and connective tissue (M00–M99) and diseases of the genitourinary system (N00–N99).
1–4 year olds

As demonstrated in Figure 5.1, there is an inverse relationship between children’s age and deaths due to diseases and morbid conditions. That is, the likelihood of children dying from diseases and morbid conditions decreases with increasing age.

Children aged between 1 and 4 years accounted for the second-largest number of deaths due to diseases and morbid conditions, with 25 deaths (7.9% of all deaths from diseases and morbid conditions), a rate of 12.4 deaths per 100,000 children aged between 1 and 4 years.

The three leading causes of death in this age group were neoplasms (8 deaths, 32.0% of deaths due to diseases and morbid conditions in this age group), followed by diseases of the nervous system (4 deaths, 16.0%) and infectious diseases (3 deaths, 12.0%). Twenty-five percent of deaths due to diseases of the central nervous system were the result of infection. All child deaths due to infection are discussed in detail below.

5–9 year olds

Children aged between 5 and 9 years accounted for the third-largest number of deaths due to diseases and morbid conditions, with 23 deaths (7.3% of all deaths from diseases and morbid conditions), a rate of 8.6 deaths per 100,000 children aged between 5 and 9 years.

The three leading causes of death in this age group were neoplasms (8 deaths, 34.8% of deaths due to diseases and morbid conditions in this age group), followed by diseases of the nervous system (5 deaths, 21.7%) and endocrine, nutritional and metabolic diseases (4 deaths, 17.4%).

10–14 year olds

Children aged between 10 and 14 years accounted for 5.7% of deaths due to diseases and morbid conditions (18 deaths), a rate of 6.3 deaths per 100,000 children aged 10–14 years.

Neoplasms; endocrine, nutritional and metabolic diseases; diseases of the nervous system; and diseases of the circulatory system were the leading causes of death in this age group (3 deaths, 16.7% each). Diseases of the respiratory system, certain conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities were the next most common causes of death among children aged between 10 and 14 years (2 deaths, 11.1% each).

15–17 year olds

Children aged between 15 and 17 years were the least likely to die from diseases and morbid conditions, with 9 deaths (2.9% of all deaths from diseases and morbid conditions), a rate of 5.4 deaths per 100,000 children aged 15–17 years.

The leading causes of death in this age group were neoplasms and endocrine, nutritional and metabolic diseases (3 deaths, 33.3% each), followed by diseases of the circulatory system, diseases of the respiratory system and diseases of the digestive system (1 death, 11.1% each).

Indigenous status

In the reporting period, 30 Indigenous children and young people (25 Aboriginals, 4 Torres Strait Islanders and 1 both Aboriginal and Torres Strait Islander)106 died from diseases and morbid conditions, a rate of 46.3 deaths per 100,000 Indigenous children aged birth to 17 years in Queensland (compared with 31.4 deaths per 100,000 non-Indigenous children in the same age range).

Twenty-eight of the 30 Aboriginal and Torres Strait Islander child deaths from diseases and morbid conditions were infants, accounting for 93.3% of all Indigenous child deaths (compared with 74.4% percent for non-Indigenous infants). Significantly, of the 28 Aboriginal and Torres Strait Islander infants who died of diseases and morbid conditions, 25.0% (7 deaths) occurred in the post-neonatal period, compared with 20.8% (44 deaths) for non-Indigenous infants.

106 One additional Indigenous death occurred in this period but has not been accounted for in this chapter as the death had not been registered with the Registry of Births, Deaths and Marriages (refer to Chapter 2).
Geographical distribution (ARIA+)

Of the 315 children who died from diseases and morbid conditions, 194 were living in metropolitan areas (61.6%), 101 in regional areas (32.1%) and 13 in remote Queensland (4.1%).

The rate of child deaths from diseases and morbid conditions was highest in metropolitan areas, with 36.2 deaths per 100,000 children aged birth to 17 years living in metropolitan areas, followed by regional areas, with 26.8 deaths per 100,000 children. Children living in remote areas had the lowest rates of death from diseases and morbid conditions, with 21.4 deaths per 100,000 children.

Seven children and young people who died from diseases and morbid conditions normally resided in an Australian jurisdiction other than Queensland (6 normally resided in New South Wales and 1 in Victoria). (Appendix 4.1 provides additional cause of death information for all children and young people who died in Queensland but normally resided in another Australian state or territory.)

Socio-economic status (SEIFA)

Of the 315 children who died from diseases and morbid conditions, 139 were living in high or very high socio-economic areas (44.1%), and 124 were living in low or very low socio-economic areas (39.4%), with 72 of these living in the lowest socio-economic areas in Queensland. Forty-five children were living in moderate areas (14.3%). Seven children were not able to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.

The rate of death from diseases and morbid conditions was highest in high socio-economic areas, with 38.0 deaths per 100,000 children aged birth to 17 in high socio-economic areas, compared with 21.8 deaths per 100,000 children in moderate areas and 30.9 deaths per 100,000 children in low socio-economic areas.

Child protection population

Of the 315 children who died from diseases and morbid conditions between 1 July 2005 and 30 June 2006, 24 were known to the Department of Child Safety (DChS) in the 3 years before their deaths (7.6%). The Department’s involvement with these cases will be considered by the Child Death Case Review Committee (CDCRC). In a further 2 cases, the Police Report of Death to a Coroner (Form 1) indicated that the family had a history of departmental involvement with the deceased infant’s siblings only.107 Children known to the DChS died from diseases and morbid conditions at a rate of 39.8 deaths per 100,000 children in the child protection population, compared with 32.4 deaths per 100,000 children in Queensland.

Deaths from diseases and morbid conditions: major causes

As discussed earlier, the main causes of mortality from diseases and morbid conditions were conditions originating in the perinatal period (147 deaths, 46.7%), congenital malformations, deformations and chromosomal abnormalities (60 deaths, 19.0%), followed by neoplasms (24 deaths, 7.6%) and SIDS and undetermined causes (18 deaths, 5.7%).108

Within the World Health Organisation’s classificatory system (ICD-10), deaths due to infection may be categorised separately, according to which part of the body they affect. When considered as an aggregate category, however, infections become the third major cause of death, accounting for 6.0% of all deaths due to diseases and morbid conditions (19 deaths). Deaths due to infection are, in the main, both unexpected and potentially preventable. The four major causes of death from diseases and morbid conditions – perinatal conditions, congenital abnormalities, neoplasms and infections – are considered in detail below.

107 These cases have not been considered by the CDCRC to date (refer to Chapter 4 for further information).
108 Two deaths from undetermined causes were of children over the age of 1 year. All other deaths in this category were of infants.
Perinatal conditions

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.

Because the majority (97.3%) of perinatal deaths occurred in infants (aged less than one year) all rates in this section have been given for infant populations.

**Table 5.3:** Deaths due to perinatal conditions by gender

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00–P04)</td>
<td>45</td>
<td>49</td>
<td>94</td>
</tr>
<tr>
<td>Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Infections specific to the perinatal period (P35–P39)</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Haemorrhagic and haematological disorders of foetus and newborn (P50–P61)</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Digestive system disorders of foetus and newborn (P75–P78)</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other disorders originating in the perinatal period (P90–P96)</td>
<td>4</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62</strong></td>
<td><strong>85</strong></td>
<td><strong>147</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

One hundred and forty-seven children died from perinatal conditions, a rate of 284.5 deaths per 100,000 infants. As demonstrated in Table 5.3, the majority of deaths due to perinatal conditions were caused by the foetus and/or newborn being affected by maternal factors or complications of pregnancy, labour and delivery (94 deaths, 63.9%), followed by respiratory and cardiovascular disorders (16 deaths, 10.9%). Together these causes accounted for 74.8% of all deaths due to perinatal conditions.

**Gender**

As shown in Table 5.3, 85 males (57.8%) and 62 females (42.2%) died from perinatal conditions. Males were more likely to die from perinatal conditions than females, with a rate of 320.5 deaths per 100,000 male infants, compared with 246.6 deaths per 100,000 female infants.

**Age**

Ninety-seven percent of deaths due to perinatal conditions occurred in infants under 1 year of age, with only 4 deaths occurring in other age categories. Of the 143 infant deaths, the vast majority (93.0%) occurred in the neonatal period (133 deaths), with only 7.0% occurring in the postneonatal period (10 deaths).

**Indigenous status**

Sixteen children who died from perinatal conditions were Indigenous (12 Aboriginals and 4 Torres Strait Islanders), accounting for 10.9% of deaths in this category. Indigenous children were over-represented in deaths from perinatal conditions, with a rate of 468.8 deaths per 100,000 Indigenous infants, compared with 263.2 deaths per 100,000 non-Indigenous infants.

**Geographical distribution (ARIA+)**

Most deaths due to perinatal conditions occurred in metropolitan areas (100 deaths), compared with 41 in regional areas and 5 in remote areas. One child who died normally lived in New South Wales. The rate of death was also highest in metropolitan areas, with 340.0 deaths per 100,000 infants living in metropolitan areas. Regional areas had the next highest rate, with 217.3 deaths per 100,000 infants living in regional areas, followed by remote areas, with 147.7 deaths per 100,000 infants living in remote areas.

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109 Perinatal conditions have been coded based on medical cause of death only (as provided by the Registry of Births, Deaths and Marriages under s. 48A of the Births, Deaths and Marriages Registration Act 2003). The Commission does not currently have access to either complete death certificates or perinatal data collection forms. Death certificates for infants who die in the neonatal period include information on birth weight and gestation which may impact on the underlying cause of death.
Socio-economic status (SEIFA)

Seventy-two children who died from perinatal conditions were living in high or very high socio-economic areas, while 56 were living in low or very low areas. Eighteen children were living in moderate socio-economic areas. Children in high socio-economic areas had the highest rate of death, with 356.1 deaths per 100,000 infants living in high socio-economic areas, compared with 258.8 deaths per 100,000 infants in low socio-economic areas and 164.2 deaths per 100,000 infants living in moderate socio-economic areas.

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.

Table 5.4: Deaths due to congenital anomalies by gender

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congenital malformations of the nervous system (Q00–Q07)</td>
<td>2</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Congenital malformations of the circulatory system (Q20–Q28)</td>
<td>8</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Congenital malformations of the respiratory system (Q30–Q34)</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Other congenital malformations of the digestive system (Q38–Q45)</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Congenital malformations of the urinary system (Q60–Q64)</td>
<td>1</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Congenital malformations and deformations of the musculoskeletal system (Q65–Q79)</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Other congenital malformations (Q80–Q89)</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Chromosomal abnormalities, not elsewhere classified (Q90–Q99)</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>42</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Sixty children and young people died from congenital anomalies, a rate of 6.2 deaths per 100,000 children aged birth to 17 years. As demonstrated in Table 5.4, the greatest number of deaths due to congenital anomalies were caused by malformations of the circulatory system (17 deaths, 28.3%), followed by malformations of the nervous system (11 deaths, 18.3%) and other congenital malformations (9 deaths, 15.0%). Together these 3 causes accounted for 61.7% of all deaths due to congenital anomalies.

Gender

Forty-two males (70.0%) and 18 females (30.0%) died from congenital anomalies. Males were more likely to die from congenital anomalies than females, with a rate of 8.4 deaths per 100,000 male children and young people aged birth to 17 years, compared with 3.8 deaths per 100,000 female children and young people.

Age

The vast majority of deaths due to congenital anomalies occurred in infants under 1 year of age (55 deaths, 91.7%), with only 3 deaths occurring in the 1–4 year and 2 deaths in the 10–14 year age categories. Of the 55 infant deaths, most occurred in the neonatal period (47 deaths, 85.5%), with the remaining 14.5% occurring in the postneonatal period (8 deaths).

Indigenous status

Three children who died from congenital anomalies were Aboriginal, accounting for 5.0% of deaths in this category.

Geographical distribution (ARIA+)

Forty children who died due to congenital anomalies were living in metropolitan areas (66.7%), followed by 16 in regional areas (26.7%) and 3 in remote areas (5.0%). One child who died normally lived in New South Wales. The rate of death was highest in metropolitan areas, with 7.5 deaths per 100,000 children living in metropolitan areas.
areas had the next highest rate, with 4.3 deaths per
100,000 children in regional areas. Rates could not
be calculated for remote areas because of the small
number of deaths.

Socio-economic status (SEIFA)
The majority of children who died from congenital
anomalies were living in high or very high socio-
economic areas (30 deaths, 50.0%), while 19 lived in
low or very low socio-economic areas (31.7%). Ten children were living in moderate socio-economic
areas (16.7%). One child’s usual place of residence
was outside Queensland. Children in high socio-
economic areas had the highest rate of death from
congenital anomalies, with 8.2 deaths per 100,000
children living in high socio-economic areas,
compared with 4.9 deaths per 100,000 children in
moderate socio-economic areas and 4.7 deaths per
100,000 children living in low socio-economic areas.

Neoplasms (cancers and tumours)
Although these terms are not synonymous, 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 which is
called a tumour or neoplasm. A ‘benign neoplasm’
refers to a benign (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.

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant neoplasms of bone and articular cartilage (C40–C41)</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Malignant neoplasms of mesothelial and soft tissue (C45–C49)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Malignant neoplasms of eye, brain and other parts of central nervous system (C69–C72)</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Malignant neoplasms of thyroid and other endocrine glands (C73–C75)</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Malignant neoplasms of lymphoid, haematopoietic and related tissue (C81–C96)</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Neoplasms of uncertain or unknown behaviour (D37–D48)</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>14</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Twenty-four children and young people died
from cancers and tumours, a rate of 2.5 deaths
per 100,000 children aged birth to 17 years. As
demonstrated in Table 5.5, the most common
causes of death due to cancers were malignant
neoplasms of the eye, brain and other parts of the
central nervous system and malignant neoplasms
of lymphoid, haematopoietic and related tissue
(7 deaths, 29.2% each). Malignant neoplasms
of thyroid and other endocrine glands were the
third most common cause of deaths from cancers
(4 deaths, 16.7%). Together these three causes
accounted for 75.0% of all deaths due to cancers.

Gender
As shown in Table 5.5, 14 males (58.3%) and 10
females (41.7%) died from cancers. Males were
more likely to die from cancer than females, with a
rate of 2.8 deaths per 100,000 male children and
young people aged birth to 17 years, compared with
2.1 deaths per 100,000 female children.
**Age**

Table 5.6 shows the number of deaths from neoplasms by age.

**Table 5.6: Neoplasms deaths by age**

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of deaths</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>1–4 years</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td>5–9 years</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td>15–17 years</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td><strong>24</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2005–06)*

Deaths from cancers were distributed across all age categories, but the highest number of deaths occurred among children aged between 1 and 4 years and 5 and 9 years (8 deaths, 33.3% each), followed by young people aged 15–17 years (3 deaths, 12.5%).

**Indigenous status**

One child who died from cancer was Aboriginal.

**Geographical distribution (ARIA+)**

Fourteen children who died from cancers were living in metropolitan areas (58.3%), followed by 7 in regional areas (29.2%) and 1 death in a remote area. Two children who died from cancers normally lived in New South Wales. The rate of death was highest in metropolitan areas, with 2.6 deaths per 100,000 children living in metropolitan areas. Regional areas had the next highest rate, with 1.9 deaths per 100,000 children living in regional areas. Rates could not be calculated for remote areas because of the small number of deaths.

**Socio-economic status (SEIFA)**

Nine of the 24 children who died from cancers were living in high or very high socio-economic areas (37.5%). Seven children were living in low or very low socio-economic areas (29.2%) and 6 in moderate socio-economic areas (25.0%). The rate of child death from cancers was highest in moderate socio-economic areas, with 2.9 deaths per 100,000 children living in moderate socio-economic areas, followed closely by high or very high socio-economic areas, with 2.5 deaths per 100,000 children in high socio-economic areas and 1.7 deaths per 100,000 children living in low socio-economic areas.

**Infections**

Infections, including central nervous system infections and respiratory infections, is a hybrid category composed of code ranges from the following ICD-10 chapters: certain infections and parasitic diseases (ICD-10 Chapter I), diseases of the nervous system (ICD-10 Chapter VI, codes G00–G09 only) and diseases of the respiratory system (ICD-10 Chapter X, codes J00–J22 only).

**Table 5.7: Deaths due to infections by gender**

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other bacterial diseases (A30–A49)</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Viral infections of the central nervous system (A80–A89)</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Viral infections characterised by skin and mucous membrane lesions (B00–B09)</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other viral diseases (B25–B34)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Inflammatory diseases of the central nervous system (G00–G09)</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Acute upper respiratory infections (J00–J06)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Influenza and pneumonia (J10–J18)</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Other acute lower respiratory infections (J20–J22)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>12</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2005–06)*

Nineteen children and young people died from infections, a rate of 2.0 deaths per 100,000 children aged birth to 17 years. As demonstrated in Table...
5.7, the highest number of deaths due to infections were caused by other bacterial diseases (6 deaths, 31.6%), followed by influenza and pneumonia (4 deaths, 21.1%) and viral infections characterised by skin and mucous membrane lesions (3 deaths, 15.8%). Together these three causes accounted for 68.4% of all deaths due to infections.

*Gender*

As shown in Table 5.7, 12 males (63.2%) and 7 females (36.8%) died from infections. Males were more likely to die from infections than females, with a rate of 2.4 deaths per 100,000 male children and young people aged birth to 17 years, compared with 1.5 deaths per 100,000 female children and young people.

*Age*

Table 5.8 shows the number of deaths from infections by age.

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of deaths</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>10</td>
<td>52.6</td>
</tr>
<tr>
<td>1–4 years</td>
<td>5</td>
<td>26.3</td>
</tr>
<tr>
<td>5–9 years</td>
<td>2</td>
<td>10.5</td>
</tr>
<tr>
<td>10–14 years</td>
<td>2</td>
<td>10.5</td>
</tr>
<tr>
<td>15–17 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Deaths from infections can be seen to generally decrease with the increasing age of the child. Over half the deaths due to infections (52.6%) occurred in infants under 1 year, with 8 of the 10 deaths in this age group occurring in the postneonatal period. Five of the 10 infant deaths due to infection occurred suddenly and unexpectedly (50.0%). These are discussed in more detail in Chapter 12, ‘Sudden Unexpected Deaths in Infancy’. The 1–4 year age group had the next highest number of deaths due to infections, with 5 deaths (26.3%), followed by the 5–9 and 10–14 year age groups with 2 deaths each (10.5%). No children aged between 15 and 17 died from infections.

*Indigenous status*

Two of the 19 children who died from infections were Indigenous (1 Aboriginal and 1 both Aboriginal and Torres Strait Islander) (10.5%). Both Indigenous deaths due to infection were of infants under 1 year and occurred suddenly and unexpectedly after the infant had been placed to sleep. These cases are discussed in Chapter 12, ‘Sudden Unexpected Deaths in Infancy’.

*Geographical distribution (ARIA+)*

Eleven deaths due to infections occurred in metropolitan areas (57.9%), followed by 6 in regional areas (31.6%) and 1 death in a remote area. One child who died from infection normally lived in New South Wales. The rate of death was highest in metropolitan areas, with 2.1 deaths per 100,000 children living in metropolitan areas. Regional areas had the next highest rate, with 1.6 per 100,000 children. Rates could not be calculated for remote areas because of the small number of deaths.

*Socio-economic status (SEIFA)*

Over two-thirds of the children who died from infections were living in low or very low socio-economic areas (13 deaths, 68.4%), with 5 of these children (26.3%) living in the most disadvantaged areas of the state. Four children were living in high or very high socio-economic areas (21.1%), while 1 child lived in a moderate socio-economic area. Children in low socio-economic areas were over-represented in deaths from infections, dying at 3 times the rate of children living in high socio-economic areas. There were 3.2 deaths per 100,000 children living in low socio-economic areas, compared with 1.1 deaths per 100,000 children in high socio-economic areas. Rates could not be calculated for moderate socio-economic areas because of the small number of deaths.
Children in poverty are known to be more likely to die from a range of causes, particularly accidents and infections (Bor et al. 1993:1053).

**Deaths from communicable (nationally notifiable) diseases**

Communicable diseases (including infectious and parasitic diseases) are those diseases capable of being transmitted from one person to another, or from one species to another.

A disease may be made notifiable to state health authorities if there is potential for its control. Most of the notifiable diseases are included on a core list agreed by all states and territories. Factors considered 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 patterns of occurrence of disease.

The National Notifiable Diseases Surveillance System (NNDSS) was established in 1990 under the auspices of the Communicable Diseases Network Australia. The NNDSS coordinates the national surveillance of more than 50 communicable diseases or disease groups. Under this scheme, in Queensland notifications are made under the provisions of the Public Health Act 2005 (See Appendix 5.1 for the complete Notifiable Diseases Schedule).


Table 5.9 presents the number of notifiable diseases by gender.

**Table 5.9: Notifiable diseases by gender**

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meningococcaemia, unspecified (A394)</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Septicaemia due to streptococcus, group A (A400)</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Streptococcal infection, unspecified (A491)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Whooping cough, unspecified (A379)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2005–06)*

As shown in Table 5.9, between 1 July 2005 and 30 June 2006, 4 males and 1 female died of notifiable diseases in Queensland.

Three of the 5 children who died from notifiable diseases were aged less than 1 year, one child was aged between 1 and 4 years and one child between 5 and 9 years.

No deaths from notifiable conditions were due to human immunodeficiency virus (HIV), hepatitis or other sexually transmissible infections (STIs).\(^{110}\)

None of the deaths from notifiable conditions were due to vaccine-preventable conditions.\(^{111}\)

None of the children who died from notifiable conditions were Indigenous.

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\(^{110}\) The Queensland HIV, Hepatitis C and Sexually Transmissible Infections Strategy 2005–2011 represents a whole-of-government approach to the management of HIV, hepatitis C and STIs across Queensland. Under this strategy the Commission has agreed to report numbers of deaths from HIV, hepatitis or other STIs.

\(^{111}\) In Australia, programs of mass immunisation are mostly administered by state and territory governments. The National Health and Medical Research Council takes an advisory role on immunisation and sets a Standard Childhood Vaccination Schedule. The current schedule includes vaccinations against the following diseases: diphtheria, tetanus, pertussis (whooping cough), poliomyelitis, haemophilus influenzae type b (HIB), measles, mumps and rubella. Haemophilus influenzae type b (HIB) vaccination has been included on the schedule since 1994; the remaining vaccinations were included on the schedule throughout the period 1982–95. Although not part of the immunisation schedule, hepatitis B vaccine is provided to high-risk populations.
Part III: Non-intentional injury-related death

Chapters 6–9

This section provides details of child deaths from injury as a result of unintended events such as transport incidents, drowning, fire and ‘other’ non-intentional injury related deaths.
Chapter 6
Transport

“Of all the systems with which people deal every day, road traffic systems are the most complex and the most dangerous” (World Health Organisation 2004:1)

Key issues

- Between 1 July 2005 and 30 June 2006, 41 children and young people died in transport incidents in Queensland. Transport fatalities were the leading external cause of death, accounting for 44.1% of all child deaths from external causes.
- Transport incidents were the most common cause of death for adolescents aged 15–17 years (21 deaths), and were also the leading cause of death in 10–14 year olds (5 deaths, equal with suicide).
- The greatest risk for fatal teen motor vehicle collisions was 10pm–12am on a Saturday night. This period accounted for almost a quarter of all teen motor vehicle fatalities.
- Licensing laws for young drivers are set to change from July 2007.

Transport fatalities in Queensland

In 2005, road accidents in Queensland accounted for 328 deaths, a rate of 8.27 per 100,000 population. This is the fourth-highest rate in Australia (behind the Northern Territory, Tasmania and South Australia), and compares with a national average of 8.05 per 100,000 (Australian Transport Safety Bureau 2006b:15). Despite an overall decreasing trend since the mid-1970s, road deaths in Queensland appear to be increasing in recent times (Australian Transport Safety Bureau 2006b:15). In the 12 months between June 2005 and May 2006 there were 342 road deaths in Queensland, an increase of 12.1% on the previous 12-month period (Australian Transport Safety Bureau 2006a:2).

Children and young people constitute a substantial proportion of road deaths in Queensland. A report by Queensland Transport (Road Traffic Crashes in Queensland, 2003) reported that children aged from birth to 16 years of age accounted for 10% of fatalities in 2003 (Queensland Transport 2005b:17). Young people aged 17–20 years of age accounted for 14.8% of road deaths, despite representing only 5.6% of the Queensland population (Australian Bureau of Statistics 2005; Queensland Transport 2005b:18).112

The role of young people in transport incidents varies widely. They may be drivers or passengers in motor vehicles, pedestrians or cyclists. The types of vehicles involved also vary from cars and trucks to motorcycles, bicycles, water craft and trains.

The Queensland Government and various non-government organisations and research bodies are actively researching causes, trends, patterns and the role of young people associated with transport incidents to reduce death and injury. Queensland Transport have recently undertaken consultation in relation to young driver licensing in Queensland. This initiative is discussed in more detail later in this chapter.

112 The Commission only records information for children up to 17 years of age. This information is presented to illustrate the high level of involvement of young people in transport incidents.
Transport-related fatalities: trends and patterns, 2005–06

Forty-one children and young people died as a result of transport incidents in Queensland during the reporting period, a decrease of 10.9 percent (5 deaths) on the 2004–05 12-month period (see Chapter 3 of this report). Child deaths as a result of transport incidents in Queensland occurred at a rate of 4.2 per 100,000 children and young people aged 0–17 years in Queensland.

Of the 41 deaths:
- 26 were the result of motor vehicle crashes
- 11 involved pedestrians (including 3 pedestrians struck by a train)
- 1 was caused by a motorcycle crash
- 2 involved bicycles, and
- 1 involved a water craft.

The proportions of the various types of transport incidents resulting in child deaths in the reporting period are somewhat different from those observed in 2004–05. Motor vehicle and pedestrian fatalities accounted for a greater proportion of transport deaths than in the previous 12-month period, while motorcycle and ‘other’ types of incidents accounted for considerably less.

Age and gender breakdowns are given in Table 6.1.

Table 6.1: Transport incident deaths by age group and gender

<table>
<thead>
<tr>
<th>Age group</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>1–4 years</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>3.0</td>
</tr>
<tr>
<td>5–9 years</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>1.9</td>
</tr>
<tr>
<td>10–14 years</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>15–17 years</td>
<td>5</td>
<td>16</td>
<td>21</td>
<td>12.6</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>30</td>
<td>41</td>
<td>4.2</td>
</tr>
<tr>
<td>Rate per 100,000</td>
<td>2.3</td>
<td>6.0</td>
<td>4.2</td>
<td></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Note: 1. Rates are calculated per 100,000 children and young people aged 0–17 years.

Gender

During the reporting period, the number of male fatalities was 2.7 times greater than that for females, with males accounting for 30 deaths (73.2%) and females 11 (26.8%). Males outnumbered females across all age groups and for all types of transport incidents.

The rate of males who died in transport fatalities was also 2.6 times greater, with 6.0 deaths per 100,000 males aged 0–17 years, compared with 2.3 deaths per 100,000 females.

This finding is consistent with that of the 2004–05 12-month period discussed in Chapter 3, where it was noted that male children were almost twice as likely to die in a transport incident as female children (6.3 deaths per 100,000 males, compared with 3.2 per 100,000 females).

Australian and international research has shown males to have higher rates of deaths from injury in general (Al-Yaman, Bryant & Sargeant 2002:241; United Nations Children’s Fund 2001:18). It is suggested that this may be a result of greater risk-taking behaviour displayed by boys, coupled with more permissive caregiver attitudes towards boys (Morrongiello 2005:543; Norton & Lam 1999:7; United Nations Children’s Fund 2001:18). In the older age groups, males tend to display more risk-taking behaviour behind the wheel than females (for example, speeding, drink driving and driving without a seatbelt) (Smart et al. 2005:30–31). This male propensity for risk taking has been linked to boys’ conceptions of masculinity and vulnerability to peer influence (Dawes 2001:5; Williams 2003:14).

Age

Under 1 year

During the reporting period, children under the age of 1 year accounted for 4 of the 41 child transport deaths (9.8%).

The Commission observed that infants under 1 have been the least likely to die in transport incidents.
in the past 14 years (Child Death Annual Report, 2004–05). Although recording the lowest number of deaths, this age group has the second-highest rate of deaths in the current reporting period, at 7.7 per 100,000 children under 1 year.

All 4 of the children in this age group were passengers in motor vehicles being driven by their parents. Parental actions are largely the determinants of these incidents, given young children’s dependence on their parents.

1–4 years

Queensland road crash statistics show that children aged from birth to 4 years of age constituted 26.7% of road fatalities of children under 16 years (Queensland Transport 2005b:17). In 2005–06, 6 children aged from 1 to 4 years died in transport incidents in Queensland (14.6% of child transport deaths). This equates to a rate of 3.0 deaths per 100,000 toddlers 1–4 years of age.

Five of the 6 toddlers were killed as pedestrians, with 2 of these being low-speed run-overs. These deaths are discussed further in the pedestrian section of this chapter. One child was a passenger in a motor vehicle.

Over the past 14 years, toddlers aged 1–4 have consistently been the second most likely age group to die in transport incidents. This age group had the second-highest number of transport deaths in this reporting period and had the third-highest rate of death.

5–9 years

Five children aged 5–9 years died in transport incidents in the reporting period (12.2% of child transport deaths); 3 of these were pedestrians, while 1 was the driver of a motor vehicle. One death involved water transport.

Research has found that many 5–9 year olds who die in transport incidents are pedestrians. Children of this age are prone to darting out into the street and misjudging gaps in traffic (Cross & Hall 2005:318).

Increasing mobility, combined with their small physical stature and underdeveloped cognitive and perceptual abilities, contributes to the high rate of pedestrian fatalities in this age group (Cross & Hall 2005:318; Henderson 2000:9; World Health Organisation 2004:45). Two of the pedestrian deaths in this age group happened when the children were struck by a train in the same incident. The other pedestrian in this age group was the rider of a child’s motorised scooter.

Children aged 5–9 died in transport incidents at a rate of 1.9 per 100,000 children aged 5–9 years. This was the second-lowest rate across all age groups. This is consistent with data over the last 14 years, in which 5–9 year olds had the second-lowest rate of transport-related deaths.

10–14 years

Five young people aged 10–14 years died in transport incidents between 1 July 2005 and 30 June 2006 (12.2% of all child transport deaths). Inconsistent with findings from the past 14 years, where the Commission found 10–14 year olds to have the third-highest rate of death due to transport incidents, this age group recorded the lowest rate of death in this reporting period, at a rate of 1.8 per 100,000 children aged 10–14.

Of the 5 children in this age group who died in the reporting period, 3 were pedestrians, 1 was a passenger of a motor vehicle, and 1 was a cyclist. One of the pedestrians was involved in the rail incident mentioned above. The children were believed to have been playing on the train tracks at the time of the incident.

15–17 years

The greatest proportion of young people involved in fatal transport incidents in the reporting period were in the 15–17 year age group. Twenty-one 15–17 year olds were killed in transport incidents during this 12-month period (51.2%), a rate of 12.6 per 100,000 15–17 year olds. This age group has historically had the highest rate of transport incidents, a trend which continued in this reporting period.
Figure 6.1 shows fatalities among children aged 15–17 years by type of road user.

**Figure 6.1: Nature of transport fatalities in the 15–17 year age group**

- 15–17 years: 51.2%
- 10–14 years: 12.2%
- 5–9 years: 12.2%
- 1–4 years: 14.6%
- Under 1 year: 9.8%
- Bicyclist: 2.4%
- Passenger: 26.8%
- Driver: 19.5%
- Motorcyclist: 2.4%
- Pedestrian: 0.0%

Young people aged 15–17 years were more likely to be passengers in transport incidents (11 deaths, 52.4% of 15–17 year old transport deaths). Eight of the young people were drivers. One young person was a motorcycle rider, while 1 was a pedal cyclist. The cyclist was a 16 year old who was believed to have been intoxicated at the time of the incident. The young person was struck by a car after falling from the bicycle.

The greater number of 15–17 year olds killed in transport incidents reflects the increasing independence of young people of this age. Many are beginning to drive and are travelling in vehicles with licensed peers. The risks associated with young people and driving are discussed later in this chapter.

**Aboriginal and Torres Strait Islander status**

Six children who died in transport incidents were Indigenous (all Aboriginal). All of these children were male. Indigenous children died as a result of transport incidents at a rate of 9.25 per 100,000 Indigenous children aged 0–17 years, compared with 3.85 per 100,000 non-Indigenous children.

Two of these children were passengers in motor vehicles. One was a pedestrian killed in a low-speed run-over incident. Three children were involved in the same incident, where they were struck by a train while playing on the tracks.

**Geographical distribution (ARIA+)**

To facilitate an understanding of the areas in which transport fatalities more frequently occur, the geographical distribution of transport incidents has been calculated on incident location (as provided in the Police Report of Death to a Coroner), rather than usual place of residence.

The majority of fatal transport incidents involving children and young people (25 deaths, 61.0%) occurred in regional areas of Queensland. Eight deaths occurred in metropolitan areas (19.5%), and 7 in remote areas (17.1%).

The rate of transport fatalities in remote areas was more than double the overall rate, with 11.5 deaths per 100,000 children and young people aged birth to 17 years in remote areas, compared with 4.2 per 100,000 children and young people in all areas.

The rate of transport fatalities in regional areas was also above the overall rate, with 6.6 deaths per 100,000 children and young people, while children in metropolitan areas died in transport incidents at a rate of 1.5 deaths per 100,000 children and young people.

It is well recognised, both nationally and internationally, that road fatalities occur with greater frequency in rural areas. The Parliamentary Travelsafe Committee reported that over half of Australia’s road fatalities occur on rural roads, and that the risk of dying in a rural crash is approximately 3.6 times higher than the risk of dying in an urban crash (Parliamentary Travelsafe Committee 2001:6). In 2003 in Queensland, 44% of fatal crashes occurred outside urban areas (Queensland Transport 2005b:36). Several factors appear more likely to be involved in rural crashes, including speeding, alcohol use and fatigue (Parliamentary Travelsafe Committee 2001:6).

areas, as well as improved access to emergency services in the event of a crash. Further research is to be conducted on rural road safety in Queensland (Queensland Government 2004:23).

**Socio-economic status (SEIFA)**

Of the 41 children who died, 23 lived in low or very low socio-economic areas (56.1%), including 15 in the lowest socio-economic areas in Queensland. Six children were from high or very high socio-economic areas (14.6%), while 9 lived in a moderate area (22.0%).

The most disadvantaged children have been noted to be more likely to die in transport-related incidents. Australian research has found children in lower socio-economic brackets to be more likely to die as drivers and passengers, and as pedestrians, while the risk for motorcycle and bicycle incidents is relatively similar across different socio-economic areas (Stokes, Ashby & Clapperton 2001:9). International research has also found similar trends (Reimers & LaFlamme 2005:1491).

The highest rate of transport deaths was for children living in low socio-economic areas (5.7 per 100,000 children and young people living in low socio-economic areas). Children living in lower socio-economic areas are over-represented in transport deaths. Moderate socio-economic areas recorded the next highest rate (4.4 per 100,000 children and young people living in moderate socio-economic areas). Children from high socio-economic areas died in transport incidents at a rate of 1.6 per 100,000 children and young people living in high socio-economic areas.

**Child protection population**

Eight of the 41 children who died in transport incidents were known to the Department of Child Safety (DCHS)(19.5%). The Department’s involvement with these children will be considered by the Child Death Case Review Committee (CDCRC).

**Coronial findings**

Coronial findings were available at the time of reporting for 13 of the 41 transport deaths. For the remaining 28 cases, autopsy notices were available, giving an official cause of death.

**Transport-related injuries**

In addition to the fatalities discussed above, a large number of children were injured in transport incidents in Queensland. The Queensland Injury Surveillance Unit (QISU) recorded 1865 transport-related injuries to children in the 2004–05 financial year. The greatest number of injuries occurred in the 10–14 year age group (782 injuries), followed by the 5–9 year age group (531 injuries). This stands in contrast to the findings discussed above. Almost 17% of injuries from transport incidents required admission to hospital.

**Nature of transport incident**

Figure 6.2 shows the proportion of deaths by type of transport fatality.

**Figure 6.2: Nature of transport fatality**

- Motor vehicle: 63.4%
- Pedestrian: 26.8%
- Bicycle: 4.9%
- Motorcycle: 2.4%
- Other: 2.4%

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114 Three children were not able to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.
115 Based on the Index of Relative Socio-Economic Disadvantage (a statistic of the SEIFA index).
116 Since 1 August 2004, the DCHS has been required to conduct a review of its involvement with a child if the child was known to the Department within the 3 years before death. The CDCRC is an independent committee responsible for considering the Department’s review. The committee is multi-disciplinary and is chaired by the Commissioner.
117 QISU data are based on emergency department presentations to a number of selected hospitals. This information is therefore not a complete overview of childhood injury in Queensland, but provides a good indication of injury trends.
118 Full-year data were only available for the 2004–05 period.
As illustrated in Figure 6.2, the greatest number of transport fatalities occurred in motor vehicles (26 deaths), followed by pedestrian deaths (11 deaths). Two children died in incidents involving pedal cycles and 1 in an incident involving a motorcycle. One child died in a water transport incident.

The majority of transport deaths in the 12-month period between July 2004 and June 2005 also involved motor vehicles and pedestrians (58% and 22% respectively).

Motor vehicle

Overall, 26 children and young people died in motor vehicle crashes. The 26 children and young people were killed in 20 separate incidents. Four young people died in the same collision, and 2 were killed in another. In one of these cases the driver was a person under the age of 18. The gender and age of young people who died in motor vehicle crashes, as well as their role, are given in Table 6.2.

Table 6.2: Motor vehicle crash fatalities for drivers and passengers by age group, gender and rate

<table>
<thead>
<tr>
<th>Age group</th>
<th>Male n</th>
<th>Female n</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passengers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>1–4 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>10–14 years</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>15–17 years</td>
<td>3</td>
<td>8</td>
<td>11</td>
<td>6.6</td>
</tr>
<tr>
<td>Subtotal</td>
<td>5</td>
<td>12</td>
<td>17</td>
<td>1.7</td>
</tr>
<tr>
<td>Drivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–9 years</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>15–17 years</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>4.8</td>
</tr>
<tr>
<td>Subtotal</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>18</td>
<td>26</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates for each age group are calculated per 100,000 children in that age group.
2. Rates for subtotals and totals are calculated per 100,000 children and young people aged 0–17.

Gender

Males were more likely to die in motor vehicle crashes (18 deaths, 69.2%) than females (8 deaths, 30.8%). Six of the 9 drivers were male (compared with 3 female drivers), and 12 of the 17 passengers were male (compared with 5 female passengers).

This gender bias is predominantly visible in the 15–17 year age group. There were 6 male drivers in this age group, compared with 2 female drivers. Likewise, 8 passengers in this age group were male, compared with 3 females.

Age

The majority of children involved in motor vehicle fatalities were in the 15–17 year age group (8 drivers, 11 passengers). This age group typically has the greatest involvement in motor vehicle crashes, because of their newly acquired roles as drivers and peer passengers. The risks associated with driving for young adults are further discussed later in this section.

Geographic distribution (ARIA+)

All of the 26 car crash fatalities occurred in regional and remote areas. The majority (20) occurred in regional areas and 6 in remote areas. Remote areas, however, had the highest rate of child motor vehicle fatalities, with 9.9 per 100,000 children aged 0–17 years living in remote areas. Regional areas had a rate of 5.3 per 100,000.

Single-vehicle crashes are far more likely in rural than in urban areas. In Queensland in 2000, fatal single-vehicle crashes occurred at a rate of 11.56 per 100,000 population in rural areas, compared with 1.81 per 100,000 in urban areas (Parliamentary Travelsafe Committee 2001:11). Single-vehicle crashes generally involve vehicles hitting objects or overturning. Risk factors associated with fatal single-vehicle crashes include alcohol, speed and travelling unrestrained (Queensland Transport 2005b:33).

In the reporting period, 19 of the 26 car crash fatalities were single-vehicle crashes, with all of these occurring in regional and remote areas (4 of the 19 children died in the same incident).

In 2 of these cases, the vehicle subsequently caught fire, leading to the death of the occupants.
The majority (15 deaths, 78.9%) of these crashes involved young people in the 15–17 year age group; 7 of these were drivers and 8 were passengers.

Two deaths as a result of a single-vehicle crash in rural areas were of children under 1 year, while one death was recorded for the 1–4 year and 5–9 year age groups. Three children were involved as passengers and 1 as a driver.

Of 16 separate single-vehicle crashes, 13 involved the vehicle leaving the road and hitting an object (such as trees, power-poles, guardrails, fences and culverts). Two of these occurred on private property and off-road tracks. Three of the vehicles overturned. Eight were reported as definitely involving or likely to have involved speed, and 2 were reported as involving alcohol or drug use.

**Socio-economic status (SEIFA)**

Of the 26 children who died in car crashes, 18 lived in low or very low socio-economic areas (69.2%), including 11 in the lowest socio-economic areas of Queensland. Only 1 infant was from a high or very high socio-economic area, while 5 lived in a moderate area (19.2%).

Children in low or very low socio-economic areas also died at a higher rate than children in moderate areas (4.5 deaths per 100,000 children 0–17 years living in low areas, compared with 2.4 per 100,000 children 0–17 years in moderate areas).

**Role of child**

All children were involved as passengers, with the exception of one child in the 5–9 year age group, who was driving a vehicle on a rural property. No children were travelling with young (teenage) drivers at the time of death.

**Time, place and type of incident**

The hours between 3pm and 6pm (after school) carried the greatest risk for children (4 out of 7 deaths occurred within these times), while crashes did not appear to be significantly more likely on any particular day. Six deaths occurred on highways and 1 on private property. Four were single-vehicle and 3 were multiple-vehicle collisions. All fatalities occurred in areas with a speed limit of 100km/h (with the exception of the child travelling on private property). This is a different pattern of events from that of teen road fatalities (see below).

**Speeding, drinking alcohol and other risk-taking behaviours**

Only 2 of the vehicles were deemed by police to have possibly been speeding, in contrast with findings in teen motor vehicle deaths. Alcohol was considered a factor in 1 of the crashes. Alcohol and drugs were also considered a factor in only a minority of teen deaths.

**Seatbelts**

Two children were not wearing seatbelts at the time of the incident.

**Geographic distribution (ARIA+)**

Of the children who died in motor vehicle crashes, 5 of the incidents occurred in regional areas and 2 in remote areas.

**Socio-economic status (SEIFA)**

Children from lower socio-economic areas were more likely to be involved in fatal road crashes than those from higher areas; 4 children from low or very low socio-economic areas died in this reporting period, while 1 lived in a moderate area.

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120 Two children were not able to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.
121 Rates were unable to be calculated for children living in high to very high socio-economic areas because of low numbers of child deaths in these areas.
122 One child died while a passenger of a 19 year old driver. The driver was, however, the mother of the child, and therefore does not fit the classification of a ‘peer’ as defined by Queensland Transport (see the ‘Teen fatalities’ section below).
123 Two children died on Wednesday and Saturday, and 1 child each on Tuesday, Friday and Sunday.
124 Speed limit greater than or equal to 100km/h.
125 Two children were unable to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.
Teen fatalities in motor vehicles

'Teen fatalities' in this section refers to young people in the 15–17 year age group. Nineteen 15–17 year olds were involved in motor vehicle fatalities in Queensland in the reporting period; 14 were male and 5 were female.

Young drivers have been the focus of much research concerning their involvement in motor vehicle crashes. Statistics have shown young drivers to be disproportionately involved in road crashes.\(^{126}\) Between 1998 and 2002 in Queensland, 85 17 year old drivers were involved in fatal crashes (Parliamentary Travelsafe Committee 2003b:9), with 17–20 year old drivers comprising 15.6% of all drivers killed in road crashes in 2003 (Queensland Transport 2005b:A2-4). Queensland Transport statistics state that, in 2005, young people aged 17–24 made up 32% of Queensland’s road toll, despite constituting only 13% of drivers (Queensland Transport 2006).

Young drivers face an increased risk for a number of reasons. In the first instance, driving is a complex task that requires a number of different skills working in combination, including motor and psychomotor skills necessary for coordination and handling of the vehicle. The perceptual capabilities necessary for hazard perception and judgement of speed and distance are reportedly not as highly developed in young drivers as in older drivers (Ferguson 2003:73; Parliamentary Travelsafe Committee 2003b:5).

Social pressures may also affect a young driver’s risk of being involved in a road crash. The presence of passengers, particularly passengers of similar age, has been associated with an increased crash risk in teenage drivers arising from driver distraction or peer pressure to undertake risky behaviour (Simons-Morton, Lerner & Singer 2005:973; Williams 2003:14; Williamson 1999:7; Williamson 2003:6).

Young drivers’ immaturity is associated with impulsive, high-risk driving behaviour, such as speeding, inattention and driving under the influence of alcohol (Parliamentary Travelsafe Committee 2003b:6; Williamson 1999:14). Younger drivers have been observed to accept narrower gaps when pulling into traffic, follow at shorter distances and drive faster than general traffic (Ferguson 2003:72; Simons-Morton, Lerner & Singer 2005:980).

Late-night driving has been identified as a significant risk factor for young driver crashes. Williams (2003:15) proposed reasons for this:

Late-night driving increases crash risk among young drivers for a variety of reasons: the driving task is more difficult in darkness; many newly licensed drivers will have had less driving practice at night than during the day; fatigue – thought to be a problem for teenagers at all times of the day – may be more of a factor at night; and recreational driving that is considered to be high risk, sometimes involving alcohol use, is more likely to take place at night.

The risk of involvement in a fatal crash is about 3 times higher for young drivers at night than during the day. However, although the risk at night is higher, a greater number of fatal crashes occur during the day, as fewer teenagers are driving during high-risk night-time hours (Williams 2003:9-10).

Role of teen

In the reporting period, 11 young people aged 15–17 years were involved in fatal car crashes as passengers, and 8 as drivers. Males were more likely to be both drivers and passengers, with 6 of the 8 drivers and 8 of the 11 passengers being male.

Peer passengers

As mentioned previously, the presence of peer passengers has been noted to increase the risk of road crashes for young drivers. ‘Peer’ passengers are described as someone under the age of 21\(^{127}\) and not a family member (Queensland Transport 2005a:12).

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\(^{126}\) The earliest age at which a young person can obtain a provisional (unsupervised) licence is 17. Most sources of road crash statistics discuss young drivers as being between 17 and 19 years of age.

\(^{127}\) The age limit for peer passengers in some literature is 25 years of age.
In the reporting period, only 1 of the 8 driver deaths in this age group occurred where peer passengers were present; 5 of the driver deaths occurred when driving alone.

Three of the deaths of young people occurred while passengers of peer drivers.\(^{128}\) Four young people were killed while the passenger of an adult driver. The age of the driver in 3 cases is unknown.

**Time, place and type of incident**

Teens were at greatest risk of involvement in a fatal motor vehicle collision between 10pm and midnight on a Saturday (4 deaths, 21.1%). However, the greatest number of fatal road crashes involving teens occurred between the hours of 9am and 3pm on any given day (7 deaths, 36.8%).

For young people in the 15–17 year age group, 2 deaths occurred on residential streets,\(^{129}\) 5 on major roads\(^{130}\) and 11 on highways.\(^{131}\) One death occurred while travelling off-road. The majority of crashes were single-vehicle incidents. Fifteen of the 19 teen motor vehicle fatalities involved only 1 vehicle (78.9%). All of the single-vehicle crashes occurred in rural areas, 7 of these on highways.

**Speeding, drinking alcohol and other risk-taking behaviours**

A number of factors are likely to increase the risk of a crash, or to worsen the severity of the injuries for car occupants in the event of a crash. In 6 of the incidents, police identified exceeding the speed limit as a definite factor, with a further 4 cases likely to have been speeding. Drug and alcohol involvement was suspected in 1 of the cases, and considered possible in another.

Only 1 of these incidents involved overt and extreme risk-taking. Four young people between the ages of 15 and 17 were killed while racing another car.

**Seatbelts**

Three of the 8 drivers were not wearing seatbelts at the time of the collision. One of the 11 passengers who died was also not wearing a seatbelt. In 7 cases it is not known if the vehicle occupant was wearing a seatbelt.

**Geographic distribution (ARIA+)**

Fatal crashes involving young people 15–17 years of age occurred at a higher rate in remote areas (4 deaths, 46.9 per 100,000 young people aged 15–17 years in remote areas). Regional areas had a lower rate of fatal transport incidents involving children in this age group, despite having a higher number of deaths (15 deaths, 23.0 per 100,000). No deaths occurred in metropolitan areas.

**Socio-economic status (SEIFA)**

Young people from lower socio-economic areas were more likely to be involved in a fatal road crash than those from higher areas. Those in the lowest socio-economic areas died at a rate of 20.8 per 100,000 young people aged 15–17 years living in low socio-economic areas (14 deaths), compared with 11.6 per 100,000 in moderate areas (4 deaths). One child lived in a high to very high socio-economic area.\(^{132}\)

**Motor vehicle-related injuries**

According to the QISU, 392 children and young people were injured in motor vehicle incidents in Queensland in 2004–05. The greatest number of these were in the 5–9 year age group (104 deaths). Of the total children injured, 10.2% were drivers and 89.8% were passengers. Injuries resulting from motor vehicle crashes were more common on Saturday and Sunday and were more frequent between the hours of 4pm and 7pm. Injuries were serious enough to warrant admission to hospital in 17.6% of cases.

\(^{128}\) In one additional case, the young person was being driven by a 17 year old cousin. As this person was being driven by a family member, this is not classified as a ‘peer’ driver under the Queensland Transport definition.

\(^{129}\) Speed limit less than or equal to 60km/h.

\(^{130}\) Speed limit between 70 and 90km/h.

\(^{131}\) Speed limit greater than or equal to 100km/h.

\(^{132}\) Rates are unable to be calculated for numbers less than 4.
Pedestrians

In the reporting period, 11 children and young people died as pedestrians, compared with 10 child pedestrian deaths in the 2004–05 12-month period. Children died as pedestrians at a rate of 1.1 per 100,000 children and young people aged 0–17 years.

Table 6.3 shows the number of pedestrian fatalities by gender, age category and rate.

Table 6.3 Pedestrian deaths by age and gender

<table>
<thead>
<tr>
<th>Age group</th>
<th>Female n</th>
<th>Male n</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
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<tr>
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<td>3</td>
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<td>3</td>
<td>*</td>
</tr>
<tr>
<td>10–14 years</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>9</td>
<td>11</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates for each age group are calculated per 100,000 children in that age group.
2. Total rate is calculated per 100,000 children and young people 0–17 years.

Gender

Nine male pedestrians died (81.8%), compared with 2 females (18.2%). Research has found males to be more likely to be injured or killed as pedestrians (Schrieber & Vegega 2002:3; Scott et al. 2004:1). Suggested reasons for this include an increased exposure to traffic, as well as different expectations about males compared with females – for example, that boys don’t need to be as careful as girls, and/or that boys are supervised less closely (Schreiber & Vegega 2002:3, 4).

Age

The majority of pedestrian fatalities (5 deaths, 45.5%) involved children aged 1–4 years, followed by 5–9 year olds and 10–14 years (3 deaths each, 27.3%). According to research, children in different age groups are at different risk of pedestrian injury. Infants under 1 year of age are either carried or pushed in a pram and so their risk of injury as pedestrians is largely determined by their parents’ actions.

Young toddlers (aged 1–2 years) are more likely to be injured in non-traffic situations, as in the case of low-speed run-overs in driveways. Their small size makes them difficult for drivers to see. Children between the ages of 3 and 9 are more often struck entering the roadway mid-block, as their traffic knowledge and perceptual skills are not yet developed enough to enable them to accurately judge traffic situations. The greater independence and mobility of older children and teenagers expose them to a greater number of risky traffic situations (Cross & Hall 2005:318; Schreiber & Vegega 2002:3).

Place and circumstances of incident

Low-speed run-overs

‘Low-speed run-over’ is a term used to describe incidents where a pedestrian is injured or killed by a slow-moving vehicle in a traffic or non-traffic area. Most of these incidents involve younger children (between the ages of 1 and 4 years) and occur in the driveway of their own home. Drivers tend to be members of their family, with vehicles reversing at the time of impact (Hockey, Miles & Barker 2003:1; Neeman et al. 2002).

Two of the pedestrian deaths involved low-speed run-overs of children under the age of 4 (aged 2 years and 1 year).

One low-speed run-over occurred in a driveway while a vehicle was reversing into the property. The driver of the vehicle was a family member. The second low-speed run-over occurred in traffic when a vehicle pulled out to move around a stationary vehicle at the side of the road. This is a significant decrease from the previous reporting period, when 7 children died in low-speed run-overs in the 12-month period. 133 Low-speed run-overs also result in a large number of injuries to young children. The QISU reports that, between 1998 and 2001, 68 children under the age of 5 presented to emergency departments with injuries as a result of low-speed run-overs, constituting two-thirds of pedestrian injuries in this age group. Injuries ranged from superficial injuries through to fractures and intracranial and internal injuries (Hockey, Miles & Barker 2003:2).

133 Eight low-speed run-overs occurred in the 18-month period covered by the Child Death Annual Report 2004–05.
Low-speed run-overs have received significant media attention over the last 12 months. The involvement of a child of a high-profile sportsman in a low-speed run-over highlighted the prevalence of this type of incident and the importance of close supervision of young children around vehicles. In 2003 the QISU reported low-speed run-overs as the third leading cause of injury deaths among 1–4 year olds (Hockey, Miles & Barker 2003:2). In 2004–05 the Commission found low-speed run-overs to be the second leading cause of transport injury death. Significant research has been conducted into the prevention of such incidents. For example, the rearward visibility of vehicles (particularly four-wheel-drives) and relevant improvement mechanisms have been examined (Paine & Henderson 2001; NRMA Insurance 2006). Queensland’s Smart Housing initiative outlines design principles for houses that separate children’s play areas from the driveway (Department of Housing 2004:7).

In light of the significant number of children who died in low-speed run-over incidents in 2004–05, the Commission made a recommendation that the Parliamentary Travelsafe Committee investigate low-speed run-overs in Queensland and report on means of reducing the number of injuries and fatalities from this cause. The Parliamentary Travelsafe Committee are still to consider this issue. Chapter 12 of this report provides further details regarding the progression of this recommendation.

**Other pedestrian fatalities**

Of the remaining 9 pedestrian fatalities, 4 involved road crossings. Two of these were in the 1–4 year age group, and 2 were aged between 10 and 14. Children in the younger age group had pulled away from adult supervisors and run into the street. Deaths of children in the older age group involved a deliberate attempt to cross the road.

In one incident 3 children were playing on railway lines in the early evening when they were struck by an approaching train. Two of these children were in the 5–9 year age group, and 1 was aged between 10 and 14 years.

One child in the 5–9 year age group died when struck by a vehicle while riding a child’s motorised scooter on a suburban street. The final incident involved a child who was struck by an out-of-control car while playing in a front yard. The driver of the vehicle was reported to have been intoxicated at the time, with a blood alcohol content above the legal limit.

**Pedestrian injuries**

Ninety children were injured as pedestrians in 2004–05. The 5–9 year and 10–14 year age groups recorded the greatest number of injuries (35 and 25 injuries respectively). Child pedestrians were most likely to be injured between the hours of 4pm and 6pm, and 30% required admission to hospital.

**Motorcycles**

One young person in the 15–17 year age group died while riding a motorcycle. This is a decrease from the 2004–05 12-month period, in which 4 young people died in motorcycle collisions.

In this instance, the young person was riding an unregistered 600cc motorcycle on-road without a helmet. According to Queensland law, a person of this age would be limited to riding a 250cc motorcycle. Police reports indicate that at the time of the incident this person was definitely exceeding the speed limit while trying to overtake.

In 2003 in Queensland, 2 children under 17 years died in motorcycle crashes. The overall rate of fatal motorcycle crashes for all road users was four times that of cars. Speed and disobeying road rules were frequently observed in motorcycle crashes (Queensland Transport 2005b:17–18, 28).

**Motorcycle injuries**

In 2004–05, 329 children and young people were injured while riding motorcycles. QISU has recorded that 97.0% of these injuries were of the driver of a motorcycle and 3% were passengers. Ten to 14 year olds had the highest number of injuries (160), followed by 15–17 year olds with 101 injuries.

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134 Queensland licensing laws specify that the minimum age for obtaining a learner licence is 16.5 years, during which time the individual must be supervised by a licensed rider and may only ride motorcycles of up to 250cc engine capacity. This engine capacity restriction holds even after a provisional licence is obtained (except where further tests are undertaken). Riders may progress directly to an open bike licence, and be able to ride bikes of any size, if they have held an open car licence for 3 years, and undertake a competency-based assessment (Q-RIDE).
Motorcycle crashes were most likely to happen on weekends and occur between the hours of 3pm and 6pm, although numbers were high during most of the daylight hours. Twenty-three percent required admission to hospital.

**Bicycles**

Two children and young people died in bicycle-related fatalities, equal to the number of cyclists killed in the 2004–05 12-month period.

**Gender**

Both of the children who died in bicycle incidents were male.

**Age**

One child was in the 10–14 year age group, while the other was aged between 15 and 17 years.

**Circumstances**

One child was riding his bicycle in wet weather and had ridden into the path of an oncoming car.

In the second incident the young person had fallen from his bicycle onto the road, where he was struck by an oncoming car. Police reports indicate that the young person may have been intoxicated at the time of the incident. The child was not wearing a helmet.

**Bicycle injuries**

The QISU recorded 1055 emergency department presentations for injuries caused by bicycles in 2004–05. Of these, 506 were of children 10–14 years of age, followed by 5–9 year olds with 338. Like most other types of transport-related injuries, bicycle incidents were more common on weekends, with the after-school hours of 3pm to 6pm carrying the most risk. Fourteen percent of cases were admitted to hospital.

**Other**

One child died in an incident involving a water craft. The girl, aged between 5 and 9 years, fell from a small boat in a harbour and drowned. She was being supervised by a family member at the time. This incident also resulted in the death of the child’s parent, who drowned while attempting to rescue her.

**Lifejacket use**

It was reported that the child was not wearing a lifejacket at the time of the incident. At that time, lifejackets for children were recommended but not compulsory. Regulatory changes have since made it compulsory for all Queensland children under 12 years of age to wear lifejackets in dinghies and other small boats (Odgers 2006). Penalties for non-compliance include a Marine Infringement Notice and a minimum fine of $150 (Lucas 2006) for the owner/driver of the boat.

This topic is further discussed in Chapter 7 of this report.

**Prevention and intervention**

**Young drivers**

The over-representation of young drivers in road crash statistics has been the focus of government concern for some time. The concept of graduated driver licensing for young and novice drivers has been established as an effective means of reducing young driver fatalities (Queensland Transport 2005b:5; Shope & Molnar 2003:67). Graduated Driver Licensing (GDL) schemes are designed to allow young drivers to gain driving experience in low-risk situations. By placing restrictions on the circumstances in which they may drive, GDL limits drivers’ exposure to high-risk situations until experience and/or competency is demonstrated (Ferguson 2003:71; Lin & Fearn 2003:51; Stevenson 2005:102).
Essential GDL features include a three-stage licensing system whereby:

- a learner's permit allows driving only when supervised by a fully licensed person; learner's permits must be held for a specified period of time and certain conditions must be met before allowing progression to a provisional licence
- a provisional licence allows driving while unsupervised, but under certain restrictions, and
- an unrestricted licence is obtained after a specified amount of driving on a provisional licence (Hedlund, Shults & Compton 2003:107; Parliamentary Travelsafe Committee 2003a:15; Stevenson 2005:102).

GDL schemes have been implemented in some form in every Australian state and territory, as well as internationally (Stevenson 2005:102; Parliamentary Travelsafe Committee 2003a:15).

In Queensland, the current system requires a young person to demonstrate their theoretical knowledge before gaining a learner licence (minimum age 16.5 years). This licence must be held for a minimum of 6 months, and driving must only be under the supervision of a fully licensed driver. A practical driving assessment is then conducted, resulting in the granting of a provisional licence which must be held for 3 years (this is reduced for older drivers). Drivers with a provisional licence must have a blood alcohol concentration of zero and are limited to 4 demerit points. An unrestricted licence is granted after this time.

In 2003 the Parliamentary Travelsafe Committee conducted an inquiry into young driver licensing in Queensland, making a number of recommendations:

- the introduction of a two-stage provisional licencing system similar to that in place in New South Wales
- a late-night driving restriction to apply between the hours of midnight and 4 am, for the first year of driving
- peer passenger restrictions for drivers who lose their provisional licence; these drivers would be restricted to one peer passenger for the first 12 months of returning to driving, or the remainder of the provisional licence period, whichever is longer, and
- the introduction of a hazard perception test, to be successfully completed before graduating to an unrestricted licence (Parliamentary Travelsafe Committee 2003a:vii–x).

A 2005 discussion paper by Queensland Transport (Queensland Youth: On the road and in control) outlined proposed changes to the current system, in keeping with the recommendations of the Parliamentary Travelsafe Committee (Queensland Transport 2005a). The Commission provided feedback on this discussion paper. It is the Commission’s view that young driver safety is paramount, and interventions should take into account young people’s views and not unduly infringe their mobility. The Commission provided support for Queensland Transport’s efforts to reduce young driver crashes, where these initiatives posed no adverse consequences for any groups of young people (such as Aboriginal and Torres Strait Islanders or those in rural and remote communities).

This consultation process has resulted in the introduction of amendments to young driver licensing laws in Queensland. From July 2007, additional requirements for learner drivers under the age of 25 apply:

- learner licences may be obtained from the age of 16, and must be held for a minimum of 12 months, and
- learners must gain 100 hours of supervised on-road driving.

The provisional stage has been split into two phases. P1 phase is a minimum of 12 months, during which a licence holder may drive unsupervised under the following conditions:

- red P plates must be displayed
- only 1 passenger under the age of 21 may be carried between the hours of 11 pm and 5 am
- mobile phones may not be used in any way by the driver, or on loudspeaker by their passengers, and
- vehicles driven must not be V8 or turbocharged, nor may they be modified.

The P2 licence phase (minimum 2-year duration) also restricts the type of car a provisionally licensed driver may drive, and green P plates must be displayed.
Restrictions on late-night driving will be introduced as a penalty for provisional drivers breaching certain licence requirements.

From December 2007, learner drivers will be issued with a multimedia education kit and support packages will be available for those young people who are unable to access a supervisor for their required on-road driving hours. By mid-2008, hazard perception tests will be required to be undertaken in order to progress from the P1 to the P2 phase.

Young driver safety was also among the topics for discussion at the 2006 Road Safety Summit in February. Experts in the field provided advice based on research, while community members were also encouraged to participate and share their views on road safety.

Driver distraction

Driver distraction as a factor in motor vehicle crashes is increasingly being recognised as a field requiring the attention of researchers and governments. It has been suggested that up to 38% of all traffic incidents can be attributed to distraction (Regan, cited in Road Safety Committee 2005:9). Driver distraction may contribute in one of four ways:

- **visual distraction** – when the driver’s eyes are taken off the road ahead and diverted to other objects inside or outside the vehicle
- **auditory distraction** – attention is diverted from the road to listening to sounds such as the radio or passenger conversation
- **attentional/cognitive distraction** – when the thoughts of the driver absorb attention to the point where driving performance is impaired, and
- **physical distraction** – removing one or both hands from the wheel to manipulate another object; this may also involve **structural interference**, where the driver is unable to coordinate two activities at once (for example, keeping control of the steering wheel while trying to tune the radio) (Regan, cited in Road Safety Committee 2005:2; Young, Regan & Hammer 2003:2).

Dr Michael Regan of Monash University has reported that young drivers are particularly vulnerable to distraction. He has stated that young drivers are more likely to willingly engage in distracting activities, compared with older drivers, who are more likely to regulate their behaviour while driving (Regan, cited in Road Safety Committee 2005:9–10). An additional component of this phenomenon may be related to the level of skill possessed by young drivers. More experienced drivers are more likely to be highly skilled and have more of the driving task operating automatically. This leads to these drivers having a greater amount of spare attentional capacity to cope with distractions (Williamson 1999).

The emergence of sophisticated information, communication and entertainment systems for use in vehicles has raised awareness of the problem of driver distraction. While studies have shown the detrimental effect of mobile phone use while driving, Monash University and others have advised that relatively little research has been done in Australia on the effect of other such devices on driver performance (Monash University 2005; Regan, cited in Road Safety Committee 2005; Young, Regan & Hammer 2003). Of particular concern to the Commission is the use of in-car DVD systems, which, research has suggested, may be as distracting to drivers as the use of mobile phones (Monash University 2005).

Currently in Queensland, it is illegal to operate a DVD player in a moving vehicle if the screen is visible to the driver or is likely to distract another driver (s. 299, Transport Operations (Road Use Management – Road Rules) Regulation 1999). Most cars with factory-installed DVD players mounted in the dash (in view of the driver) automatically switch off when the vehicle is in motion. However, systems that can be installed after vehicle purchase generally do not contain such safety features (Silkstone & Milovanovic 2004; Tsang 2005). Australian Design Rule 42/04 states that units must not be installed where the screen can be viewed from the normal driving position, but there is no legal requirement for compliance with this standard (Commonwealth of Australia, 2003; Regan, cited in Road Safety Committee 2005:13).
The danger of driver distraction is not limited to the visual component of an in-car DVD system. Even with rear-seat systems where the driver cannot view the screen, attention may be diverted from the task of driving by listening to dialogue, which in itself may be just as distracting as listening to a radio or talking on a mobile phone (Australasian College of Road Safety 2004:27). The NRMA has suggested that sudden loud noises from the soundtrack (or reactions from those watching it) can startle the driver, leading to dangerous driving (NRMA n.d.).

Dangers to children and young people lie in the modification of vehicles by young drivers to include the latest technology such as DVD players, as well as in children viewing from rear-seat players, with the possibility of their parents’ attention being diverted from the road, leading to potentially fatal crashes.

This is an issue the Commission intends to investigate further in the 2006–07 reporting period. In discussions with Queensland Police Service, the Commission has already recommended the addition of sections to the Police Report of Death to a Coroner to identify where driver distraction as a result of in-car devices may have been a contributing factor in fatal crashes.
Chapter 7
Drowning

“More than one child drowns every week in Australia. This horrific figure has been described as a ‘national disgrace’ and toddler deaths represent the largest percentage of drownings in Australia”
(Royal Life Saving Society Australia 2006:1)

Key issues

- Drowning was the leading cause of death for 1–4 year olds (15 deaths).
- Compared with the 12-month 2004–05 data, drowning has increased by 33.3% in the current reporting period.
- The majority of drownings occurred in swimming pools (8 deaths), followed by bathtubs (4 deaths).
- Seven of the 18 drowning deaths occurred on a Queensland public or school vacation holiday (38.9%).
- Prevention of drowning deaths is ideally achieved through constant adult supervision in combination with appropriate environmental modification (such as compliant pool fencing) and resuscitation qualifications. In all 8 pool drownings, the child was not actively supervised.
- Of the 7 domestic swimming pool drownings, only 1 pool was known to have been compliant with the swimming pool fencing Australian Standard (AS 1926-1995). Three had significant fence or gate defects and the fencing was unknown in 1 case. One child stood on a chair to open the pool gate and another child was mistakenly left in the pool area when there was a party at the house.
- Of the 18 children and young people who drowned between 1 July 2005 and 30 June 2006, 4 children were known to the Department of Child Safety (DChS) in the 3 years before their death (22.2%). Children known to the Department were over-represented, with 19.9 children aged 0–4 years drowning per 100,000 children in the child protection population, compared with 7.1 drownings for children 0–4 years per 100,000 in the whole population.

Between 1 July 2005 and 30 June 2006, 18 children and young people drowned in Queensland. Drowning was responsible for 19.4% of all external causes of death for children aged 0–17 years. Drowning accounted for by far the highest number of deaths from all causes for children aged 1–4 years. Overall, the number of drownings increased in 2005–06 by 33.3% (6 deaths).

Drowning trends and patterns, 2005–06

Table 7.1 illustrates the age categories and gender breakdown for all drowning fatalities over the 12-month period examined.

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females</th>
<th>Males</th>
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<td>*</td>
</tr>
<tr>
<td>1 year</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>2 years</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3 years</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Subtotal 1–4 years</td>
<td>6</td>
<td>9</td>
<td>15</td>
<td>7.4</td>
</tr>
<tr>
<td>Total 0–4 years</td>
<td>7</td>
<td>11</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Rate per 100,000</td>
<td>5.7</td>
<td>8.4</td>
<td>7.1</td>
<td></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes:
1. Age categories were excluded where no children of that age died in the reporting period.
2. Rates are calculated based on population data for children and young people aged birth to 4 years only.

135 Refer to Chapter 3.
136 One of the pools was a wading pool that did not require fencing in accordance with legislation as it was less than 45cm deep.
137 An additional 3 drowning deaths (2 boat incidents and 1 bathing) occurred in this period but have not been accounted for in this chapter as these deaths have not been registered with the Registry of Births, Deaths and Marriages.
Gender

In the 12 months examined, 11 male children (61.1%) drowned in Queensland, compared with 7 females (38.9%). This finding was consistent with the findings of the 2004–05 period, which also identified male children to be more likely to drown compared with female children (9 males, 3 females). In line with this finding, the rate of children aged under 5 years drowning in the current reporting period was 7.1 per 100,000 0–4 year olds in the population. Male children had a higher rate of drowning, with 8.4 children aged 0–4 per 100,000 in the population, compared with 5.7 females.

This finding is consistent with the literature, which has generally found that males drown at 3 times the frequency of females (Australian Water Safety Council 2004; Royal Life Saving Society Australia 2005:4; Williamson, Irvine & Sadural 2002:5).

The greater involvement of males in injury is often attributed to their supposed high propensity for risk taking in comparison with females (NSW Water Safety Taskforce 2002:29). Acts such as wandering outside and crawling under or climbing over fences reflect more risky, adventurous and inquisitive behaviour, which results in the child being more likely to come into contact with water hazards.

Age

Between 1 July 2005 and 30 June 2006, drowning represented the leading cause of death for children 1–4 years of age (83.3%, 15 deaths). This finding is consistent with the findings from the 2004–05 reporting period, with drownings occurring most frequently in the 1–4 year age category. Children aged under 1 year were the only other age category which experienced drownings in the current reporting period, with 3 deaths (16.7%). This differed from the 2004–05 12-month data, which reported drownings occurring for children in all age categories except those under 1 year (refer to Chapter 3).

It is frequently documented that drowning is the most common cause of non-intentional injury-related death for children under 5 years of age in Queensland (Cunningham et al. 2002; Department of Local Government and Planning 2005f:2). During these early years, toddlers experience increased mobility, rapid physical growth and motor development changes, and are curious to explore their environment (Child Development Institute 2005). Toddlers are, however, still learning to control their body movements and are physically top heavy, resulting in general balancing and coordination problems (Lawrence & Irvine 2004:16). Further, toddlers do not perceive water as a threat; they actually see bodies of water such as the in-ground home swimming pool as an attractant (Pearn 2002:2). During this developmental stage, toddlers have a particular fascination with bright colours, moving objects, noise and water. Prevention strategies for this more vulnerable group are therefore perhaps best to focus on the circumstances in which the child becomes vulnerable, rather than on modifying the child’s behaviour (NSW Water Safety Task Force 2002:30).

Types of drowning-related deaths

Over the 12-month period examined, fatalities involved drowning of differing types. One death was primarily the result of other causes – a transport incident, which has been analysed in the transport chapter – and this death is therefore excluded from the drowning numbers. However, all incidents that involved drowning have been included in Table 7.2 to illustrate the different types of drowning-related fatalities by gender.

Table 7.2: Types of drowning-related deaths by gender

<table>
<thead>
<tr>
<th>Type of drowning</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming pool drownings</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Non-pool drownings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathtubs</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Static inland waterways (dams/lakes)</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tanks (water/septic)</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Container</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fell out of a boat138</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
<td><strong>11</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

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138 Drowning-related deaths in this category are included in Chapter 6, ‘Transport’, as the death was secondary to a motor vehicle incident. Details relating to this drowning will also be discussed in the ‘Circumstances of non-pool drownings’ section of this chapter.
Aboriginal and Torres Strait Islander status

During the reporting period, 3 of the 18 children (16.7%) who drowned were of Aboriginal origin. One death occurred in a swimming pool and the other 2 were bathtub drownings. There were no drowning deaths registered for Torres Strait Islander children during the reporting period, although it should be noted that 2 Torres Strait Islander children drowned in separate boating incidents during this reporting period. As these deaths have not been registered by the Registry of Births, Deaths and Marriages, these deaths have not been counted in this report (see Chapter 2 for further details). The Commission is working with the Registry to investigate processes to ensure these deaths are registered. It is also of note that the bodies of these two children have not been recovered, nor have the coronial findings been finalised for these deaths. One Indigenous child drowned in the 2004–05 period (see Chapter 3).

A high incidence of drowning is apparent among Indigenous children under the age of 5 across Australia. Overall, Indigenous Australians are 3 times more likely to drown than non-Indigenous Australians (Mackie 1999; Australian Bureau of Statistics & Australian Institute of Health and Welfare 1999).

Geographical distribution (ARIA+)

Ten of the 18 drownings occurred in metropolitan areas (7 children aged 0–5 years per 100,000 in the population), compared with 6 in regional (6.4 drownings per 100,000) and 2 in remote areas.139 Swimming pool drownings and non-pool drownings were both more likely to occur in metropolitan areas (5 drownings each). Conversely, drownings in regional areas were higher in the 12-month 2004–05 period (refer to Chapter 3). The findings for the current reporting period are inconsistent with last year’s findings.

Research in this area has found that drowning in metropolitan areas and rural areas differs in terms of the locations in which children drowned (NSW Water Safety Taskforce 2002:12). The literature shows that drowning in metropolitan areas tended to occur most frequently in pools, followed by baths. In contrast, drowning in rural regions tended to occur most frequently in dams, followed by lakes and rivers.

Socio-economic status (SEIFA)

Seven of the children and young people who drowned in the reporting period were living in a low or very low socio-economic area. Conversely, 5 children lived in high to very high socio-economic regions. Six of the children who drowned lived in moderate regions. Rates were highest in moderate socio-economic regions (11.1 children aged 0–5 years drowned per 100,000 0–5 year olds in the population), followed by low and very low areas (6.8 children per 100,000) and high and very high socio-economic areas (5.2 children per 100,000). In comparison, the greatest number of drowning deaths occurred in low and very low socio-economic regions during the 12-month 2004–05 period (refer to Chapter 3).140

Child protection population

Of the 18 children and young people who drowned between 1 July 2005 and 30 June 2006, 4 children were known to the DChS in the 3 years before their death (22.2%). Children known to the Department were over-represented, with 19.9 children aged 0–4 years drowning per 100,000 children in the child protection population, compared with 7.1 drownings for children 0–4 years per 100,000 in the whole population. The Department’s involvement with those children will be reviewed by the Child Death Case Review Committee (CDCRC).141

In a further case, the Police Report of Death to a Coroner (Form 1) indicated that the family had a history of departmental involvement with the deceased child’s siblings only.142

139 Rates are unable to be calculated for numbers less than 4.
140 Rates were unable to be calculated for socio-economic status because numbers were too small in more than one category.
141 Since 1 August 2004, the DChS has been required to conduct a review of its involvement with a child if the child was known to the Department within 3 years before their death. The CDCRC is an independent committee responsible for considering the Department’s review. The committee is multi-disciplinary and is chaired by the Commissioner.
142 These cases have not been considered by the CDCRC to date (refer to Chapter 4 for more details).
Demographics of pool drownings

The Commission has identified that drowning is the most common cause of death for children 1–4 years of age. Forty-five percent of drowning deaths occurred in swimming pools. During the 2005–06 reporting period, 8 children drowned in Queensland swimming pools. This finding is consistent with estimates that 8 children drown in swimming pools every year in Queensland (Department of Local Government and Planning 2005a). The rate of children aged 0–4 years who drowned in Queensland for the current period was 3.2 children per 100,000 children aged 0–4 years in the population.

Table 7.3 illustrates the age and gender breakdown for all pool drownings over the 2005–06 12-month period.

Table 7.3: Pool drownings by gender and age category

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2 years</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>3 years</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
<td><strong>3</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)
Note: 1. Age categories were excluded where no children of that age died in the reporting period.

Gender

More females than males drowned in swimming pools (5 females, 3 males). This finding is inconsistent with the findings of the Annual Report: Deaths of children and young people, Queensland, 2004–05 (Child Death Annual Report, 2004–05) and the drowning literature, which has found that male children are more likely to drown in swimming pools than female children (Cunningham et al. 2002:2; NSW Water Safety Taskforce 2002:15).

Age

In line with the findings from the Child Death Annual Report, 2004–05, all swimming pool drownings occurred among children aged 1–4 years (8 deaths). These findings are consistent with the literature, which has found that children under 5 years of age are most vulnerable to drowning (Australian Water Safety Council 2004:11; Cunningham et al. 2002:2; Mackie 1999; Royal Life Saving Society Australia 2005:6). Further, the Commission’s 13-year review found that 85.7% of children who drowned in swimming pools were toddlers (Child Death Annual Report, 2004–05). According to the Queensland Injury Surveillance Unit (QISU), almost half of all drownings of children aged 0–4 years occur in swimming pools (Baylis et al. 2001:1; Cunningham et al. 2002:1). In addition, the QISU has observed that for every child drowning death there are up to 14 children taken to hospital emergency departments and 4 admissions to hospital (see the ‘Near-drownings’ section below for QISU data for 2004–05).

Toddler drowning in swimming pools is a relatively recent epidemic in Queensland. Before the 1970s, few residences had pools and consequently there were few toddler drownings (Department of Local Government and Planning 2005d:7). It is currently estimated that one in four Queensland houses has a pool. This means swimming pools have become more accessible to young children – currently making pools the most dangerous water hazard to young children (Department of Local Government and Planning 2005d:7).

Aboriginal and Torres Strait Islander status

One of the 8 children who drowned in swimming pools was of Aboriginal origin.
Geographical distribution (ARIA+)

Five of the 8 pool drownings occurred in metropolitan regions (62.5%). Three of the children who drowned in pools resided in regional areas and none lived in remote regions. These findings are consistent with the drowning literature, which shows that swimming pool drownings occur most frequently in metropolitan areas (NSW Water Safety Taskforce 2002:12).

Socio-economic status (SEIFA)

The vast majority of children who drowned in swimming pools between 1 July 2005 and 30 June 2006 resided in moderate socio-economic regions (4 drownings). Three resided in low and very low socio-economic regions and 1 lived in a very high socio-economic area.

Table 7.4: Summary of pool drownings

<table>
<thead>
<tr>
<th>Type of pool</th>
<th>Was the pool fenced?</th>
<th>Type of fencing</th>
<th>Compliant with AS?</th>
<th>Problems with fence/gate?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private/in-ground</td>
<td>Yes</td>
<td>3-sided fence</td>
<td>No</td>
<td>Fence inadequate – numerous climbing points and non-compliant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gate defective – latches did not work and gate could not be closed. Gate left open</td>
</tr>
<tr>
<td>Private/in-ground</td>
<td>Yes</td>
<td>3-sided fence</td>
<td>No</td>
<td>Fence defective – palings missing and numerous points for child to gain access</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gate left open</td>
</tr>
<tr>
<td>Public/in-ground</td>
<td>Yes</td>
<td>Boundary fencing</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Private/portable wading pool[45]</td>
<td>No</td>
<td>N/A</td>
<td>N/A</td>
<td>Fencing not required</td>
</tr>
<tr>
<td>Private/in-ground</td>
<td>Yes</td>
<td>4-sided fence</td>
<td>Unknown</td>
<td>No</td>
</tr>
<tr>
<td>Private/in-ground[46]</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Private/in-ground</td>
<td>Yes</td>
<td>3-sided fence</td>
<td>No</td>
<td>Fence defective – gaps in fence where child could gain access</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gate defective – did not close or lock properly. Gate propped open at time of incident</td>
</tr>
<tr>
<td>Private/in-ground</td>
<td>Yes</td>
<td>4-sided fence</td>
<td>Yes [44]</td>
<td>No</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Circumstances of pool drownings

A number of factors have been identified as increasing the likelihood of childhood drowning in swimming pools. The main factors are:

- inadequate or no fencing
- lack of gate security
- inadequate supervision
- lack of effective water skills, and
- lack of resuscitation skills.

Table 7.4 provides a summary of the circumstances surrounding swimming pool drownings registered in the reporting period.

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143 With the Australian Standard (AS 1926-1995: Swimming pool safety – Location of fencing for private swimming pools).
144 This pool was compliant with the public swimming pool standards.
145 A 'portable wading pool' is defined in the Act as capable of being filled with water to a depth of no more than 450mm; has a volume of no more than 2000 litres; and has no filtration system. For a pool to be considered a portable wading pool, it must meet all three criteria.
146 This death occurred a significant amount of time after the initial near-drowning incident. Consequently, police would have not completed the Form 1 at the incident address.
Location of incident

Of the 8 pool drownings, 7 occurred in private swimming pools; 6 of these drownings were in a pool located at the child’s residence; 1 child drowned in a pool at a friend’s house and 1 death occurred in a public swimming pool. These findings are consistent with the literature, which shows that the most common location where children drown is the home, with almost two-thirds of drownings occurring in pools at the child’s residence (Cunningham et al. 2002:2; Royal Life Saving Society Australia 2005:5).

The last few decades have seen a significant increase in the number of pools on residential properties. In 1991, there were an estimated 132,000 swimming pools and spas in Queensland. In 2002, the Office of Economic and Statistical Research established that approximately 310,000 residential houses had outdoor swimming pools or spas, representing an increase of 135% in 11 years (Department of Local Government and Planning 2005d). As at 2002, 22% of Queensland homes had a swimming pool. Further, Brisbane City Council has reported that more than 2700 new pools are built each year in that municipality alone (Department of Local Government and Planning 2005d). With the increasing number of pools in Queensland, there has also been a rise in toddler drownings in domestic swimming pools since the 1970s.

Pool fencing

Fencing sides

As shown in Table 7.4 above, 7 children drowned in private pools. One private pool did not require any fencing and it is unknown what type of fencing another of these pools had. In the remaining 5 cases where the type of fencing was known, 3 children died in pools with 3-sided fencing, compared with 2 deaths in pools with 4-sided fencing.

The public pool noted in the table had appropriate and compliant fencing around the outside of the premises.

Fencing and gate compliance

Of the 7 private swimming pool drownings identified in the current reporting period, only 1 pool was known to have been compliant with the Australian Standard (AS1926-1995 Swimming pool safety – Fencing for swimming pools). One of the pools did not require fencing, as it was a portable wading pool which was less than 45cm deep, and it is unknown what type of fencing one pool had. Three of the pools where drownings occurred were noted to have significant fence and gate deficiencies. These included:

- climbing points on the fences
- gate latches that did not lock or close properly
- gaps in the fence large enough for a small child to climb through, and/or
- the gate had been propped or left open.

Two of the swimming pool drownings took place in pools which were not observed to have any fencing or gate problems. One of these drownings occurred when the child dragged an item to the fence and let themselves into the pool area. The other child was at a party where a number of people were swimming in the pool. The child was mistakenly left in the pool area when everyone else went inside the house. It was thought that the child was already inside.

The public swimming pool where one drowning occurred was not found to have any fencing or gate compliance problems.

Pool fencing is an important prevention strategy to decrease the risk of drowning in swimming pools. In particular, installation of 4-sided fencing that isolates the pool from the house and the yard has been shown to decrease the number of pool immersion injuries and deaths among young children (Brenner et al. 2003:442). However, for pool fencing to save lives, the barrier must be kept intact and maintained, with a gate that self-latches and closes automatically. It is clear from the data that many of the current pool drownings resulted from inadequacies in the fencing.
History of pool fencing

As identified last year, the catalysts for improvement of pool fencing legislation in Queensland were two coroner’s reports in 2002 investigating the drowning of two young children in residential swimming pools (Department of Local Government and Planning 2005b). In response the Department of Local Government and Planning conducted a review of pool fencing requirements under the Building Act 1975 which found that a number of amendments to this Act were necessary to improve the level of safety of children around residential swimming pools.

Between 1983 and 1991, QISU found that, on average, 12 children drowned in Queensland every year. In contrast, from 1992 to 2001, after the introduction of the new pool fencing legislation, the number of children drowning decreased to approximately 8 per year. This indicates that the legislation has been instrumental in reducing toddler deaths, despite pool numbers more than doubling since the legislation was introduced in 1991.

Impact of pool fencing

The installation and maintenance of a swimming pool fence can significantly reduce the incidence of toddler drowning. Since the introduction of the pool fencing legislation, it has been estimated that at least 70 toddler drowning deaths may have been prevented (Cunningham et al. 2002:1; refer to the ‘Prevention and intervention’ section later in this chapter for more specific information relating to the pool fencing legislation). Nevertheless, a significant number of children continue to drown in swimming pools, with many deaths occurring in unfenced pools or pools with defective fencing and gates. This is consistent with the Commission’s findings in 2004–05. The responsibility for pool fencing compliance rests with individual owners to maintain and keep their pool fencing at a compliant standard.

Supervision

In all 8 pool drownings, the child was not being actively supervised at the time of the incident. In 4 cases the child was reportedly left alone for up to 10 minutes while the carer undertook household tasks (including checking on another child, answering the telephone or making a phone call). In 1 case, the carer was performing home duties in the general vicinity of where the child was playing. In another case, the child was unintentionally left in the pool area after carers thought the child had left the area. In 2 cases, no supervision was being provided to the child at the time of the drowning.

In 2 cases, the child who drowned was in the care of an older sibling/s (16 years or younger). In a further 4 cases, multiple individuals were caring for the child at the time the drowning occurred.

Young children are naturally curious and are attracted to water, and this is why supervision is so vital to preventing toddler drownings. The literature documents that many drownings occur in the few seconds that parents are distracted, as submersion is usually quick and quiet, especially among younger children (Cunningham et al. 2002:2; Washington State Department of Health 2004:8). In the majority of toddler drownings, the responsible adult had no idea the child was near the pool and often assumed that the child was safe in the house (Cunningham et al. 2002:2). Consequently, an understanding of how toddlers can gain unintended access to swimming pools is crucial to preventing their drowning (Cunningham et al. 2002:2).

The Royal Life Saving Society Australia (n.d.b) and the Department of Local Government and Planning (n.d.) define supervision as continuous visual contact of the child by a responsible carer. Cunningham et al. (2002:6) define adequate toddler supervision as keeping the child in a direct line of sight whenever the toddler is in close proximity to a water hazard. These definitions presume that the carer is aware of the proximity of the toddler to the water hazard, which is not the case for most toddler drownings. Indirect supervision has resulted in
the loss of many lives, proving that, when a carer’s attention is focused on something else, tragedies can occur (Royal Life Saving Society Australia n.d.b). Therefore, to prevent toddler drownings it is essential that close supervision is combined with other methods of reducing hazards, including erecting appropriate barriers such as 4-sided pool fencing (Cunningham et al. 2002:6).

**Sibling supervision**

Parents leaving young children in the care of siblings has been identified by Royal Life Saving Society Australia to be a factor in a number of toddler drowning deaths. Older children do not have the abilities needed to prevent child drownings, such as constant attention, swimming and rescue skills and strength, and are often not skilled in perceiving and responding to emergencies (Royal Life Saving Society Australia n.d.b; Washington State Department of Health 2004:8). Further, children supervising other children can be traumatised by guilt about a drowning death that occurs under their care (Washington State Department of Health 2004:8). In two pool drownings examined by the Commission in the reporting period, siblings were responsible for supervising the child at the time of the incident.

**Supervision at parties**

Parties or other times when there are groups of adults and children together pose a hazard when the adults are not specifically watching the children. In the reporting period there was 1 case where a child drowned at a party where numerous children and adults were present.

At parties where numerous children are present, the risk of drowning may be reduced by ensuring that specified adults are designated to watch children near or in the water at all times during the event (Washington State Department of Health 2004:8). The number of children supervised by 1 adult should be limited to allow for constant supervision, with continuous visual contact maintained at all times, for each child.

**Length of time**

The length of time which elapsed between when the child was last seen alive and when the child was found unresponsive is detailed in Table 7.5.

**Table 7.5: Time elapsed between child last seen alive and found unresponsive**

<table>
<thead>
<tr>
<th>Length of time</th>
<th>Cases $n$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 10 minutes</td>
<td>5</td>
</tr>
<tr>
<td>Up to 30 minutes</td>
<td>2</td>
</tr>
<tr>
<td>Over an hour</td>
<td>1</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

As shown in Table 7.5, the majority of cases occurred when a child had been left alone or was not seen for up to 10 minutes. This demonstrates that drownings can occur in minutes when parents are not actively supervising their child, or when they become distracted.

**Swimming ability**

Seven of the 8 children who drowned in pools were reported to have been non-swimmers. The swimming ability for 1 child was not known.

It has been estimated that for every toddler drowning there are approximately 10 ‘near misses’ (children who experience immersion but are rapidly rescued). This highlights the need for all Australians to be able to swim and be familiar with the water and the danger it poses – particularly those children and residents with swimming pools (Department of Local Government and Planning 2005a; refer to the ‘Prevention and intervention’ section for information relating to infant aquatic lessons).

A number of studies have shown that swimming lessons improve swimming ability and that this effect can be seen in children as young as 2 years of age (Brenner et al. 2003:443). However, there is currently very limited data to show that swimming lessons actually decrease the risk of drowning. The American Academy of Pediatrics states: “children
are generally not developmentally ready for formal swimming lessons until after their fourth birthday” (2000:868). Consequently it is essential that other safety precautions, such as ensuring that pool fencing is compliant, are adhered to, in combination with other preventative strategies such as baby swimming and water familiarisation classes (Brenner et al. 2003:43). Swimming lessons should not be seen as the only means of drowning prevention.

Season and time of year
A significant proportion of the drowning literature reports that children are more likely to drown in swimming pools during the summer months. In the reporting period, an equal number of children drowned in swimming pools during the summer and spring seasons (3 drownings each).

Research has also shown that drownings occur disproportionately on Saturdays and Sundays (Brenner et al. 2003:440). An equal number of swimming pool drownings occurred on weekends compared with on a weekday (4 deaths each). A number of the drowning incidents also occurred on a Queensland public or school holiday. Specifically, 3 children drowned in swimming pools over the spring and summer school vacation breaks (37.5%).

Resuscitation
Resuscitation was attempted in all 8 pool drownings by a parent or by arriving ambulance officers. In 3 cases, the person who commenced resuscitation was trained in cardiopulmonary resuscitation (CPR). The parents of the child attempted to resuscitate their children in 4 cases. It is unknown whether any of these parents were trained in CPR. In 1 case the ambulance officers were the first people to attempt CPR on the child.

Immediate resuscitation at the site of a submersion incident, before the arrival of paramedics, is an important means of secondary prevention and has been associated with a significantly better neurological outcome in children with submersion injuries (Brenner et al. 2003:443). It has been previously documented that, in most cases of child drownings, there was no person with CPR or first aid skills present when the child was initially found (Burford et al. 2005:614; Department of Local Government and Planning n.d.). This also seems to be the case with the Commission’s findings for the current reporting period; only 3 people known to have been qualified attempted CPR after the child was found (this included one ambulance officer).

As health outcomes after immersions depend on the early initiation of resuscitation, CPR training is recommended for all pool owners (Burford et al. 2005:614). Unfortunately, only 8.5% of Queenslanders over the age of 40 years have current CPR training (Department of Local Government and Planning n.d.). Parents and caregivers should give due consideration to gaining current resuscitation qualifications (see the ‘Prevention and intervention’ section in relation to services available for training in first aid and CPR).

Signage
Legislation stipulates that owners of residential swimming pools who lodged an application for approval to build a pool on or after 1 October 2003 must display a sign that details the procedures for CPR near the pool.

In the 8 cases under consideration, only the public swimming pool was known to have a resuscitation sign displayed in the general vicinity. In 4 cases it was noted that there were no signs displayed, and it is unknown whether signs were displayed in the other 3 cases.

It is important that resuscitation signs displayed near the pool are easily seen and read, are made of durable materials and include clear statements of how to act in an emergency, including, for example, telephoning for an ambulance, staying with the injured person, calling for help and providing first aid.

The following case study illustrates a number of factors which are common in many drownings among Queensland children.
Case study

David, 2 years of age, was playing in the back yard a short distance away from his parents, who were tending to duties in a shed. The child had not been heard from for about 5–10 minutes before the parents realised he was missing and began to search for him. David was found dead in the family swimming pool a short time later. Police reported that the fencing surrounding the pool was defective and non-compliant with the current fencing requirements. A number of gaps in the fence made it accessible to a small child and the pool gate had also been left open.

Demographics of non-pool drownings

Table 7.6 illustrates the type, age and gender breakdowns for all non-pool drownings over the 12 months examined.

Table 7.6: Non-pool drownings by type, gender and age

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females $n$</th>
<th>Males $n$</th>
<th>Total $n$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathtubs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 1 year</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1–4 years</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Static inland waterways (dam/lake)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–4 years</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Subtotal</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Water/septic tanks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–4 years</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Subtotal</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Container</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Under 1 year</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Subtotal</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

Gender

During the reporting period, more males than females drowned in non-pool locations (8 males, 2 females). This is consistent with the findings of the Child Death Annual Report, 2004–05, which also found that males drowned at more than twice the frequency of females.

Age

The findings for the age of children who died in non-pool drownings were similar to those discussed above for pool drownings, with 70.0% of children being between 1 and 4 years of age (7 cases). In the 3 other cases, the children were aged under 1 year; these drownings occurred in bathtubs (2 deaths) and a bucket of water (1 death).

The age of drowning for children in the current reporting period differed from that reported last year, with all deaths occurring in children under 5 years of age this year. In contrast, last year children in all age categories (other than children under 1 year) drowned in non-pool incidents.

In addition, between 1998 and 2000 the QISU undertook a study of all non-pool drownings and found that 73% of deaths were of children aged less than 5 years. This finding is in line with those of the current reporting period, indicating that children at the most significant risk are again those aged 0–4 years.

Aboriginal and Torres Strait Islander status

Two of the 10 children who drowned in locations other than pools were of Aboriginal origin. Both of these drownings occurred while bathing. No Torres Strait Islander children drowned in non-pool incidents during this reporting period.

Geographical distribution (ARIA+)

The majority of non-pool drownings occurred in metropolitan areas (5 deaths). Three drownings occurred in regional areas and 2 in remote and very remote regions. This finding differs from the findings of the Child Death Annual Report, 2004–05, which...
found that the majority of non-pool drownings occurred in regional areas (5 deaths) and remote areas (4 deaths), compared with metropolitan regions (2 deaths).

**Socio-economic status (SEIFA)**

Children and young people who drowned in non-pool incidents were equally as likely to reside in low and very low and high and very high socio-economic regions (4 deaths each). Two children resided in moderate socio-economic regions.

**Circumstances of non-pool drownings**

Children drowned in a number of different locations over the 12-month reporting period. These included bathtubs, static inland waterways (dams/lakes), tanks (water/septic) and in a bucket. In addition, the circumstances surrounding the drowning of a child who had fallen out of a boat have also been detailed in this chapter. However, this death is not included in the non-pool drowning count. Details of these drownings are reported below.

**Bathtubs**

In the 12-month reporting period, 4 children drowned in a bathtub or an area being used as a bathtub (such as a sink or laundry tub), representing 22.2% of all drowning deaths. In contrast, no children drowned in bathtubs in the 2004–05 12-month reporting period. These children were all aged under 2 years.

Consistent with the literature, males and females were equally likely to drown in a bathtub (Baylis et al. 2001:2; NSW Water Safety Taskforce 2002:21; Office of Fair Trading 2004). This differs from almost every other type of drowning, where, in most cases, males are significantly more likely to drown. Two children who drowned in bathtubs were Aboriginal. In addition, 2 of the children were known to the DChS.

**Activity at time of incident**

Three of the 4 children who drowned in bathtubs were placed in the bath by their parents/carers. The other child entered the bathroom from elsewhere within the house and climbed or fell into the bath, which was being filled in preparation for the child to be bathed. This finding is consistent with the literature, which has found that most bathtub drownings occur when parents/caregivers leave the infant alone in the bath, even for a very short period of time (Baylis et al. 2001:2; NSW Water Safety Taskforce 2002:22; Snider-Riczker et al. 2005:166).

**Supervision**

The majority of bathtub drownings occur when there is a lapse in caregiver supervision or when this supervision is interrupted. In all cases of bathtub drownings identified in the reporting period, lack of adult supervision played a role in the drowning, with most of the children being left in the bath without adult supervision. Activities that carers engaged in when leaving a child unsupervised included getting clothes, disposing of dirty nappies, getting bottles, answering the phone and going to the toilet.

One of the drownings occurred when the child was left with a slightly older sibling. The literature states that leaving a child in the care of young siblings is common in bathtub drownings (Baylis et al. 2001:2; Byard et al. 2001:542; NSW Water Safety Taskforce 2002:22; Snider-Riczker et al. 2005:166). A study conducted by Snider-Riczker et al. (2005:169) examining proxy supervision by an older sibling or other young caregivers found that parents often reported that they felt more comfortable leaving their child in the bath if an older child was present. Shared bathing leads to a false sense of security (Somers, Chiasson & Smith 2006:115). It is not appropriate to leave a young child to look after an infant or toddler in the bath. The risk of leaving an infant in a bath containing water may be exacerbated if an older child is present (Byard et al. 2001:544). Supervision by a competent adult actually touching the child is required for safe bathing (Baylis et al. 2001:3).

Another common misconception by parents is to believe that by listening out for their child they will...
hear the child if they are in trouble (Royal Life Saving Society Australia 2006). Drowning is swift and silent and is often not accompanied by splashing or crying out. It is essential that parents and caregivers never leave a child or infant alone in the bath for any amount of time.

The following case study illustrates circumstances and factors common in many bathtub drownings.

**Case study**

A child 1 year of age was placed in a bath with her slightly older sibling. The child’s parent started running the bath, but did not put the plug in. The parent left both children unattended in the bath for about 5 minutes to dispose of dirty nappies and get the children’s bottles. The child was found floating face down in the bath, which was filled with about 10 centimetres of water. Clothing and toys were found plugging the hole, which allowed the bath to fill with water.

**Static inland waterways (dams/lakes)**

Three of the 10 non-pool drownings occurred in static inland waters, accounting for 16.7% of all drownings. All of the toddlers who drowned were male and aged 1–4 years. This finding is consistent with the literature, which has found males to be twice as likely as females to drown in dams, ponds and lakes (Baylis et al. 2001:2; NSW Water Safety Taskforce 2002:24). Children aged between 1 and 5 years were also cited as drowning in static inland waterways most frequently, consistent with the Commission’s findings.

**Location and distance**

Two of these deaths occurred in a dam and 1 child drowned in a lake. One of the deaths occurred on a large regional property, while the other 2 children drowned in public waterways while picnicking with their families. The distance from where the child was last seen to the water in which 2 children drowned was estimated to be between 200 and 350 metres. In the remaining case the distance was identified as unknown in the Form 1, but is thought to have been less than 200 metres.

**Supervision**

In these 3 cases none of the children were in direct line of sight. In 2 cases the child was assumed to be playing with other children when the parents realised the child was missing. In 1 case the child was with the family dog. In all cases, the child had reportedly ‘wandered off’.

Research has shown that the two most common contributing factors to drowning in static inland waterways are a lack of direct adult supervision and the behaviour of the children themselves (such as wandering off) (Baylis et al. 2001:2; Royal Life Saving Society Australia n.d.a). In the majority of cases the responsible parent is unaware the child has wandered off near a water hazard (Cunningham et al. 2002:5).

**Fencing and barriers**

In the 2 drownings that occurred in public areas, there were no fences and barriers around the lake/dam. The large regional property was surrounded by boundary fencing. The house and yard of the house also had inner fencing (refer to the ‘Prevention and intervention’ section for more information on safer fences for children on farms).

**Water/septic tanks**

Two children drowned in water/septic tanks in the 12-month reporting period, representing 11.1% of all drownings. Both children were male and aged 1–4 years. One of the children drowned after he fell into a public septic tank. The other child fell into an inground water tank.

**Activity at time of incident**

At the time of drowning, both children were at a gathering with numerous adults and children in attendance. One child was at a party and the other child was at a football field. Both children were reported to have wandered off. In addition, both children were reportedly playing with a ball at the time of the incident.
**Supervision**

In one case it is noted that the child was not being actively supervised. In the other, the mother had been distracted by another person.

**Tank safety**

**Septic tank**

Under section 101 of the *Plumbing and Drainage Act 2002*, septic tanks must comply with the Australian/New Zealand Standard (AS/NZS 1546). This standard specifies the typical measurements of access openings to septic tanks and states that these are not intended to allow people to enter the tank. According to this standard, “access covers shall be secure and shall be designed to prevent removal by children” (AS/NZS 1546.1:1998:12).

Responsibility for the safe operation of on-site sewerage facilities such as septic tanks has been placed on the property owner in some local council by-laws. Some local laws contain provisions stating that owners must ensure that the facility does not result in threats to health and safety or in personal injury. After a scan of local laws in Queensland, it appears that the majority of these laws do not contain express statements of responsibility.

**Water tank**

The Australian Standard HB230-2006 for rainwater tank design and installation includes a section on rainwater tank openings stating that these should have a sealed access cover to stop small animals and rubbish entering the tank but to allow access to the tank for cleaning and inspection purposes. This document does not directly deal with safety aspects of the tank and access to the opening by children.

**Container**

One child drowned in a bucket during the 12-month reporting period. The child was male and under 1 year of age. He was found head-first in a bucket of dirty water used to wash the floor days earlier.

**Supervision**

The child was not actively supervised at the time of the incident.

Research indicates that drowning in containers involves easy access to the containers and lapses in supervision (Baylis et al. 2001:2). This is consistent with the death in the current period.

**Water transport-related drownings**

In the 12-month reporting period, 1 child drowned as a result of a water transport-related incident. The child was female and aged 5–9 years. She was travelling in an aluminium ‘tinny’ at the time of incident and it is thought that she stood up while the boat was moving, lost her balance and fell overboard. This incident also involved the death of the child’s parent, who attempted to rescue the child but also drowned. Weather was not believed to be a factor in this child’s death.

In Queensland, boat ownership grew at the rate of 5% last year, more than double the rate of the state’s population growth (Maritime Safety Queensland 2006:3). It is estimated that more than 1 in every 22 people now own a boat in Queensland. Increasingly children are involved in water activities with all types of craft and their continued protection and safety are of prime importance. It is essential that responsible boating be undertaken, particularly when children are on board the vessel.

**Lifejacket use**

It was reported that the child was not wearing a lifejacket while travelling in the boat. At the time of the incident, it was recommended that children should wear lifejackets in boats, but this was not...
compulsory. Since then, regulation changes have made it compulsory for all Queensland children under 12 years of age to wear lifejackets in dinghies and other small boats (Odgers 2006). Penalties for the boat owner/driver apply where a child is not wearing a lifejacket and include a Marine Infringement Notice and a minimum fine of $150 (Lucas 2006).

Maritime Safety Queensland (2006:5) suggests that parents must ensure that lifejackets fit children properly, particularly as small children may be able to slip easily out of a larger lifejacket. When selecting a lifejacket for a child, it is recommended that their weight be considered, and that they try it on for comfort and fit, and to check that the straps are easy to do up and remain securely fastened if pressure is applied (Maritime Safety Queensland 2006:5).

**Season and time of year**

In the reporting period, the majority of non-pool drownings occurred in the summer months (5 deaths), followed by autumn (3 deaths). Four drownings occurred on a weekend. It is also of note that 4 drownings occurred on a Queensland public or school holiday, representing 40.0% of non-pool drownings. Specifically, 2 children drowned over Easter and 2 children drowned over the summer school vacation break.

**Resuscitation**

Resuscitation was attempted for 9 of the 10 children who drowned in non-pool locations shortly after the child was found. Six of the people who attempted resuscitation were noted to have been trained in CPR (66.7%). Two of the 3 parents who attempted CPR were known to have been qualified.

**Near-drownings**

During the 2004–05 financial year, 34 non-fatal immersions for children aged 0–17 years were recorded by the Queensland Injury Surveillance Unit (QISU). As these data do not represent all emergency departments, the actual figure for Queensland is likely to be higher. The details are as follows.

**Demographics**

The majority of presentations were of males, representing 70.6%. These data also indicated that over two-thirds of immersion injuries occurred among children aged 1–4 years (23 injuries, 67.6%), followed by children under 1 year (5 injuries, 14.7%).

**Place of injury**

Most immersions occurred in a swimming pool (19 cases, 55.9%), compared with non-pool locations (15 cases, 44.1%). Four immersions were noted to have occurred in the bathroom, followed by 3 at a water park or other exterior location. Immersion injuries most frequently occurred at a residential property, representing 61.7% (21 injuries).

**Time of injury**

Immersion injuries occurred most frequently on Saturdays (11 injuries, 32.4%) and Sundays (7 injuries, 20.6%). Injuries were also most likely to occur in summer months, representing 38.2% of injuries (13 cases), followed by spring (11 injuries, 32.3%). The reported time of day when most injuries occurred was between 3 and 4pm in the afternoon (10 injuries, 29.4%).

**Triage and mode of separation**

In 18 cases children were admitted to hospital (52.9%), while in 16 cases children were discharged home (47.1%). The majority of children and young people attending hospital were assigned a triage status of ‘urgent’ (18 injuries, 52.9%); 20% were allocated an ‘emergency’ status (7 injuries) and 17.7% required resuscitation (6 injuries).

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152 The QISU currently collects data from 14 hospitals in Queensland, which take in three sample regions: metropolitan (South Brisbane), regional (Mackay and Moranbah Health Districts) and remote (Mt Isa).
Prevention and intervention

Pool fencing legislation

Since 1992 it has been mandatory for all pools in Queensland to comply with the Australian Standard for pool fencing. All new pools are now required to have 4-sided fencing separating the pool from the house, while 3-sided fencing with direct access from the house is permitted for pools built before 1992 (Cunningham et al. 2002:4). The legislation applies to outdoor swimming pools on residential land and generally requires that fencing enclose pools to inhibit unsupervised access of young children in swimming pool areas (Department of Local Government and Planning 2005c:3).

The State Government has strengthened pool fencing laws to help prevent tragedies in residential swimming pools. Under the new laws, the following requirements must be met:

- Pool owners must ensure that a compliant fence is in place and maintained
- Pool owners must display a warning sign that a new pool is under construction
- Owners of pools who have lodged applications for approval to build a pool on or after 1 October 2003 must display a sign that details the procedures for CPR near residential swimming pools
- Councils can only grant exemptions in circumstances where an occupant of the building has a disability that would not allow them to gain access to the pool area if a complying pool fence was constructed, and
- New pools that are constructed on a building, such as on a deck or roof, need to be fenced.

Non-compliance with these laws carries significant penalties of up to $12,375 and on-the-spot fines of up to $525 can be imposed on pool owners by local government authorities if their fence is non-compliant (Department of Local Government and Planning 2005e).

On 10 August 2006 the Building and Other Legislation Act 2006 amended the following acts:

**Building Act 1975** to include the following revisions:

- that swimming pool builders as well as swimming pool owners are responsible for ensuring that swimming pools are not filled with water above 300mm without installing a compliant pool fence, and
- that a swimming pool on a deck or roof of a building which is only accessible from within the building is an indoor swimming pool. A swimming pool that can be accessed directly from outside the building remains an outdoor swimming pool.

**Local Government Act 1993:**

- section 1070 provides a power of entry to land for an employee or agent of local government, if no occupier is present, to inspect a swimming pool fence in circumstances where the local government has received information that a swimming pool fence may be dangerous to children because it does not comply with the Building Act 1975.

**Department of Local Government and Planning**

The Department of Local Government and Planning developed a program for legislative reform and promotional activities for the summer pool safety campaign in mid-2005. One million pool safety fl iers were sent out with rates notices throughout Queensland. In addition, a discussion paper and community questionnaire for public consultation and feedback were released in November 2005. The discussion paper set out a number of key issues and opened debate on a range of proposals to make pool fencing laws in Queensland more effective, such as:

- mandating council pool inspection programs
- allowing councils to charge pool owners a small levy to fund a pool inspection program

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153 Legislative requirements relevant to swimming pools constructed on or after 1 October 2003 include:

- Building Amendment Act 2003 amending Part 3 of the Building Act 1975
- State Penalties Enforcement Regulation 2000
- Standard Building Regulation 1993 (amendments on 30 April 1998 and 1 July 2002)
- Standard Building Amendment Regulation (No. 1) 2003 commenced on 1 October 2003
- AS 2818-1993: Guide to swimming pool safety, and
• requiring pool owners to have a pool fence safety certificate before they could sell their house, and
• allowing pool builders (as well as pool owners) to be fined if pools were filled before they were fenced.

In total, there were 599 responses to the discussion paper. These responses and consultation with local governments, the pool industry and the community influenced a number of the above legislation amendments made in August 2006 (Warren Bolton 2006, pers. comm., 21 August).

**Brisbane City Council, SPLASH**

The Saving Precious Lives, Assuring Safer Homes (SPLASH) program has been operating since February 2003 and is Brisbane City Council’s answer to encouraging residents to comply with the pool fencing laws. Ten full-time staff located throughout the Brisbane area work to conduct inspections and to raise awareness of the pool fencing standards, targeting the 60,000 pools in the Brisbane area. The program takes a proactive approach by inspecting pools that have not been issued with a final certificate of compliance for inspection, rather than merely responding to complaints. The SPLASH team also inspects pools that did not qualify for certification when the initial pool fencing legislation was introduced in 1991. In total, the SPLASH team visits over 400 homes each month (Department of Local Government and Planning 2005e:7).

**Royal Life Saving Society Australia, Infant Aquatic program**

The RLSSA Infant Aquatic program is targeted at children aged 0–4 years. The program is designed to encourage individual progression in developing aquatic skills suited to a child’s developmental stage and water familiarisation (Australian Water Safety Council 2005:20). The Infant Aquatic program is conducted through RLSSA Endorsed Swim Schools and other RLSSA branches.

**Queensland Ambulance Service, first aid and CPR training**

The Queensland Ambulance Service (QAS) is a leading registered training organisation, teaching patient care skills from basic introductory first aid right through to tertiary-level intensive care paramedics. The QAS has been providing first aid training to Queenslanders for over 100 years. A number of first aid and CPR training courses are offered by the QAS.

The QAS also reinforces the importance of learning by promoting a number of slogans including:

- **In an emergency, seconds count.** Performing first aid at the scene of an emergency can increase the chance of a patient’s recovery and in some instances save a life
- **Young or old, you can learn first aid.** The QAS schedules classes at various locations throughout Queensland. Everyone is encouraged to have a basic knowledge of first aid to be able to help loved ones and friends if the need arose, and
- **It’s a small price to pay.** First aid can save a life. QAS first aid courses are competitively priced and many do not require a lot of time.154

**Royal Life Saving Society Australia, Keep Watch**

Keep Watch is a public awareness program aimed at parents of children aged 0–5 years to encourage them to supervise their children around water, ensure that they have appropriate fencing around home swimming pools, learn resuscitation and have the child take water familiarisation classes. Keep Watch delivers this information in a range of formats, including information sessions for community health workers, community service announcements and talks for mothers’ groups.

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154 More information in relation to the courses provided by QAS can be accessed at: http://www.ambulance.qld.gov.au/communityservices/courses.asp
Specifically in relation to bath time, Keep Watch promotes a number of safety tips for parents, including:

- have all equipment ready for the bath (including towels and clothing) before running a bath
- if you have a cordless phone, take the phone into the bathroom. If you do not have a cordless phone, let the phone ring and ignore the doorbell when children are in the bath
- do not leave the bathroom for any reason at all
- never leave an older child with the responsibility of looking after a younger child
- after bath time, ensure that the bath tub is drained immediately and keep the bathroom door closed when the bathroom is not in use
- bath seats or bath aids are not substitutes for constant adult supervision
- knowing resuscitation is crucial – enrol in a resuscitation class, and
- introduce your child to the water through familiarisation classes.

**Australian Water Safety Council, National Water Safety Plan**

In 1998, the Australian Water Safety Council (AWSC) was established for government, water safety organisations and sport and recreation service providers to discuss key water safety issues. The AWSC developed a National Water Safety Plan to reduce drowning deaths and aquatic injuries in Australia. The strategies included analysing data to determine who was drowning and where, and identifying legislative decisions, programs and resources that could help reduce the drowning rate. While the AWSC have stated that their ultimate goal is to have a zero drowning rate, the key objective for the 2004–07 National Water Safety Plan is a 20% decrease from 300 drowning deaths in 2003 to 200 in 2007.

**Farmsafe, safe play areas**

Child drowning is recognised as one of the key risks to children living on farms. In general, Queensland farms are not only a place of work but also incorporate the family home (Stiller & Baker 2005:1). The potential for injury is heightened as a result of this blurring of home and work domains. In response to this, Farmsafe are advocating the creation of safe play areas on farms. Based on the guidelines used in the pool fence legislation restricting access to outdoor private swimming pools, Farmsafe recommend that a child-resistant fence be used to create a safe place to play. Although it is noted that most farms and rural properties already have a fence around their house yard which could form the basis for an effective safe play area, in many cases the purpose of the fence is to keep stock and native animals from getting into the home and garden (Stiller & Baker 2005:iii). However, with the increasing recognition of the risks to children on farms and rural properties, it is important that fences are also built to keep young children in.

The Commission supports and commends the Queensland and national water safety initiatives and will continue to monitor programs and campaigns aimed at reducing the morbidity and mortality of children and young people as a result of drowning.
Chapter 8
Fire

“In Queensland, more than 80 per cent of all home fire deaths in the past year have occurred in homes without smoke alarms” (Purcell 2006:1)

Key issues

- It is unknown whether either of the homes where the 2 fire-related deaths occurred contained a smoke alarm. The Commission’s Child Death Annual Report, 2004–05 noted that, of the 4 residential house fires, 3 houses did not contain a smoke alarm (and it was unknown whether the fourth house had a smoke alarm installed).

- Smoke alarms represent the single most effective fire safety feature in a home. However, alarms must be properly located and maintained to be effective.

Two children and young people died in 2 Queensland residential house fires between 1 July 2005 and 30 June 2006. Fires accounted for 2.2% of all external deaths of children and young people in Queensland during that period.

History of Queensland fire trends

In 1998 the Department of Emergency Services’ (DES) Strategic Management and Policy Unit, in collaboration with the Queensland Fire and Rescue Authority, conducted research into fire fatality trends throughout Australia (Department of Emergency Services 1998:7). The ‘Fire Fatalities: Who’s at Risk?’ project analysed all deaths that occurred as a result of fires in Australia, and for each state, between July 1991 and June 1996. The project found that fire deaths have increased over time in Queensland, with a number of specific trends affecting children and young people (Department of Emergency Services 1998:24). The main findings included that:

- children aged from birth to 4 years were the most at risk for fire fatalities, the majority of which were male
- discarded smoking materials, such as matches, lighters and smouldering cigarette butts, were the most frequent trigger of fire death; child fire play was another cause of fire fatality, particularly for children under 5 years
- most fire deaths occurred in the cooler months (June to September) and pre-Christmas (December)
- most of the fatal fires involving children occurred during the night and early morning (between midnight and 8am), when occupants are usually at home, asleep and unlikely to notice the early stages of a fire
- a higher incidence of fire deaths was found in rental properties than in self-owned homes, and
- smoke alarms were either not installed or not serviceable in 97% of all fatal fires.

In line with the DES findings, the Child Death Annual Report, 2004–05 found that all of the fire deaths reported in the 12-month period 2004–05 occurred in children aged under 5 years. The findings for the current reporting period are detailed below.

Fire trends and patterns, 2005–06

Table 8.1 illustrates the age and gender breakdown for all fire fatalities over the 12-month period examined.

155 This figure represents those deaths which, first and foremost, were the result of a fire where the cause is not believed to have been deliberate. Incidents such as transport fatalities and fatal assaults where a fire was secondary to the incident will be analysed in Table 8.2. However, these fire incidents have not been included in this figure.
As illustrated in Table 8.1, 1 male and 1 female child died in residential house fires during the current reporting period.

**Age**

One of the children who died in a fire was 2 years of age and the other child was aged 9. Previous research on fire fatalities in Queensland has found that children aged under 5 years are most likely to die in fires (Department of Emergency Services 1998:31). All child fire fatalities recorded in the 12-month period 2004–05 occurred among children aged between birth and 4 years of age (see Chapter 3).

The ‘Fire Fatalities: Who’s at Risk?’ project conducted by the DES (1997:1; 1998:31) found that the majority of infant and toddler deaths occurred as a result of the child’s inability to escape from the fire. Research has indicated that sleeping children are less likely than adults to be woken by a fire as they sleep more deeply. Thus they are unlikely to be woken by smoke or noise (Department of Emergency Services 1998:32). Further, a number of children died when caregivers misjudged the speed of the fires and attempted to rescue some children before returning for others. It is often the case that re-entry and subsequent escape from a burning building are not possible and the best approach to escaping a fire in the home is to evacuate all children at the same time (Department of Emergency Services 1997:1).

**Types of fire-related deaths**

Over the 12-month period, a number of fire fatalities were the result of other causes, such as traffic incidents. These have not been included in the count of fire deaths. However, all incidents that involved fire have been included in Table 8.2, which illustrates different types of fire-related fatalities by gender.

<table>
<thead>
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<th>Type of fire</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential house fire</td>
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<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Fire deliberately started</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result of a motor vehicle collision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Residential house fires accounted for one-third of fire-related deaths, with 2 children dying in 2 separate fire incidents.

Two children were killed in deliberately lit fires and 2 young people died after being trapped in a motor vehicle after a crash. For 3 of these deaths, smoke inhalation or incineration was believed to have caused death. One child was found to have died before one of the fires was deliberately lit.

While it has been noted that fires rarely occur in motor vehicles as the result of crashes, incidents which breach the fuel tank of a vehicle, or leave it upside-down or sideways, are more likely to cause a fire (Maynard n.d.:6). In both transport deaths noted above, the cars rolled or flipped at least once.

**Aboriginal and Torres Strait Islander status**

In the reporting period, 1 of the 2 children who died in residential house fires was of Aboriginal origin. In the 12-month period between July 2004 and June 2005, the Commission observed that 3 of the 4 children who died in fires were Indigenous (refer to Chapter 3).

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156 Fire-related deaths in this category are included in Chapter 11, ‘Fatal Assault’, as the death was the result of an individual deliberately lighting the fire.

157 Fire-related deaths in this category are included in Chapter 6, ‘Transport’, as the deaths were secondary to a motor vehicle collision.
In 2003, the Australian Bureau of Statistics (ABS) found that Indigenous people were more than twice as likely to be living in a rental property compared with non-Indigenous people (63% compared with 27%). A further 15% of Indigenous households were considered overcrowded, compared with only 4% of non-Indigenous households, and 25% of Indigenous people resided in remote or very remote areas, compared with only 2% of non-Indigenous people (Australian Bureau of Statistics 2003). In its ‘Fire Fatalities: Who’s at Risk?’ report, the DES identified overcrowding, remoteness and rental accommodation as factors that increase the risk of fire fatalities in Queensland. It may therefore be the living conditions of many Aboriginal and Torres Strait Islander people which increase their risk of fire fatalities.

**Cause of death**

The cause of death for 1 child was smoke inhalation, while the other was incineration. The Child Death Annual Report, 2004–05 found that children in Queensland were more likely to die as a result of burns/incineration than smoke inhalation.

In the past, the cause of death for Queensland fire victims has been equally attributed to smoke inhalation and burns/incineration (Department of Emergency Services 1997:4; 1998:35). This finding differs from all other Australian states, where victims were more likely to die from smoke inhalation. The difference between Queensland’s major cause of death and that in other states has been attributed to victims being involved in, or close to, the activity that caused the fire.

**Geographical distribution (ARIA+)**

One death occurred in a regional area and the other was in a remote area. Findings for the 12-month 2004–05 period were that 3 out of the 4 children who died in fires resided in regional areas. The fire literature identifies living in rural areas as a risk factor for fire fatalities in Queensland (Department of Emergency Services 1998; 2004b).

**Socio-economic status (SEIFA)**

One child who died in a fire resided in a low socio-economic area, while the other child was living in a high socio-economic area. Of the 4 children reported in the 12-month period last year, 2 children each resided in very low and moderate socio-economic areas. Research suggests that people with low socio-economic status, and those from poorer backgrounds, are more at risk of fire fatality (Istre et al. 2002:128; Pirrallo & Cady 2004:171).

**Child protection population**

Neither of the children who died in fires between 1 July 2005 and 30 June 2006 was known to the DChS in the 3 years before their death. In contrast, last year the Commission found that 2 children who died in house fires were known to the DChS (see Chapter 3).

**Circumstances of fire fatalities**

**Smoke alarms**

Of the 2 residential house fires that occurred between July 2005 and June 2006, it is unknown whether either of the homes contained a smoke alarm, although it is suggested that at least 1 of the residences did not (Moorton 2005:5). In contrast, the Commission’s Child Death Annual Report, 2004–05 found that, of the 4 residential house fires, 3 houses did not contain a smoke alarm (and it was unknown whether the fourth house had a smoke alarm installed).

In Queensland more than 80% of all fire fatalities over the past year have occurred where there were no smoke alarms (Purcell 2006:1). This finding reinforces the importance of all residences containing properly installed and regularly maintained smoke alarms. New legislation has been introduced in Queensland that will make it compulsory for all homes to have a working smoke alarm (Purcell 2006:1; see the ‘Prevention and intervention’ section later in this chapter for more details of the new legislation).
Smoke alarms are the single most effective fire safety feature in a home (Department of Emergency Services 2004b:4). However, alarms must be properly located and maintained to be effective (Department of Emergency Services 1997:4). Poor installation and placement, and the selection of an inappropriate type of smoke alarm, can cause nuisance alarms which prompt people to disconnect their batteries (Bunker 1998:5). A number of campaigns run by the Queensland Fire and Rescue Service (QFRS), such as ‘Don’t be a fool – change your smoke alarm battery’ day, encourage regular replacement of smoke alarm batteries and promote the correct placement of smoke alarms (as in Operation Safehome; see the ‘Prevention and intervention’ section of this chapter). The QFRS also educates the community on regular smoke alarm maintenance and reinforces the importance of not removing batteries from alarms (Queensland Fire and Rescue Service 2005e).

Month of year
The fire responsible for one of the child deaths in the reporting period occurred in winter (June) while the other occurred in autumn (April).

The majority of fire deaths in Queensland have been found to occur during two distinct periods: the cooler months (June to September) and pre-Christmas (December) (Cummins 2005; Department of Emergency Services 1997:2; 1998:27). In Queensland, the DES (1998) found that most fires in the winter months could be attributed to electrical incidents, including electrical faults and overloading power outlets. The causes of both of the fatal fires in the current reporting period are unknown.

Time of day
Both fire fatalities occurred in the middle of the night, between 12am and 6am, when all occupants were most likely asleep. This finding is consistent with previous Queensland research, which has found that most fire deaths occur in the middle of the night or early in the morning when people are usually at home sleeping (Child Death Annual Report, 2004–05; Department of Emergency Services 1997:2).

Location at death
The location of death for both children in the current period was their bedroom. However, it is not known if the child’s bedroom was in the immediate vicinity of where the fire started. Conversely, the location of deaths for children reported in the Child Death Annual Report, 2004–05 varied across all deaths.

Cause of fire
The cause of the fire was unknown for both of the deaths recorded during this period.

Childhood fire-related injuries
During the 2004–05 financial year, Queensland Injury Surveillance Unit (QISU) recorded 60 children injured as a result of fire, flames or smoke. Given that this does not represent all emergency departments, the real figure is likely to be higher. Although deaths from fire are relatively infrequent, these data illustrate that there is a high incidence of fire-related injuries. The details of the QISU data are as follows.

Demographics
The majority of presentations were of males, representing 79.5%. The data also indicated that a third of the fire-, flame- and smoke-related injuries were of young people aged 10–14 years (20 injuries, 33.3%), followed by 5–9 year olds (17 injuries, 28.3%).

Type of injury
The most common nature of injury was a burn (or corrosion), which represented 80% of the presenting fire-, flame- and smoke-related injuries (48 injuries). The part of the body most likely to have been injured was an unspecified body location (15 injuries, 25%), followed by injuries to multiple parts of the body (13 injuries, 21.7%). The next most common type of injury occurred to children’s hands (and fingers), representing 18.3% of injuries.

158 The QISU currently collects data from 14 hospitals in Queensland, which take in 3 sample regions: metropolitan (South Brisbane), regional (Mackay and Moranbah Health Districts) and remote (Mt Isa).
Place of injury
The most frequent place of a fire related injury was a free-standing house (33 injuries, 55.0%).

Time of injury
Fire, flame and smoke injuries occurred most frequently on Saturdays (20 injuries, 33.3%) and Sundays (16 injuries, 26.7%). Injuries were also most likely to occur in autumn months, representing 35.0% of injuries, with the month of May recording the greatest number of injuries (12 injuries, 20.0%). The reported time of day when most injuries occurred was between 3 and 4pm in the afternoon (17 injuries, 28.4%).

Injury factors
Open fire and flames were the leading mechanism of injury, representing 73.3% of injuries (44 injuries). The most common injury factor was noted as other or unspecified (21 injuries, 35.0%). However, the next most common was petrol (or petroleum related), with 8 injuries recorded, followed by other or unspecified chemical substances, with 4 injuries.

Triage and mode of separation
Half of the children with fire-, flame- and smoke-related injury presentations were admitted to hospital, while the other half were discharged. Specifically, 30 children (50.0%) were discharged home, compared with 29 who were admitted to hospital (48.3%). The majority of children and young people attending hospital were assigned a triage status of ‘urgent’ (24 injuries, 40.0%); 35.0% were allocated a ‘semi-urgent’ status (21 injuries).

Prevention and intervention
Queensland legislation
The State Government is extending its fire alarm legislation to older homes to target almost 20% of Queensland residences that do not have smoke alarms installed (Chalmers 2005). While it is already mandatory under the Building Code of Australia to have hard-wired smoke alarms installed in all new residential homes built or significantly renovated (implemented 1 July 1997), from 1 July 2007 it will be compulsory for owners of all houses and units in Queensland to install at least one battery-powered smoke alarm (Department of Emergency Services 2006a:1).

As a legal minimum requirement, a smoke alarm must be installed on or near the ceiling on any storey:
- between any area containing bedrooms and the rest of the house or unit, for example in hallways, and
- on a storey not containing bedrooms, on the most likely evacuation route from the storey.

The new laws will be tied to home sales, so that owners must ensure that they have alarms installed before they sell their properties. The legislation will require that sellers be able to notify the purchaser that the home being bought contains the required number of smoke alarms and that they are in good working order (Chalmers 2005). This will mean that checking of smoke alarms installed will be part of buying and selling residences in Queensland. To ensure compliance with the laws, a person selling a property will be required to lodge a form with the Queensland Land Registry stating that operational smoke alarms are installed in the property. Compliance will be monitored by means of an audit of these forms (Department of Emergency Services 2006a:2). Fire officers will also investigate complaints received about residential non-compliance (Department of Emergency Services 2006a:3).

The implications for non-compliance with this new law include a maximum fine of $375 (Chalmers 2005; Department of Emergency Services 2006a:3). The new legislation also carries with it the possibility that insurance companies may be making changes to fire insurance conditions for homes where appropriate precautions have not been taken in relation to installing smoke alarms (Chalmers 2005).
Legislation in other states

Smoke alarms are currently compulsory in South Australia, Victoria and New South Wales (Department of Emergency Services 2006a:3; Australian Consumers Association 2006). Queensland’s new laws are similar to arrangements in New South Wales and Victoria, which allow householders to install any smoke alarm that complies with Australian Standards (Department of Emergency Services 2006a:3).

Queensland Fire and Rescue Service

More than $300 million of the State Budget was allocated to the QFRS to boost fire and rescue services across Queensland in 2005 (Cummins 2005). The budget represents a significant commitment to ensure that Queenslanders live in safe and secure communities. The QFRS has a number of new and ongoing initiatives aimed at reducing the incidence of fire fatalities throughout Queensland, particularly among high-risk groups. These are detailed below.

Fire Ed

This strategy educates children about fire safety and evacuation processes (Queensland Fire and Rescue Service 2005d). The messages include the difference between good fires and bad fires and the promotion of home evacuation plans. Additionally, information packs and resources are given to schools so that teachers can continue to reinforce fire messages. Research has shown that the information is well understood and retained by children (Queensland Fire and Rescue Service 2005d).

Fire SignEd

In December 2005, the QFRS launched its ‘Fire SignEd’ fire education program for deaf and hearing-impaired children. This program was adapted from the existing ‘Fire Ed’ program currently delivered to all Year 1 children in Queensland schools and incorporates the key messages of ‘good fires and bad fires’; ‘get down low and go, go, go’; ‘stop, drop and roll’; ‘get out and stay out’; and ‘fire fighters are your friends’ (Purcell 2005). The Fire SignEd program is being delivered to Year 1 and preschool groups in Queensland’s 31 Special Education Developmental Units.

Rural operations

An integral part of the QFRS, Rural Operations plays a vital role in supporting volunteer Rural Fire Brigades in Queensland. Rural operations is responsible for developing and supporting community-based approaches to fire management in rural and rural–urban interface areas throughout the state (Department of Emergency Services 2004a). Rural operations is a partnership between Queensland’s Rural Fire Brigade volunteers and local and state authorities in protecting rural, remote and provincial Queensland (Department of Emergency Services 2004a).

Juvenile Arson Offenders Program (JAOP)

This program is a new initiative being trialled in the south-east corner of Queensland, focusing on young people who have come to the attention of the police or the judicial system in relation to arson (Queensland Fire and Rescue Service 2005a). The program helps to rehabilitate juvenile offenders by focusing on the consequences of their actions and improving their self-esteem. It is reported that the program has been found to have benefits beyond altering the offender’s fire-setting behaviour (Queensland Fire and Rescue Service 2005a).

Operation Safehome

This is a free initiative to help householders reduce fire and safety hazards around the home. Firefighters inspect homes, advise on the correct positioning of smoke alarms and discuss general fire safety concerns (Queensland Fire and Rescue Service 2005c).

‘Don’t Be a Fool’ campaign

The QFRS and the battery manufacturer Duracell have joined forces in a community education
campaign to encourage Queenslanders to replace batteries in household smoke alarms (Queensland Fire and Rescue Service 2005b). The campaign uses the slogan ‘Don’t be a fool – change your smoke alarm battery’ to coincide with April Fool’s Day. Research has shown that, although 80% of Queensland homes have a smoke alarm installed, only 72% are actually working because batteries have been removed or have gone flat (Queensland Fire and Rescue Service 2005b).

**AAMI Firescreen Index**

On an annual basis, the insurance company AAMI conducts an independent study of Australians’ attitudes and experiences of fire in the home. The Firescreen Index aims to raise awareness about the common locations and causes of fire in the home and steps to prevent fires occurring in the home (AAMI 2006:2). It also offers important insights into the preparedness of Australians in the event of a fire and highlights the need for families to take appropriate safety measures around the house. Some of the key findings from AAMI’s survey (2006) were:

- one in 8 people were not confident they would know what to do if they were confronted by a house full of smoke
- eight percent of Australian homes have no fire safety equipment
- one in 8 Australians admit that, given the current condition of their home, they believe it is a fire risk, and
- almost one-third of parents say either that their children would not know what to do in case of a fire breaking out in the home, or that they are unsure whether or not their children would know what to do.

**Smoke alarms**

It has been found that the early warning of smoke and fire is the most critical factor affecting safety in the event of a fire (Department of Emergency Services 1997:4). Therefore properly installed and maintained smoke alarms provide the best mechanism for reducing fire-related injuries and deaths (Department of Emergency Services 1997:4; Thompson et al. 2004:171). This is particularly important given that most fatalities occur at night when the occupants are asleep (Public Health Association of Australia 2005:1). It is estimated that the risk of death from fire in a home is up to 3 times higher in homes without smoke alarms when compared with homes with smoke alarms.

The function of a smoke alarm is to ensure that occupants are alerted to a fire at the earliest opportunity (Squires & Busuttil 1995:870). It is a passive safety device which does not prevent fire starting but reduces the risk of harm in the event of a fire by sounding an alarm (Department of Emergency Services 2006b). Inhaling carbon monoxide produces a rapid deterioration of awareness and physical competence and, if the atmospheric concentration is sufficiently high, will produce death within minutes (Squires & Busuttil 1995:870). A smoke alarm alerts occupants and enables early escape efforts to be implemented. In fires involving young children, these few minutes are particularly crucial as a young child is unlikely to escape a fire without assistance (Squires & Busuttil 1995:871). Consequently, smoke alarms represent the most effective fire safety feature to prevent fatalities in fires (Department of Emergency Services 2004b:4).

Effective fire safety practices in the home, such as the proper installation and positioning of smoke alarms, and a well-prepared evacuation plan, also help to reduce the vulnerability of householders (Department of Emergency Services 1998:28; Istre et al. 2002:131).

**Types of alarms**

There are two main types of smoke alarms for home use – ionisation and photoelectric alarms. Ionisation alarms detect invisible particles of combustion and are best suited to detecting fast-flaming fires that give off little visible smoke (Australian Consumers Association 2006). Advantages include that they are
cheaper than other smoke alarms and are less prone to false alarms caused by dust and insects. However, a number of disadvantages have been identified, including that they are very susceptible to nuisance alarms (for example, those caused by cooking), may be slow to respond to slow, smouldering fires and contain radioactive material (Australian Consumers Association 2006; Department of Emergency Services 2006a).

In contrast, photoelectric alarms detect visible particles of combustion and are reportedly much faster at detecting a wide range of fires, particularly smouldering fires and dense smoke (Department of Emergency Services 2006a). Also, photoelectric alarms are not as prone to nuisance alarms when cooking and contain no radioactive material. Disadvantages include that they are more expensive than ionisation alarms and that they must be kept clean, as they are prone to nuisance alarms from dust and insects (Australian Consumers Association 2006). Photoelectric smoke alarms also have a number of other functions available, including alarms for the hearing-impaired, alarms with emergency lights, special models for kitchens and caravans, and interconnectable models which sound alarms in all connected units (Department of Emergency Services 2006a).

Further studies have shown that photoelectric alarms typically respond to smoky fires within about 3–5 minutes – when the level of smoke is still fairly low and escape is relatively easy. In contrast, most ionisation alarms take much longer (up to 20 minutes or more), by which time there is enough smoke to significantly reduce visibility, making escape much more difficult (Australian Consumers Association 2006). In addition, the fast-flaming, relatively smokeless fires that ionisation alarms detect are not as common in most domestic house fires (Australian Consumers Association 2006). Consequently, the QFRS recommends using photoelectric alarms whenever possible (Department of Emergency Services 2006a:1).

The Commission supports and commends all of the above Queensland initiatives and will continue to monitor programs and campaigns aimed at reducing the morbidity and mortality of children and young people as a result of fires.


Chapter 9
‘Other’ non-intentional injury-related deaths

“Children are born into an adult world, without experience or appreciation of risk but with a natural desire to explore ... the potential for injury is particularly great during childhood” (Standards Australia 2004:v)

Key issues

- Eleven children and young people died as a result of ‘other’ non-intentional injury in Queensland between 1 July 2005 and 30 June 2006. Accidental injury deaths accounted for 11.8% of all external causes of child deaths in the reporting period (a rate of 1.1 deaths per 100,000 children aged from birth to 17 years in Queensland).

- Continued use of the term ‘accident’ has been debated in academic circles. The Commission has continued to use the term ‘accidental’ injury interchangeably with ‘non-intentional’ injury as it is felt that the word ‘accident’ does not necessarily imply that non-intentional injury is unpreventable.

Accidental injury-related deaths defined

By definition, the word ‘accident’ refers to an unexpected or unforeseen event, occurring without intention or by chance. Many injury prevention professionals argue that the use of the term ‘accident’ reinforces common public misconceptions that injuries are neither predictable nor preventable, and are instead due to fate (Davis & Pless 2001a:1; Evans 1993:1438; Girasek 1999:19). Public perceptions such as this are thought to obstruct injury prevention efforts – individuals are less likely to engage in safety behaviours if the event (accidental injury) is seen as unpreventable (Smith et al. 1999:316–17). Calls have been made for the abolition of the use of the term ‘accident’ in medical and injury prevention literature (Davis & Pless 2001a:1; Doege 1978:509, 1999:427; Langley 1988:6).

Counter-arguments to this position cite evidence which suggests that most people do, in fact, consider most accidents to be preventable and not random or chance events (Girasek 2001:461). The Commission continues to use the term ‘accident’ as it is considered that most people “have a clear concept of what is meant when the term ‘accident’ is used” (Byard 2004:5).

The Commission analyses accidental (or non-intentional) injury-related deaths according to five major categories: falls; strangulations, suffocation and choking; poisoning; exposure to electrical current; and ‘other’. Accidental deaths are those occurring as a result of circumstances beyond those covered by other external causes examined elsewhere in this report.

Preventability

Child death review teams worldwide consider the concept of preventability in the analysis of childhood deaths. A preventable death is one which may have been avoided with reasonable medical, educational, social, legal or psychological intervention (Durfee, Tilton-Durfee & West 2002:621; Jenny & Barron 2001:14). However, prevention often relies on foresight or the predictability of an event (McConnell, cited in Davis & Pless 2001b:372). Judgements of preventability are frequently made with the benefit of information unavailable at the time of death, and therefore a finding of preventability does not imply that the circumstances leading to death were predictable (Durfee, Tilton-Durfee & West 2002:621).

160 Refer to Appendix 9.1 for a comprehensive outline of all types of ‘other’ accidental deaths.
161 That is, all deaths which cannot be classified as the result of a transport accident, suicide, drowning, fire, fatal assault or sudden unexpected death in infancy, or as a result of a disease or other morbid condition.
**Accident prevention strategies**

Early research proposed that unintentional injury is the outcome of the interaction of a number of factors: person factors, environmental factors and agent factors (for example: DeHaven 1942, Gordon 1949 and Haddon 1964, 1968, cited in Garzon 2005:441). The recognition and modification of these factors can lead to the prevention of many injuries (Mace et al. 2001:406).

An *agent factor* is the means by which an injury actually occurs – that is, the physical properties of the injury event, such as the speed of a vehicle, the heat of a fire, or the sharp edges of a surface (Garzon 2005:442; Mace et al. 2001:407). The modification of agent factors through careful product design is noted as the most successful strategy of injury prevention (Garzon 2005:442). Examples include child-resistant packaging for medication and the inclusion of self-inflating airbags in cars to minimise the risk of injury in the event of a collision.

*Environmental factors* relate to characteristics of neighbourhoods, homes and social surroundings, such as safe play areas, home fire prevention equipment and the level of parental supervision (Garzon 2005:443; Mace et al. 2001:407). A high level of environmental risk is associated with lower socio-economic status (Community Affairs References Committee 2004:253–54; Reimers & LaFlamme 2005:1488), and methods of reducing environmental risk are often not as viable for people in such situations (Reimers & LaFlamme 2005:1492). Intervention at this level typically rests in the hands of policy makers, with strategies such as subsidised safety equipment and targeted public awareness campaigns.

*Person/child factors* relate to the developmental, physical and behavioural characteristics of children at particular ages, such as undeveloped fine motor skills and cognitive inability to recognise risk and impulsivity (Garzon 2005:443; Mace et al. 2001:407).

Adult supervision, recognition of injury risk and intervention also have an impact on injury outcome:

Research establishes that parental behaviour modification is crucial to preventing childhood injury. A combined approach of parental supervisory behaviour modification and removal of environmental injury hazards is highly effective in decreasing [preschool unintentional injury] incidence (Garzon 2005:444).

Injury prevention strategies which target all three influencing agents have been identified as the most effective (Garzon 2005:445). Intervention strategies can be classified as taking one of three forms (Deal et al. 2000:5):

- **Education** of parents to raise awareness of injury risk and to increase individual safety-related behaviours. This may be undertaken by professionals in clinical settings, or it may take the form of a public safety awareness campaign
- **Environment or product modification** includes altering a child’s immediate environment to minimise hazards, as well as re-modelling products used by or accessible to children. Examples include the fencing of swimming pools, and re-designing toys so that they do not have small parts that could be swallowed by young children, and
- **Enforcement of legislation or regulations** may produce changes in individual behaviour, such as adherence to legislation requiring the use of bicycle helmets. Changes in industry standards may also occur, such as mandatory safety standards for products such as blinds and curtains.

An additional strategy type suggested by Mace et al. (2001:406), *economic strategies*, relies on financial incentives to persuade the public to apply injury prevention measures (for example, rebates for households that install a temperature limiting device on their hot water systems).

Injury prevention strategies can also be classified as *active* or *passive* – active strategies require individuals to change their behaviour, while passive strategies “provide automatic protection independent of any individual behaviour” (Deal et al. 2000:8). Education strategies are generally
active, while product modification is an example of a passive strategy. Passive strategies have been demonstrated to be more effective (Deal et al. 2000:8; Mace et al. 2001:408; McClure & Spinks 2002:6).

Non-intentional injury-related deaths: trends and patterns, 2005–06

Eleven children and young people died in ‘other’ non-intentional injury-related incidents in Queensland between 1 July 2005 and 30 June 2006. ‘Other’ non-intentional injury-related deaths accounted for 11.8% of all external causes of child deaths in the reporting period (a rate of 1.1 per 100,000 children aged from birth to 17 years). This represents a decrease in the rate of non-intentional injury-related deaths from the previous 12-month reporting period.¹⁶² Gender and age breakdowns are given in Table 9.1.

Table 9.1: Other non-intentional injury-related fatalities by gender and age group

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females n</th>
<th>Males n</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1–4 years</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5–9 years</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10–14 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15–17 years</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>7</td>
<td>11</td>
</tr>
</tbody>
</table>

Note: 1. Rates are calculated per 100,000 females, per 100,000 males and per 100,000 children aged 0–17 in Queensland.

Gender

Consistent with findings of the Child Death Annual Report, 2004–05, male children were more likely than females to die of ‘other’ non-intentional injury, with males constituting 63.6% of non-intentional injury-related deaths. In line with this finding, males were also found to have a higher rate of non-intentional injury-related death (1.4 per 100,000 male children aged from birth to 17 years) compared with females (0.8 per 100,000 female children aged from birth to 17 years).¹⁶³ Australian and international research has also found a higher rate of injury deaths in male children (Al-Yaman, Bryant & Sargeant 2002: 241; Roberts, DiGuiseppi & Ward 1998:10; United Nations Children’s Fund 2001:18).¹⁶⁴ Suggested reasons for gender differences include a greater degree of risk-taking behaviour by boys, and caregivers displaying a more permissive attitude towards boys’ behaviour (United Nations Children’s Fund 2001:18; Morrongiello 2005:543).

Age

The greatest number of ‘other’ non-intentional injury-related deaths occurred in the 1–4 and 5–9 year age groups (3 deaths each, 27.3%). The Child Death Annual Report, 2004–05 also found 1–4 year olds to have a high number of non-intentional injury-related deaths in the 18-month period covered, as did 15–17 year olds. Research suggests that children’s risk of injury (and death from injury) is greater at younger ages, peaking between the second and fourth year of life (Abboud Dal Santo et al. 2004:273; Al-Yaman, Bryant & Sargeant 2002:242; United Nations Children’s Fund 2001:18). At these ages, children’s motor skills are rapidly developing and children are exposed to a greater range of environments in which these skills are untested. This development is not necessarily mirrored by an equivalent perception of risk or appreciation of hazards (Abboud Dal Santo et al. 2004:273; Lam, Ross & Cass 1999:576).

Aboriginal and Torres Strait Islander status

The death of 1 Indigenous child from ‘other’ non-intentional injury-related causes was registered in this reporting period. This child was identified as being both Aboriginal and Torres Strait Islander. Because of the small number of Indigenous child deaths from non-intentional injury-related causes

¹⁶² Comparative figures for the 12-month period between 1 July 2004 and 30 June 2005 are given in Chapter 3 of this report.

¹⁶³ Caution should be exercised when interpreting results due to the small number of deaths analysed. As a result a change in one or two deaths over the course of a year may have a significant impact on findings.

¹⁶⁴ The terms ‘injury’ and ‘injury death’ are used in a variety of ways across studies. These categories may include intentional injury such as homicide and suicide, as well as unintentional injuries such as transport accidents, fire, drownings, falls, poisoning, choking, burns and scalds. It is noted that the deaths cited in the literature do not always correspond to the specific causes of accidental injury death examined in this chapter.
in this reporting period, rates of non-intentional death for Indigenous children were unable to be calculated. However, research has established that Aboriginal and Torres Strait Islanders suffer injury, and death from injury, at a greater rate than the non-Indigenous population (McClure & Spinks 2002:7; Lehoczky et al. 2002:22; National Public Health Partnership 2004a:3). Studies undertaken by the Australian Institute of Health and Welfare found that the average rate of death from injury of Indigenous children (from all external causes) was 2.8 times that of other Australian children (Al-Yaman, Bryant & Sargeant 2002:243).

The one Indigenous child death was the result of contact with a box-jellyfish.

**Geographical distribution (ARIA+)**

The majority of ‘other’ non-intentional injury-related child deaths (5 deaths, 45.5%) were of children living in metropolitan areas of Queensland; 3 deaths occurred in regional areas and 2 in remote areas. One death was unable to be classified as the child’s usual place of residence was outside Queensland. Children in metropolitan areas died as a result of unintentional injury at a rate of 0.9 per 100,000 children and young people aged 0–17 years living in metropolitan areas.165 The Child Death Annual Report, 2004–05 indicated that, while metropolitan areas had the greatest number of deaths in the 18-month period covered, rates of death were highest in remote areas.166

Studies of Australian children have found that rates of injury deaths are higher in remote areas than in rural and metropolitan areas (Al-Yaman, Bryant & Sargeant 2002:243; Australian Institute of Health and Welfare 2003:258; Draper, Turrell & Oldenburg 2004:38). It is suggested that children living in rural and remote areas are exposed to different types of injury risk (such as exposure to chemicals, and hazards associated with living in a workplace) (Al-Yaman, Bryant & Sargeant 2002:223; Mission Australia 2006:30).

**Socio-economic status (SEIFA)**

Low or very low socio-economic areas recorded the greatest number of child deaths (4 deaths, 36.4%), with deaths occurring at a rate of 1.0 per 100,000 children aged 0–17 living in low to very low socio-economic areas.167 Three deaths occurred in moderate areas and 3 in high to very high socio-economic areas. One child was not able to be classified as their usual place of residence was outside Queensland.

Research suggests that injuries and injury-related death are more common in lower socio-economic areas, both within Australia and internationally (Draper, Turrell & Oldenburg 2004:65; Victorian Injury Surveillance and Applied Research System 2002:11). The rate of child death from accident and injury has been found to increase as the level of disadvantage worsens168 (Draper, Turrell & Oldenburg 2004:68; Zwi & Henry 2005:155).

**Child protection population**

None of the children and young people who died as a result of ‘other’ non-intentional injury-related incidents in the 12-month period between 1 July 2005 and 30 June 2006 were known to the Department of Child Safety (DChS).

**Coronial findings**

At the time of reporting, coronial findings were available for 5 of the 11 deaths. Coronial findings were outstanding in 6 cases. In all of these cases an autopsy report was available, giving an official cause of death.

**Circumstances of non-intentional injury-related deaths**

**Types of accidental deaths**

Of the five major classifications of non-intentional injury-related deaths previously mentioned, no poisoning or electrocution deaths occurred in this

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165 Rates were unable to be calculated for regional and remote areas because of the small numbers of deaths in these areas.

166 Although comparison rates should preferably be drawn from the 2004–05 12-month period, rates of accidental injury death for the 12-month period were not available in all areas because of small numbers.

167 Rates for moderate and high to very high socio-economic areas were unable to be calculated because of the small numbers of deaths in these areas.

168 For children aged 0–14 years of age.
reporting period. A large proportion of the deaths fell into the ‘other’ category. Table 9.2 outlines the types of accidental deaths which occurred, by gender and age group.

Table 9.2: Types of accidental deaths by gender and age group

<table>
<thead>
<tr>
<th>Age</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–17 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Subtotal</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Strangulation, suffocation and choking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 1 year</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1–4 years</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Subtotal</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–4 years</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>5–9 years</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10–14 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15–17 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>7</td>
<td>11</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Note: 1. Age categories were excluded from each accidental subcategory where no children of this age group died in the reporting period.

Falls

One child in the 15–17 year age group died as a result of a fall.\textsuperscript{169} This child was working for income when he fell from a ladder. This compares with 3 children who died as a result of falls in the 18-month period covered by the Child Death Annual Report, 2004–05.

Fall-related injury

The Queensland Injury Surveillance Unit (QISU) found that falls accounted for half of the injuries to children aged less than 1 year, 40% of injuries in 1–4 year olds, 43% in 5–9 year olds and 37% in 10–14 year olds (Hockey, Miles & Baylis 2001). According to the QISU, 8129 children were injured in falls in 2004–05.\textsuperscript{170} Over 13% of injuries required hospital admission, with admissions being most frequent in children under the age of 1 year.

Strangulation, suffocation and choking

The death of 1 toddler in the 1–4 year age group was the result of accidental strangulation by a blind or curtain cord. One child died in similar circumstances in the previous reporting period, after becoming entangled in an electrical cord.

An additional child in the 1–4 year age group died as a result of the inhalation of gastric contents. This child had an existing debilitating condition, and died after choking while sleeping.

Two infants died as a result of accidental suffocation or strangulation in bed. These deaths have been classified as sudden unexpected deaths in infancy, and are discussed in detail in Chapter 12 of this report. Three infants died in this way, or because of other specified threats to breathing, in the previous 18-month reporting period.

Strangulation, suffocation and choking-related injury

Strangulation, suffocation and choking are most common in younger age groups (Queensland Injury Surveillance Unit 2006); 77 children presented to hospital following such incidents in 2004–05, with 60 of these being under 5 years of age (77.9%). Almost 25% of children required admission to hospital.

\textsuperscript{169} This child was injured in a fall in New South Wales but was later transferred to a Queensland hospital for treatment. Although the death occurred in Queensland, this matter will be considered in the New South Wales Coroner’s Court and therefore no additional information is available to the Commission regarding this death.

\textsuperscript{170} QISU data are based on emergency department presentations to a number of selected hospitals. This information is therefore not a complete overview of childhood injury in Queensland, but provides a good indication of injury trends.

\textsuperscript{171} Full-year data were only available for the 2004–05 period. Similar trends to those outlined appear to be present in the six-month period from July to December 2005.
Other

Seven children died from non-intentional injury related causes not discussed above (63.6%). These causes are detailed below:

- Contact with other and unspecified machinery: 1 death
- Striking against or struck by other objects: 1 death
- Striking against or bumped into by another person (accidental): 1 death
- Struck by falling objects: 1 death
- Contact with venomous marine plants and animals: 1 death
- Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure: 1 death

Six of the 7 deaths from other non-intentional injury were of male children; 5–9 year olds were the most likely to die of other non-intentional injury causes, accounting for 3 of the 7 deaths.

One child in the 5–9 year age group died after being stung by a box-jellyfish. Stings from a box-jellyfish may lead to respiratory failure and cardiovascular collapse, with death occurring in as little as 10 minutes (Brown 2005:4). Surf Life Saving Queensland (2004) suggests that jellyfish stings can be prevented by swimming in netted areas and wearing protective clothing (such as lycra body suits) in areas where jellyfish and other marine stingers are common. Coronial recommendations in this case included erecting warning signs and installing safe swimming enclosures in the area.

Place of incident

Six of the 11 non-intentional injuries resulting in child deaths occurred in the home (54.5%). This is consistent with findings both from literature and from the Child Death Annual Report, 2004–05. Two of the remaining deaths occurred at public beaches, 2 at a workplace and 1 at a hospital.

The majority of non-intentional child injuries happen at home. The QISU reports that up to 57% of all injuries in Queensland occur in the home. This is particularly true for preschool children, who spend much of their time in and around the home (Hockey et al. 2001:1).

Of the 2 deaths that occurred while the child or young person was at a workplace and/or working for income, 1 death was machinery-related, while the other was due to a fall.

Workplace injuries

The QISU recorded 148 workplace injuries in 2004–05, mostly in the 15–17 year age group. Machinery-related injuries were the most common (25.0%), followed by cutting/piercing injuries (18.9%). Six percent of workplace injuries required hospital admission.

Prevention and intervention

Legislation and product standards

Falls

Agencies such as the QISU have examined the issue of falls in some detail and have recommended the use of nursery products compliant with relevant safety standards and parental supervision to minimise the risk of falls in infants. For older/more mobile children, the installation of gates on stairs and secure windows and balconies is recommended (Hockey, Miles & Baylis 2001:6).

Strangulation, suffocation and choking

Accidental strangulation hazards are posed by items as diverse as blind and curtain cords, electrical cords, clothing, bunk beds and cots, prams, strollers and car restraints (Byard 2004:32–33; Office of Fair Trading 2005; Standards Australia 2004:7, 9). Blind and curtain cords are particularly dangerous to children under the age of 3 (Australian Competition and Consumer Commission 2005:32).

The accidental strangulation of young children in such situations has been the subject of coronial recommendations in several Australian states. Tasmanian and Victorian coroners have
recommended mandatory safety standards for blind and curtain cords and a public safety campaign aimed at raising the awareness of parents to the dangers of blind cord strangulation, and have suggested affordable means of prevention.

In line with other states, the Queensland Government has recently introduced a mandatory safety standard for corded interior window coverings. Under the Fair Trading Regulation 2001, a looped blind or curtain cord must be “… at least 1600mm above the base of the covering when the covering is lowered to its lowest point”. Warning labels with specified wording must be attached, and accompanied by written instructions on the installation and operation of the product and any associated safety device. These standards only apply to new products.

In recognition of the problem of blind and curtain cord strangulation, a number of government agencies have released safety campaigns aimed at awareness and prevention. The Commonwealth Department of Treasury and Department of Health and Ageing launched a joint awareness campaign for blind and curtain cord safety in 2003 (Department of Family and Community Services 2003:5). Brochures and statements have been published by the Australian Competition and Consumer Commission (2005:32; n.d.) and the Office of Fair Trading (2005), notifying the public of affordable means of modifying existing blinds.

**Workplace deaths**

Children are particularly vulnerable to workplace accidents, with the QISU reporting that children are twice as likely to be injured in the workplace as other workers (Scott et al. 2004:1). Suggested reasons for this include a lack of empowerment – young people are often not aware of their rights in the workforce and are insecure in exercising them. The level of training provided and the types of tasks given to young workers have also been raised as problem areas (Commission for Children and Young People and Child Guardian 2005:16; Scott et al. 2004:3).

The Commission’s recent publication *Queensland Review of Child Labour* (2005) highlighted the risks faced by young workers, as well as deficiencies in the current Queensland regulations. This report proposed a four-tiered model of child employment protection, including specific legislation, service delivery, policy and a child employment guide.

As a result of this report, the Queensland Parliament has recently introduced legislation designed to protect the rights of children in the workplace. The *Child Employment Act 2006* came into effect on 1 July 2006, and features restrictions on the type of work which can be performed by young people up to the age of 15, and the maximum number of hours to be worked during school terms (Barton 2006).

In conjunction with this legislation, the Department of Industrial Relations (DIR) is in the process of producing a code of practice for young workers, which gives advice to employers on assessing and managing workplace risks for children and young people. This includes both young workers and children who live in or may be visiting a workplace. The DIR has also produced guidelines for young workers advising of their rights and responsibilities.

The Commission is working collaboratively with Workplace Health and Safety Queensland to assist in the prevention and reduction of workplace accidents involving children and young workers. A memorandum of understanding is currently being progressed which would allow the Commission to receive notification of any serious or fatal workplace injuries to children in Queensland.

**Department of Housing**

**Smart Housing design initiative**

In 2002, the Department of Housing launched its Smart Housing initiative, aimed at promoting socially, environmentally and economically sustainable housing design. Social sustainability refers to the impact of house design on occupants (Department of Housing 2004:1). This element takes

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172 Schedule 5B.


174 For further information, see www.dir.qld.gov.au
into consideration child safety and injury prevention in the home. *The Smart Housing: Design Objectives* publication outlines a number of measures for child injury prevention which can be implemented when designing new homes. Significant causes of childhood injury that are targeted include poisoning, burns and scalds, and falls, as well as drowning, fire and driveway run-overs.

The Smart Housing initiative uses environment or product modification, listing practical ways to avoid injuries through home design. Examples include:

- the inclusion of at least one lockable cabinet for the storage of medicines and poisons
- cupboard and drawer handles below bench height to be mounted vertically to avoid children using them as a step
- balcony railings to comply with the Building Code of Australia’s non-climbable balustrade requirements, and
- window sill heights to be at least 1m above floor level or above furniture placed immediately below, to avoid falls from windows.

Child safety in the home is also addressed by the Department of Housing in publications such as *Smart Housing 2: Safety and security* (2003) and various Smart Housing Fact Sheets. Version 2 of *Smart Housing: Design Objectives* is due for release later in 2006 (Department of Housing 2006).175

**National Public Health Partnership**


This nationwide strategy was developed by the National Public Health Partnership176 and came into effect in July 2005. With a vision of collaboration of government, private sector and community to ensure safe environments, this strategy encourages strong and effective partnerships in approaches to injury prevention and safety promotion. It recognises that accidents can be prevented through the modification of both environment and individual behaviours, and aims to create:

- a ‘positive safety culture’, in which individuals and communities believe that injury is preventable, and take steps to achieve this (most likely through awareness raising), and
- ‘safe environments’ achieved by the creation of safer social and cultural environments, “... as well as safer products, workplaces, roads, homes and public spaces” (National Public Health Partnership 2004b:4).

Children and young people, Indigenous people and those living in rural and remote communities have been identified as some of the target populations. An accompanying National Aboriginal and Torres Strait Islander Safety Promotion Strategy has also been released (National Public Health Partnership, 2004a).

**Department of Emergency Services/ Queensland Health**

**Child Injury Prevention Project**

In 2001, the Department of Emergency Services and Queensland Health became joint sponsors of the Child Injury Prevention Project (ChIPP), to be implemented in the Queensland communities of Mackay and Mt Isa (McClure & Spinks 2002). The project aimed to reduce injury-related morbidity and mortality in children aged from birth to 4 years within these communities over 3–5 years, and focused on four types of injury – falls, thermal injuries, poisoning and immersions (Yorkston et al. 2006:17, 21). Given the demonstrated efficacy of passive prevention strategies, the project directs efforts towards social and physical environmental modifications which would reduce children’s exposure to hazards (Yorkston et al. 2006:17, 21). Although results gathered after 3 years do not lead to definite conclusions (because of the long-term nature of the project), positive outcomes are indicated. A large range of interventions have been implemented in each community, including:

- individual counselling sessions by health professionals during child health checks at various ages

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175 For more information on the Smart Housing initiative, visit www.housing.qld.gov.au
176 As of June 2006, the National Public Health Partnership no longer exists. It has been replaced by the Australian Population Health Development Principal Committee and the Australian Health Protection Principal Committee.
• awareness-raising campaigns such as providing safety checklists for nursery furniture and cardiopulmonary resuscitation (CPR) instruction charts to parents
• media campaigns (including ‘Hot water burns like fire’ and ‘Lock them up, store them high’), and
• industry involvement.

The program intends to run until 2007, when a final evaluation will be available.

**Australian Competition and Consumer Commission (ACCC)**

*Keeping Baby Safe: A guide to nursery furniture*

As part of its consumer protection role, the ACCC releases information on product safety. The *Keeping Baby Safe* publication (2005) is a guide to purchasing nursery furniture, identifying those items which may be hazardous for infants. Checklists of features to look for when purchasing new or second-hand furniture are provided, along with tips for safe use and maintenance of products.

As well as covering standard furniture such as cots, high chairs and prams and strollers, the publication deals with those products not recommended for use, such as cot and bed restraints and baby walkers.

Additional ACCC publications include *Safe Toys for Kids*, a booklet aimed at helping parents select safe toys for their children, as well as safety alerts on a number of products such as baby bath aids, bunk beds and baby walkers.177

**Office of Fair Trading**

*About Baby and Children’s Safety*

The Office of Fair Trading offers public education about child-related product safety to enable parents to identify unsafe products and counteract such hazards. One such publication, the *About Baby and Children’s Safety* booklet, informs parents that they should:

• read and act on product warnings on labels
• never use a product in a way other than the one for which it was originally intended, and
• check products regularly for wear and tear (Office of Fair Trading, 2002:5).

The booklet deals with child-related products ranging from nursery furniture to toy boxes, bicycle helmets and children’s nightclothes. Information is provided on what key safety features to look for (including any relevant product standards), maintenance and tips for safe use of the product within the home.

The Office of Fair Trading also produces a range of fact sheets covering issues such as child restraints and bicycle safety.

**Standards Australia**

*Product standards*

Standards Australia has also published a handbook of guidelines for child safety, which outlines potential hazards in a number of environments. Child development and behaviour are discussed, illustrating the types of hazards to which children are vulnerable at various developmental stages. Specific types of hazards discussed include mechanical, thermal, chemical and electrical hazards. Possible product modifications to avoid these hazards are listed.

Standards Australia has also developed a number of safety standards for equipment for use by children. Products covered include cots, prams and strollers, high chairs, dummies and cradles.178

The injury prevention strategies outlined above are supported by the Commission. The Commission commends the relevant Queensland Government Departments and organisations on their efforts in preventing injury-related fatalities. Updates on current strategies for the prevention of accidental injury and fatalities will be provided in future reports.

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177 For more information, see www.acc.gov.au
178 For more information on product safety standards, see http://www.saiglobal.com or www.standards.com.au
Part IV: Intentional injury-related deaths

Chapters 10–11
Includes child deaths due to suicide and fatal assault.
Chapter 10
Suicide

“That a child or adolescent would find himself or herself in a situation where the only perceived option is to take their own life is tragic but not uncommon” (Shaw, Fernandes & Rao 2005:309)

Key issues

- Of the 15 children who are suspected of taking their own lives between 1 July 2005 and 30 June 2006, 3 identified as Aboriginal and 5 were known to the Department of Child Safety in the last 3 years. Five were aged 10–14 years and 10 were aged 15–17 years.
- Forty percent of children and young people stated their intent to suicide before taking their own lives. This highlights the importance of taking threats or talk of suicide seriously. Parents, caregivers and others need to recognise that children know enough to attempt suicide, regardless of whether they appreciate the finality and permanence of death.
- The Commission has identified a number of issues which impact upon the classification of childhood suicide and the subsequent under-reporting of these deaths in official statistics. The Commission has made recommendations to the Australian Bureau of Statistics and the Registry of Births, Deaths and Marriages in relation to the capturing and reporting of data to more accurately reflect childhood suicide in Queensland.

Fifteen children and young people died as the result of suspected suicide in the period from 1 July 2005 to 30 June 2006. This cause of death was responsible for 32.6% of external deaths among children aged 10–17 years. Suicide incidents equally accounted for the highest number of deaths for children aged 10–14 years, and the second-highest for children aged 15–17 years, exceeded only by transport fatalities.

Children and suicide

A common misconception about childhood is that it is a period in which children are immune to the risk of suicidal behaviour (Centre for Suicide Prevention 2000:1). According to Greene (1994:230), society is in denial about the prevalence of suicide among pre-adolescents. Reasons for the under-appreciation of this problem include the smaller numbers of suicides reported in children under 15 years, often because of misclassification and conservative cause-of-death coding, and the existence of widespread myths about children and suicide (Greene 1994:230; Wise & Spengler 1997:319). In particular, the myths include that children are incapable of suicide as they are unable to understand the finality and irreversibility of death and do not have the developmental maturity to think up, or act upon, suicidal thoughts (Centre for Suicide Prevention 2000:1; Greene 1994:230–31; Wise & Spengler 1997:319–20). These erroneous beliefs have resulted in a lack of awareness of childhood suicide (refer to the ‘Classification issues’ section of this chapter for a more detailed discussion of this topic).

Recent evidence suggests that the suicide rate among children has increased dramatically in the past few years (Beautrais 2001:649; Horsburgh & Fowler 2003; O’Leary et al. 2006:33; Pompili et al. 2005:63). In line with this, the Commission’s Annual Report: Deaths of children and young people, Queensland, 2004–05 (Child Death Annual Report, 2004–05) found that suicide was the leading cause of death for children aged between 10 and 14 years, and the second leading cause for 15–17 year olds.181

179 Transport fatalities were equally the leading cause of death for children aged 10–14 years during this reporting period.
180 One additional suicide of an Indigenous child aged 10–14 years occurred in this period that is not accounted for in this chapter as the death has not been registered by the Registry of Births, Deaths and Marriages. Refer to Chapter 2.
181 For children aged 10–14 years, 9 suspected suicides were identified, compared with 10 suicides for 15–17 year olds.
This is again consistent with the findings of the current reporting period. Despite this, it is noted that data on suicide in children younger than 15 years are not easily available (Pompili et al. 2005:64) and are rarely reported in official statistics. The Commission has found that the young age at which children are intentionally taking their own lives in Queensland is a significant issue that requires further attention and consideration.

Defining suicide

In the literature, there is limited agreement about definitions of suicide and suicidal behaviour. The Queensland Government’s (2003:10) definition of suicide is “[a] self-inflicted injury that is accompanied by the intention of the individual to die from the result of the action taken”.

In Queensland, a high standard of proof is generally needed for a suicide to be labelled as such. However, the substantial evidence necessary for suicide classifications means that deaths which would ordinarily be categorised as suicides in clinical or research situations may lack sufficient evidence to be considered suicide in a legal sense (De Leo & Evans 2002:19). As a result, in cases where a suicide is suspected, but intent is unclear (that is, the deceased did not leave a suicide note and did not make an oral statement of intent before their death), the cases are often coded as accidents. It is acknowledged throughout the literature that childhood suicides are under-reported in official statistics and a large proportion are mistakenly recorded as accidents (Mohler & Earls 2001:150; Pompili et al. 2005:63; Wise & Spengler 1997:319–20). The Commission has endeavoured to reduce the likelihood of suicides being undercounted among children and young people by taking into account in this chapter all cases where police have indicated that a death may be a suspected suicide.\(^{182}\) In addition, to enable further categorisation of these deaths, the Commission has developed a suicide classification model (see Appendix 10.1), discussed below.\(^{183}\)

Suicide classification model

The Commission’s suicide classification model is used to classify all cases of suspected suicide into one of three levels of certainty. In classifying these deaths, the Commission considers a number of factors, including whether intent was stated previously, the presence of a suicide note, witnesses to the event, prior suicide attempts and any significant precipitating factors. Information used to classify suicide certainty is based on data available to the Commission at the time of reporting. Information is gathered from numerous records, including the Police Report of Death to a Coroner (Form 1), autopsy and coronial findings, toxicology reports, Department of Child Safety (DChS) records\(^{184}\) and, for finalised cases, police briefs of evidence to the coroner (which can include witness statements, supplementary Form 1s, additional police reports and suicide notes). Levels of classification are as follows:

- **Beyond reasonable doubt:** The available information refers to at least one significant factor which 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 beyond reasonable doubt, but is more consistent with death by suicide than 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 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 be of undetermined intent.

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182 As indicated in the Police Report of Death to a Coroner (Form 1). In circumstances where the Commission is notified of cases where a child may have suicided, but this information was not recorded on the Form 1, these cases will also be included in this chapter. In this reporting period, no cases were included in the analysis that were not identified by police as suspected suicides.

183 The Commission’s classification model is based on the Australian Institute for Suicide Research and Prevention’s (AISRAP) suicide classification flow chart (De Leo & Evans 2002).

184 Where the child or young person has had contact with the DChS in the 3 years before their death.
In the reporting period, 9 deaths were classified by the Commission as ‘beyond reasonable doubt’ and 6 were categorised as ‘probable’. No deaths were classified as ‘possible/undetermined’. These classifications will be detailed further in the following ‘Suicide trends and patterns, 2005–06’ section of this chapter.

**Suicide trends and patterns, 2005–06**

In the 12-month period between 1 July 2005 and 30 June 2006, 15 children (9 males and 6 females) died from suspected suicide. The majority of these children were aged between 15 and 17 years of age (66.7%). Table 10.1 illustrates the gender and age category breakdowns for all child suicides.

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females n</th>
<th>Males n</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–14 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 years</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>14 years</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Subtotal 10–14 years</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>15–17 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 years</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>16 years</td>
<td>3</td>
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<td>3</td>
<td></td>
</tr>
<tr>
<td>17 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Subtotal 15–17 years</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>6.0</td>
</tr>
<tr>
<td>Total 10–17 years</td>
<td>6</td>
<td>9</td>
<td>15</td>
<td>3.3</td>
</tr>
<tr>
<td>Rate per 100,000</td>
<td>2.7</td>
<td>3.9</td>
<td>3.3</td>
<td></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Notes: 1. Age categories were excluded where no children of that age died in the reporting period.
2. Rates are calculated based on population data for children and young people aged between 10 and 17 years only.
3. Rates are unable to be calculated for numbers less than four.

**Gender**

Consistent with the 12-month data reported in the Commission’s 2004–05 analysis (see Chapter 3) and the national suicide findings, male children and young people were more likely to suicide compared with females (Beautrais 2001:647; De Leo & Evans 2002:35). Male suicides represented 60.0% of all suicides during the reporting period, a slightly lower proportion compared with that reported in the Child Death Annual Report, 2004–05.185 The rate of suicide was also greater for males, with 3.9 males aged 10–17 years per 100,000 males aged 10–17 years in the population taking their own lives, compared with 2.7 females per 100,000.

It has been suggested that the gender differences in youth suicide are most likely due to the greater likelihood of males experiencing multiple risk factors, such as co-morbid mood and alcohol abuse disorders, and higher levels of aggression, as well as males choosing more lethal suicide methods compared with those chosen by females (Bridge, Goldstein & Brent 2006:373; Giskes 2004:14; Shaffer & Pfeffer 2001:255–265). This is in contrast with the higher suicidal ideation and attempt rates reported among adolescent females (Bridge, Goldstein & Brent 2006:377; Doshi et al. 2005:371; Elliott-Farrelly 2004:2).186

**Age**

The majority of suicides occurred among adolescents aged between 15 and 17 years (10 deaths, 66.7%) compared with children aged 10–14 years (5 deaths, 33.3%). Suicide was identified as the leading cause of death for children aged 10–14 years, equalling transport fatalities, with 5 deaths each. Suicide was the second leading cause for adolescents aged 15–17 years, with the highest number of deaths for this age category occurring in transport accidents. These findings are similar to the Commission’s 12-month 2004–05 data (see Chapter 3), with only 1 fewer death occurring in the 10–14 year age category and 1 more death in the 15–17 year age group. The rate of suspected suicide for 10–14 year olds in the current reporting period is 1.8 per 100,000 children.
in the population aged 10–14 years, compared with 6.0 young people aged 15–17 years per 100,000.

It is generally accepted that child and adolescent suicide figures are considerably lower in official statistics compared with the true numbers occurring (Beautrais 2001:651; Wise & Spengler 1997:319). As a result, numerous studies have noted that childhood suicide is rare and “not clearly noticeable until the age of 15 years” (Cantor et al. 1999:34; Hawton & James 2005:891). Further, it is suggested that there is a paucity of information on the phenomenon of childhood suicide – in particular, on issues surrounding ideation and intent (Greene 1994:230; O’Leary et al. 2006:33). This lack of awareness and understanding of the issue of childhood suicide has resulted in suicide strategies neglecting children as an age group who require targeted prevention and intervention.

The Commission’s inaugural Child Death Annual Report, 2004–05 found that there appeared to be a rise in child suicides in Queensland. While the absolute numbers of children and young people taking their own lives may be small, the repetition of these trends in 2005–06 reinforces the importance of understanding the epidemiology and characteristics of children who suicide. Consequently, the Commission will be undertaking an in-depth research project into the circumstances surrounding the suicides of Queensland children and young people from 1 January 2004 to 31 December 2006, to be released in 2007.

Aboriginal and Torres Strait Islander status

Three children who took their own lives during the reporting period (and whose deaths are registered with the Registry of Births, Deaths and Marriages) were identified as Aboriginal. No Torres Strait Islander children suicided during this time. Aboriginal youth accounted for 20.0% of all child suicides, despite only making up 6.3% of the youth population in Queensland (Commission for Children and Young People and Child Guardian 2006). Similarly, 3 Indigenous children were recorded to have suicided in the 12-month period between 1 July 2004 and 30 June 2005, also representing 20.0% of suicides during this time (see Chapter 3). In the reporting period, all of the Aboriginal suicides occurred among females (3 deaths), who were 14, 15 and 16 years of age. This finding contradicts the suicide literature, which suggests that Aboriginal male children and young people are at a significantly greater risk of suicide than Aboriginal female youth (Hunter 2001:3; Hunter & Milroy 2006:149).

Indigenous suicide was first considered a serious problem in the late 1980s, coinciding with the national inquiry into Aboriginal deaths in custody (Elliott-Farrelly 2004:4; Hunter 2001:3). Research found that the national media focus on the Royal Commission into Aboriginal Deaths in Custody was the stimulus for development of political understandings of hanging that echoed the effects of colonisation and oppression (Hunter 2001:3; Hunter & Milroy 2006:144). The contemporary ‘meaningfulness’ of hanging by Indigenous youth is believed to derive from the disadvantage they experience by comparison with wider society (Hunter 2001:3). It is suggested that the predominance of hanging as a method is a political and poignant symbolic statement of oppression and injustice (Reser 1991 & Hunter 2001, cited in Elliott-Farrelly 2004:4).

Although the reasons for the over-representation of Indigenous deaths are not entirely clear, a number of factors have been suggested to explain the increasing suicide numbers among Indigenous people, including the ongoing experience of dispossession, social and economic disadvantage, elevated rates of substance abuse, modernisation, lack of services and the general low status and wellbeing of Indigenous people (Beautrais 1999:240; Department for Community Development 2005:14; Elliott-Farrelly 2004:5).

The increasing rate of Indigenous youth suicides, in particular, is of significant concern. In terms of prevention, of critical importance is the need to differentiate between the distinct aetiologies associated with Indigenous compared with non-Indigenous suicides, as many mainstream risk

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187 Reasons for under-reporting of child and adolescent suicides will be discussed in detail in the ‘Classification issues’ section of this chapter.

188 The Royal Commission into Aboriginal Deaths in Custody was convened to investigate Indigenous deaths in police and prison custody, a significant proportion of which were the result of suicide by hanging (Hunter 2001:3).
factors for suicide do not apply to Indigenous people and their communities (Elliott-Farrelly 2004:3,7). In particular, the reported infrequency of mental illness in Aboriginal suicides and the strong link with alcohol and other drug use need further exploration (Elliott-Farrelly 2004:7; Ogilvie 1994:31). The existence of such important differences indicates the need for Indigenous suicide to be addressed under a separate framework from that targeting the general population (Elliott-Farrelly 2004:7). Consequently, there is a requirement for the development of evidenced-based approaches addressing Indigenous suicide prevention and culturally informed screening tools (Hunter & Milroy 2006:153).

**Geographical distribution (ARIA+)**

Eight suicides of children and young people occurred in regional areas (4.5 deaths per 100,000 young people aged 10–17 years living in regional areas), compared with 5 in metropolitan areas (2.0 deaths per 100,000 young people in metropolitan areas) and 2 in remote areas.189 These figures are consistent with the findings from the 12-month period in 2004–05 (see Chapter 3), which were that suicide rates were greatest in regional areas, followed by metropolitan regions. Suicide rates are reported to be consistently higher in rural compared with metropolitan areas (Beautrais 1999:237; Caldwell, Jorm & Dear 2004:510). The findings for the reporting period are in line with this literature.

It is noted that, while adolescent males living in rural and remote areas have particularly high suicide rates (Cantor et al. 1999:50; De Leo & Heller 2004:53), those in metropolitan regions have higher suicide numbers overall (Cantor et al. 1999:51). The Commission found that male suicide numbers were highest in regional areas, with 5 deaths, compared with 4 deaths in metropolitan areas. Females also experienced a greater number of suicides in regional areas, with 3 deaths, followed by 2 deaths in remote areas and 1 in metropolitan areas.190

Research suggests that the higher suicide rate among male youth in rural areas may be attributed to a lower likelihood of contacting health professionals for mental health or related problems, restricted access to mental health services (Caldwell, Jorm & Dear 2004:512), factors relating to rural economic downturn and greater access to firearms (Beautrais 1999:237–38).

**Socio-economic status (SEIFA)**

Between 1 July 2005 and 30 June 2006, 8 children and young people who died from suicide were living in a low or very low socio-economic region191 (53.3%); 2 suicides occurred in high or very high socio-economic areas and 5 were in a moderate area. In contrast, data for the 2004–05 12-month period showed that deaths occurred almost equally in low and high socio-economic regions. Suicide rates are highest in moderate socio-economic areas (5.3 suicides per 100,000 young people aged 10–17 years in the population), followed by low and very low socio-economic regions (4.3 suicides per 100,000).

Research has found that risks of suicidal behaviour are increased for individuals from socially disadvantaged backgrounds, characterised by low socio-economic status and low income (Beautrais 1999:143; Cantor & Neulinger 2000:378). A few Australian studies examining this area have found a relationship between socio-economic disadvantage and youth suicide (Cantor et al. 1999:56–57).

**Child protection population**

Of the 15 children and young people who took their own life between 1 July 2005 and 30 June 2006, 5 were known to the DChS (33.3%). The Department’s involvement with those children will be reviewed by the Queensland Child Death Case Review Committee.192 This is an increase on the 2 deaths reported in the 12-month 2004–05 period. The number and rate of suspected suicide for children known to the DChS compared with all children in Queensland are illustrated in Table 10.2.

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189 Rates unable to be calculated for numbers less than 4.
190 Rates were unable to be calculated and compared with gender as a number of the categories had fewer than 4 deaths. Calculating rates for some regions and not others would be inaccurate.
191 Five of these children were classified as residing in very low socio-economic regions.
192 Since 1 August 2004, the DChS has been required to conduct a review of its involvement with a child if the child was known to the Department within 3 years before their death. The Child Death Case Review Committee is an independent committee responsible for considering the Department’s review. The committee is multi-disciplinary and is chaired by the Commissioner.
Table 10.2: Suicide of children known to the DChS compared with all children in the Queensland population by age category at death

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Total n</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known to the Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10–14 years</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>15–17 years</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Total 10–17 years</td>
<td>5</td>
<td>23.3</td>
</tr>
<tr>
<td>All Queensland children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10–14 years</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>15–17 years</td>
<td>10</td>
<td>6.0</td>
</tr>
<tr>
<td>Total 10–17 years</td>
<td>15</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates are calculated based on population data for children and young people aged between 10 and 17 years only.
2. The DChS population data supplied to the Commission included 90 children of unknown age. This is because the age and sex of the child were unknown. These children have not been included in the calculation of rates in this table.

As demonstrated in Table 10.2, the rate of suicide for children known to the DChS is greater compared with the suicide rate for all children in Queensland. For children known to the DChS aged 10–17 years, the rate of suicide was 23.3 deaths per 100,000 children in the child protection population, compared with 3.3 suicides per 100,000 Queensland children aged 10–17 years.193

An increased risk of suicide has been identified among children and young people known to child protection agencies. This is because children known to these agencies often may be living in circumstances that are characterised by substance abuse, mental health problems, lack of attachment to significant others, conduct disorder or a history of abuse (Department of Child Youth and Family Services 2000:6). Even more problematic is the fact that many of these children do not receive help until their problems become so severe that they come to the attention of the authorities as a result of their behaviour (Department of Child Youth and Family Services 2000:6).

In New Zealand, it has been estimated that about a quarter of suicides occur among children in the child protection population (Department of Child Youth and Family Services 2000:8). In this reporting period, the Commission found that a third of Queensland children who took their own life were known to the DChS in the 3 years before their death. This finding is higher than the proportion of suicides identified among children known to the Department in the Child Death Annual Report, 2004–05, when just over 20% of children were known. In addition, 2 of the 5 young people known to the Department in the current period had a previous suicide alert flagged on their file.194

For people working with these children, detection of suicidal thoughts, actions and risk factors as early as possible is an essential component of early intervention that may prevent later suicidal behaviour. The Commission has raised the over-representation of suicide deaths in the child protection population with the DChS. This issue will be investigated further in the Commission’s Suicide Prevention Project due to be released in mid-2007.

Suicide classification model

Figure 10.1 shows the percentages of suspected suicide deaths in the three classifications described earlier in this chapter.

Figure 10.1: Percentages of suspected suicide deaths by classification

Data source: Queensland Child Death Register (2005–06)

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193 Caution needs to be taken when interpreting these figures due to the small numbers being considered.
194 One of these alerts was created by the Department of Communities and the other by the DChS.
As identified above, the vast majority of cases were classified by the Commission as beyond reasonable doubt (9 deaths), 6 were classified as being of probable likelihood and no cases were classified as being of possible or undetermined intent.

Coronial findings

Post-mortem examinations and toxicological investigations were conducted for 7 of the 15 cases in the 12-month reporting period. Coronial findings were available for 7 of the children and young people suspected of suiciding. Table 10.3 shows the coroner’s findings for each of these cases, and the classification assigned by the Commission using the suicide classification model.

Table 10.3: Coronial findings and classifications of suspected suicides

<table>
<thead>
<tr>
<th>Coronial finding</th>
<th>Intent clearly stated in findings</th>
<th>Suicide classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoxic-ischaemic encephalopathy due to hanging</td>
<td>Yes</td>
<td>Beyond reasonable doubt</td>
</tr>
<tr>
<td>Ligature compression of the neck due to hanging</td>
<td>No</td>
<td>Probable</td>
</tr>
<tr>
<td>Colchicine toxicology</td>
<td>Yes</td>
<td>Beyond reasonable doubt</td>
</tr>
<tr>
<td>Neck compression</td>
<td>Yes</td>
<td>Beyond reasonable doubt</td>
</tr>
<tr>
<td>Hypoxic brain injury due to hanging</td>
<td>No</td>
<td>Beyond reasonable doubt</td>
</tr>
<tr>
<td>Cerebral hypoxia due to hanging</td>
<td>No</td>
<td>Probable</td>
</tr>
<tr>
<td>Neck compression</td>
<td>No</td>
<td>Probable</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

In all 3 cases where the coroner clearly identified intent, the cases were classified by the Commission as being beyond reasonable doubt. In 1 other case where the intent of the child or young person was unclear, but the finding was ‘hanging’, the case was classified as beyond reasonable doubt. The remaining 3 cases where no comment was made in relation to intent were classified as probable suicides. This classification is based on available information as discussed.

Inquests

Under section 28(2) of the Coroners Act 2003 an inquest may be held into a reportable death if the coroner considers it desirable to hold an inquest to draw attention to the circumstances of the death, to assist in the prevention of similar deaths. The purpose of an inquest is to gather information to establish facts surrounding a death. Inquests are an inquisitorial process and not a method of apportioning guilt. Coroners will often comment on issues associated with the circumstances surrounding the death and make recommendations that relate to public health or safety, the administration of justice or ways to prevent deaths from happening in similar circumstances in the future (s. 46, Coroners Act 2003).

The State Coroner has issued a Notice of Inquest into 1 case of suspected suicide that occurred during this reporting period. In addition, it is noted that an inquest was carried out for 1 death reported in the Child Death Annual Report, 2004–05.

Of the 15 suspected suicide deaths between 1 July 2005 and 30 June 2006, there are coronial findings available for 7 deaths and 1 inquest has begun.

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195 Refer to Chapter 2, ‘Methodology’, for the definition of a reportable death.
196 Refer to the ‘Prevention and intervention’ section of this chapter for further details of this inquest.
197 This inquest has been adjourned.
### Method of death

Table 10.4 presents the methods of suicide used by children and young people by gender. Hanging was the most frequently used method of suicide for both males and females, accounting for 86.7% of all suicides (13 deaths). Other suicide methods in the reporting period included a gunshot wound and poisoning (2 deaths).

**Table 10.4: Method of suicide deaths by gender**

<table>
<thead>
<tr>
<th>Method</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Hanging</td>
<td>5</td>
<td>83.3</td>
<td>8</td>
<td>88.9</td>
<td>13</td>
<td>86.7</td>
</tr>
<tr>
<td>Gunshot wound</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>11.1</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Poisoning</td>
<td>1</td>
<td>16.7</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
<td>100.0</td>
<td>9</td>
<td>100.0</td>
<td>15</td>
<td>100.1</td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2005–06)*

*Notes: 1. Percentages are calculated for each column. 2. Total percentage columns may not sum to 100% because of rounding.*

The findings in Table 10.4 are consistent with the Child Death Annual Report, 2004–05, which found that most suicides occurred by hanging. In Queensland the number of suicides by hanging has increased over the past decade (De Leo & Heller 2004:46). The data for the current period also demonstrate the increased frequency of hanging as the chosen method of suicide.

### Hanging

Despite the fact that hanging is currently the single most common mode of suicide for children and young people in Queensland, there are currently no clear interventions to reduce the use of this method (Beautrais 1999:236). Hanging is a mode of suicide to which it is virtually impossible to restrict access. Consequently, the method which accounts for the greatest number of youth suicides is also the least amenable to change (Beautrais 1999:236). The easy availability of hanging ligatures is demonstrated in Table 10.5.

#### Table 10.5: Hanging ligatures

<table>
<thead>
<tr>
<th>Ligature description</th>
<th>Total n</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rope</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Electrical cord</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Garden hose</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Webbing belt</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Bicycle chain lock</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Hay baling twine</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>Belt</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
<td>100.1</td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2005–06)*

*Note: 1. Total percentage columns may not sum to 100% because of rounding.*

With the rising numbers of hangings in Queensland, there is a need to gain a better insight into this method of suicide. Researchers have suggested that availability and socio-cultural acceptability are both important influences on an individual’s choice of suicide method and that particular suicide methods may be more acceptable to certain subgroups of individuals (De Leo, Evans & Neulinger 2001:186). More specifically, a number of studies have shown that hanging suicides are concentrated in the younger age groups (De Leo, Evans & Neulinger 2001:186; Shaw, Fernandes & Rao 2005:314). Although the reasons for this are unclear, it may be that hanging is becoming more acceptable and the preferred method in adolescent culture, or it may be related to access to hanging points and materials (Cantor & Neulinger 2000:380; Shaw, Fernandes & Rao 2005:315). This highlights the importance of targeting suicide prevention strategies towards early intervention and identification of at-risk children and young people.

### Situational circumstances and risk factors

This section outlines the factors that may have triggered suicidal behaviour in Queensland youth in the 2005–06 reporting period. The analysis contained in this section is based on information recorded in Police Form 1s, autopsy and toxicology reports, coronial findings, DChS records and.
for finalised cases, police briefs of evidence to the coroner. The numbers may therefore under-represent the true number of circumstances and risk factors for some of the children and young people who took their own lives during the reporting period. 199

Factors commonly linked to youth suicide are often complex and may involve a combination of biological, psychological and social elements. Suicidal behaviours in young people are often not the result of a single cause but are multiplicative and frequently occur at the end point of adverse life sequences in which several interacting risk factors combine (Beautrais 1999:245; Department for Community Development 2005:4), resulting in feelings of hopelessness and a desire to ‘make it all go away’ (Souter & Kraemer 2004:261). Research has identified a number of common risk factors and adverse life circumstances that may lead to suicidal behaviours in children and young people. Key factors are outlined below.

**Mental health and behavioural problems**

Five children and young people who suicided in the reporting period experienced some form of mental health or behavioural problem before their death (representing 33.3% of suicides during this period). 200 Problems identified include alcohol and drug dependency (2 cases), depression (2 cases), behavioural issues/conduct disorder (1 case) and attention deficit hyperactivity disorder (1 case). Three of these children were known to have been assessed by a mental health service provider or general practitioner in relation to their mental health and/or behavioural problems. One young person was noted to have been receiving counselling in the days prior to death and in 2 cases the young people were noted to have been taking prescribed medication for their condition/s. One child was identified to have co-morbid conditions.

The proportion of children and young people identified as having mental health and/or behavioural problems during this reporting period is consistent with the findings from the Child Death Annual Report, 2004–05, with just over a third of children recorded as having a mental health or behavioural problem before their death. Conditions identified were very similar across the two periods.

Research suggests that mental health issues play a major role in youth suicidality. Studies have estimated that up to 90% of young people who die by suicide have at least one mental health disorder at the time of attempt (Bridge, Goldstein & Brent 2006:375; Shaffer & Pfeffer 2001:255). Mental health issues most frequently associated with youth suicide include affective disorders, substance dependence and antisocial behaviour (Beautrais 1999:188; Shaffer & Pfeffer 2001:355). Further, it has been observed that many young people dying by suicide have multiple or co-morbid psychiatric conditions (Beautrais 1999:211; Bridge, Goldstein & Brent 2006:375) and are likely to have had a history of contact with psychiatric services (Beautrais 1999:211). Consequently, earlier identification, recognition and treatment of mental health and behavioural issues are essential in preventing child and adolescent suicides (Bridge, Goldstein & Brent 2006:385; Pompili et al. 2005:66).

**Previous suicidal behaviour**

Previous suicidal behaviour and/or thoughts were identified for 4 children and young people in the reporting period (26.7%). All 4 children were recorded to have experienced suicidal ideation.

Further, 2 young people had previously attempted suicide. One child previously attempted suicide by overdosing on prescription medication and, in a separate incident, attempted hanging. Another child was also recorded to have attempted suicide by drug overdose. Two children were also reported to have engaged in self-harming behaviour, including cutting and burning.

Of these 4 children, 3 were known to have been assessed by a mental health service provider or general practitioner previously.

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199 Section 89ZG of the Commission for Children and Young People and Child Guardian Act provides that a government entity may provide the Commissioner with information reasonably required to perform Part 4A child death research functions. As the identification of suicide risk factors requires full case records from a number of government agencies, the Commission is currently working with a number of departments to develop memorandums of understanding to gain access to further information, including education and health records.

200 Each child and/or young person may have experienced more than one mental health problem (co-morbid disorders). Therefore numbers may not sum accurately.
Findings for this year are similar to those reported in the Child Death Annual Report, 2004–05. Specifically, previous suicidal behaviour identified for the current period indicates that the percentage of children and young people who engaged in self-harm and had previously attempted suicide was almost the same compared with last year (26.7% and 26.3% respectively).

The literature suggests that a previous suicide attempt is the single most potent risk factor predicting youth suicide (Bridge, Goldstein & Brent 2006:374; Fritz n.d.). Prior suicidal behaviour is considered one of the strongest predictors of future suicidal behaviour, with estimates that the suicide rate is almost 20 times higher for people with previous attempts than for those with no history of attempts (Beautrais 1999:211).

The most common methods of self-harm reported in the literature are cutting, followed by burning (Muehlenkamp & Gutierrez 2004:18; Ross & Health 2002:67). In this reporting period, the findings for the 2 young people identified as having previously self-harmed before suiciding are consistent with this literature. It is noted that self-harm is often a highly impulsive act and that many individuals report thinking about the act just minutes before doing it (Hawton & James 2005:892). Alcohol and drug consumption is suggested to increase the likelihood of impulsive acts. It is unknown whether the young people identified in the reporting period were affected by substances at the time of their previous self-harming/suicide attempts.

History of childhood abuse

Four children reported a history of childhood abuse (26.7%). Three young people were victims of physical abuse (20.0%) and 1 child had allegedly been sexually abused (6.7%). Perpetrators of physical abuse were all immediate family members.

In addition, 3 children were noted to have family histories of domestic violence.

Four children noted to have a history of physical or sexual abuse and/or domestic violence in their families were known to the DChS either at the time of death or within 3 years before their death.

The Child Death Annual Report, 2004–05 recorded that 26.3% of children had a previous history of physical and/or sexual abuse. The findings from the current period are similar to the proportion of cases identified last year.

A number of studies have shown that children and young people who were physically or sexually abused in childhood are at a significantly greater risk of suiciding than children with no history of abuse. Many studies have found a direct link between abuse and suicidal behaviour (Evans, Hawton & Rodham 2004:45; Queensland Health 2005:31; Ystgaard et al. 2004:863; Zametkin, Alter & Yemini 2001:3121). Likewise, research indicates that family violence may also influence childhood suicidal behaviours (Wise & Spengler 1997:324).

Precipitating incidents and stressful life events

Precipitating incidents

Precipitating incidents were identified in 12 of the suicides (80.0%).202 For 8 of the children and young people, an argument with a significant other preceded the suicide. This included arguments with the children’s parents (6 cases), another family member (2 cases), school authorities (2 cases), boyfriend/girlfriend (1 case) and the community (1 case). In all 8 cases, arguments occurred up to the day before, or immediately before, the suicide. Three young people had arguments with more than one person in the days leading up to the suicide.

Four children endured a recent relationship breakdown with a significant other, 3 with a parent and the other with a girlfriend/boyfriend. Other significant precipitating incidents reported included family transition, bullying, possible intoxication, sickness/illness, police contact, fear of abuse, and loss of a close friend to suicide. An immediate

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201 All 3 recordings of physical abuse have been substantiated.
202 Each child and/or young person may have experienced more than one precipitating incident or life stressor. Therefore numbers may not sum accurately to the number of suicides which occurred in the 2005–06 period examined.
trigger for the suicide of 3 young people was unable to be identified or was not recorded.

Similar numbers and types of precipitating incidents were identified this year as compared with those identified in the Child Death Annual Report, 2004–05. The most noteworthy incident identified for both reporting periods appears to be the occurrence of an argument with a significant other in the days leading up to, and in most cases on, the day of the suicide. These findings are consistent with the literature, which identifies that precipitating incidents most commonly associated with suicide are arguments with partners, family or friends, relationship breakdowns, bereavement as a result of a death and disciplinary troubles in school or with police (Beautrais 1999:218; Gould & Kramer 2001:9; Shaffer & Pfeffer 2001:255).

**Other stressful life events**

A number of long-term stressors were also identified for 6 children who took their own life during the current reporting period. In addition to the other risk factors mentioned, 203 young people who suicided were also noted to have had parents with mental health problems (2 cases) and/or alcoholism (2 cases), had significant police contact (3 cases), had been suspended/expelled or were not attending school (2 cases), and had experienced the death of a parent some years before the child’s suicide, resided in and out of foster care, suffered from a long-term sickness and/or were unemployed (1 case each). Previous police contact for 3 of the children involved offences including unlicensed driving, property damage and stealing.

Studies have found that young people who suicide have experienced a higher rate of adverse or stressful life events in the period preceding the suicide, compared with other people of the same age (Beautrais 1999:227). Further, evidence suggests that stressful events are particularly likely to provoke suicidal behaviour in vulnerable individuals.

**Alcohol, drug and substance use**

Nine of the children and young people who suicided were reported to have been known alcohol, drug or substance users (60.0%).204 Consistent with the findings from the Child Death Annual Report, 2004–05, marijuana/cannabis was the most frequently reported substance used, with 5 children identified as having been users. Other substances used included alcohol (4 cases), volatiles (1 case), benzodiazepines (1 case) and ecstasy (1 case), and 1 child reportedly injected anti-psychotic medication not prescribed to them.205 In a further case, the child was reported to have taken a significant number of pain relief tablets before their death.

Of the 9 children identified as alcohol, drug or substance users, 4 children were noted to have been heavy drug users, 2 of whom were suggested to have been dependent on drugs. Three children were recorded to have possibly used on the night before they suicided. Overall, the proportion of cases where children used substances is higher in the current reporting period compared with last year’s findings.

Research suggests that alcohol and other drug use increases the risk of suicide (Department for Community Development 2005:14). This increased risk was often attributed, in the short term, to the indirect effects of intoxication on behaviour.

**Contagion**206

In a third of cases, the child or young person was identified as having a family member or close friend who had either taken their own life or attempted to take their own life (5 deaths, 33.3%). In 2 cases the method of suicide used by the family member/friend was the same method used by the child. In 1 case, the young person had previously attempted suicide using the same method as his family member. In 1 case it is unknown how the relative suicided. Contagion-related suicides for the current report period were three times higher than the number reported in the Child Death Annual Report, 2004–05 (28.9% versus 10.5%).

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203 That is, stressors mentioned here do not include other risk factors already examined, such as domestic violence and mental health problems. This section considers only those stressors that are not mentioned elsewhere.

204 This figure does not include the substance used by 1 child to suicide by drug overdose. For another child, it is not recorded what type of substance was used.

205 Some children were noted to have used more than one type of substance.

206 Contagion is defined as the process by which a prior suicide facilitates the occurrence of subsequent suicides (Beautrais 1999:232).
There is considerable evidence to suggest that the suicide of one person may trigger suicidal behaviour in those associated with that person, or in vulnerable people who become aware of the suicide (Beautrais 1999:241; Department for Community Development 2005:5). This can occur in a number of ways, including:

- seeing the person who completed suicide and being involved in the aftermath
- having talked with or seen the person on the day of the suicide
- belonging to the family of the person
- being a close friend of the person or of the family
- being in the same class or group
- learning of the attempted or completed suicide of a role model, and
- reading or hearing about the death in the media.

**Familial contagion**

There is consistent and strong evidence that a family history of suicide is a significant risk factor for suicidal behaviour in children (Pompili et al. 2005:65), with studies suggesting a two- to six-fold increase in suicide rates among adolescent suicide victims and attempters (Bridge, Goldstein & Brent 2006:379). The onset of suicidality in children is suggested to be particularly high after the suicide of a relative (Pompili et al. 2005:65). The reasons for this familial aggregation are not clear. However, research has indicated the presence of genetic influences, as the association with familial suicidal behaviour has been shown to increase suicide risk even after studies have controlled for psychopathology and poor parent–child relationships (Beautrais 1999:153; Bridge, Goldstein & Brent 2006:379; Gould & Kramer 2001:9). Three of the suicides in the current period occurred in circumstances where an immediate family member had previously attempted or completed suicide. It is therefore essential that careful analysis of the impact of a close relative’s suicide on children should be part of preventative intervention to reduce contagion effects (Pompili et al. 2005:65; refer to the ‘Prevention and intervention’ section later in this chapter for information on the National Suicide Bereavement Project).

**Imitative contagion**

One feature of suicidal behaviours, and particularly suicide, is the tendency for contagion and clustering (Beautrais 1999:231). There are numerous reports in contemporary suicide literature on the occurrence of suicide clusters in prisons, psychiatric institutions, schools and colleges, religious sects and geographically defined communities (cited in Beautrais 1999:231). Specifically, Gould, Wallenstein and Kleinman (1990:71) have demonstrated that a small but statistically significant number of adolescent suicides occur in time-space clusters, consistent with mechanisms of contagion and imitation. These effects have been identified for clusters of both completed and attempted suicide, and appear to be limited to adolescents and young adults (Gould, Wallenstein & Kleinman 1990:71). Consequently, one completed suicide may provide the model for subsequent suicides by means of imitation and identification (Gostelow 1990:92).

During the reporting period, 2 of the children who took their own lives had a close friend suicide in the preceding 7 months. Both children suicided using the same method as their friends. Two suicides occurred in the same school in the space of a month (representing one contagion effect). The contagion process which leads to suicide clusters is something all schools need to be aware of (Gostelow 1990:92), as research has shown that a small number of students, especially those who may already be experiencing difficulties, might identify with the destructive solutions adopted by the suicide victim, thus raising the notion of suicide as an option (World Health Organisation 2000:15). It is therefore essential that, in any postvention response, schools involve not only those children who were directly known to the suicide victim, but also those who may not have known the student but who may have heard about the suicide ‘through the grapevine’ (World Health Organisation 2000:16). These deaths reinforce the need for, and importance of, having detailed suicide prevention, intervention and postvention guidelines available to schools (see the ‘Prevention and intervention’ section of this chapter for information on Education Queensland’s guidelines).
Table 10.6 illustrates a number of circumstances and risk factors common for children and young people who suicided in Queensland. As shown, many of the children experienced multiple factors that place individuals at a higher risk of suicidal behaviours (Beautrais 1999:245).

**Table 10.6: Summary of risk factors/selected characteristics of all 15 children who were suspected of suiciding in 2005–06**

<table>
<thead>
<tr>
<th>Gender*</th>
<th>Age**</th>
<th>ATSIª</th>
<th>Regional/remote</th>
<th>Low SES</th>
<th>Mental health issues</th>
<th>Previous suicidal behaviour</th>
<th>History of childhood abuse</th>
<th>Precipitating incident</th>
<th>Child protection history</th>
<th>Alcohol/drug use</th>
<th>Contagion</th>
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<td>F</td>
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<th>Age**</th>
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<th>Regional/remote</th>
<th>Low SES</th>
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</table>

Subtotal 10 2 7 5 3 3 2 8 3 6 2

Total 15 3 10 8 5 4 4 12 5 9 5

Data source: Queensland Child Death Register (2005–06)

✓ = Yes, the child has this risk factor
M = Male; F = Female
** 10–14 = 10 to 14 years; 15–17 = 15 to 17 years
ª Aboriginal and/or Torres Strait Islander

Note: 1. Low SES refers to children and young people who have been classified as residing in either a low or a very low socio-economic region.

The following case study illustrates the presences of multiple factors which may have acted as triggers for this young person’s suicide.

**Case study**

Matthew was 14 years of age when he took his own life. Matthew experienced a multitude of stressful life events and precipitating factors before his death. These included:

- a history of domestic violence and substantiated childhood abuse
- problems at school
- previous police contact
- alcohol/drug abuse
- the suicide of an immediate family member some years before his death, and
- prior suicidal behaviours – ideation, threats, self-harm and attempts.

In addition, the young person had a significant history with a number of children’s services (including the DChS and mental health) and had been placed in out-of-home care on a number of occasions over the course of his life.

207 Matthew is a pseudonym.
Other significant factors

Place of incident

During the 12-month period examined, 73.3% of suicides occurred at the child or young person's place of residence (11 deaths), with 5 of the incidents taking place inside the house and 6 outside in the back yard, carport, veranda or other structure on the property. Other places included at a friend/boyfriend's house (2 deaths), in bushland (1 death) and at school (1 death). The findings for the current reporting period indicate that a higher proportion of children suicided in their own homes compared with last year's analysis (73.3% versus 63.2%), supporting the notion that a child's residence is consistently the most likely place of incident.

Intent stated (orally or written)

In 40.0% of suicides, young people orally stated or implied their intent to a family member, friend or health professional before their suicide (3 deaths). Suicide notes were found in another 3 cases. This is slightly lower than reported in the Child Death Annual Report, 2004–05 (47.4%). The fact that these children and young people stated their intent before suiciding highlights the importance of taking threats or talk of suicide seriously. Parents, caregivers and others need to recognise that children know enough to attempt suicide, regardless of whether or not they appreciate the finality and permanence of death (Beautrais 2001:652).

Studies estimate that approximately 80% of young people who complete suicide communicated suicidal thoughts and feelings and their intent to kill themselves to someone before their death (Department for Community Development 2005:2). The problem is that it is often difficult to tell what some of the signs may mean, or that the indications are so subtle that they go recognised. However, what can be identified are significant changes in behaviour. Knowledge of risk factors for suicide may help parents, friends and families to intervene and take appropriate action (Department for Community Development 2005:2).

Unfortunately, cases do occur where there are no clues before the suicide or the warning signs go unrecognised. In other cases the desire to die may be so strong that even when interventions are initiated they are unsuccessful (Shaw, Fernandes & Rao 2005:312). Documented interventions by friends, family or physicians were noted in 2 cases and yet the individuals still suicided only days later.

It is important to remember that, in the majority of cases, few people are intent on dying and it is more that they want the pain they are experiencing, or have experienced, to end (Department for Community Development 2005:2). Consequently, a young person's suicide may be seen as a way of getting back a degree of control over their life, including making people close to them aware of their pain (Department for Community Development 2005:2). Family and workers sometimes see this as manipulative or attention seeking. This is a dangerous view, as it is likely to result in the underlying pain of the person being ignored. In circumstances where this belief is expressed or implied to the young person, this may make it even more difficult for a person to communicate their need directly and openly to the people who are able to help them (Department for Community Development 2005:2). It is therefore essential to recognise the potential for suicide among children and to take all threats of suicide seriously.

Media and technology influences

There is a growing body of evidence that media publicity may encourage suicidal behaviour in vulnerable children (Beautrais 1999:233). Specifically, evidence suggests that there is an association between non-fictional portrayal of suicide in film, television and newspaper articles and actual suicides, and that this may represent a causal relationship (Pirkis & Blood 2001:81). The magnitude of the relationship is suggested to be proportional to the amount of publicity given to the story (Becker & Schmidt 2005:229; Pirkis et al. 2006:2881) and the prominence of the story's placement (Gould & Kramer 2001:10). Other media content was also associated with increases in

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208 One young person had stated or implied their intent to a family member, friend or health professional before their suicide and also left a suicide note.

209 Interventions counted were specifically in relation to suicide risk and included counselling.
suicides, including opinion pieces about suicide, mass suicides (Pirkis et al. 2006:2883) and the notoriety of the victim (Bridge, Goldstein & Brent 2006:381). The impact of suicide stories on subsequent completed suicides is reported to be greatest for adolescents (Gould & Kramer 2001:10).

This finding has implications for the way suicide is represented in the media. Media depiction may increase suicide risk by encouraging imitation and by normalising suicide as a common and acceptable response to resolving problems (Beautrais 1999:233), particularly among emotionally vulnerable individuals (Commonwealth of Australia 2001:1). In contrast, presenting suicide in a factual light and discussing mental health issues openly, as opposed to romanticising suicide, has been associated with a lower risk of imitation (Stack 2005:121).

In particular, research findings suggest that certain ways of describing suicides in the news media contribute to suicide contagion and copycat suicide (Tully & Elsaka 2004:1). Australia has promoted and implemented guidelines, codes of practice, other resources and legislation to encourage responsible reporting of suicide (Tully & Elsaka 2004:1). Recommendations made to print and broadcasting authorities in relation to reporting suicide in the media include the following:

- do not give undue prominence to reports on suicide
- avoid repeated coverage of suicide stories
- avoid using the word ‘suicide’ as part of the headline
- avoid using photographs and television footage relating to the suicide
- do not portray suicide as a romantic or glamorous solution to problems
- treat the bereaved with sensitivity and respect their privacy
- avoid discussion of the method of self-harm used
- avoid using language which suggests that completed suicide is a desirable outcome, and
- reinforce that suicide is often related to mental illness, and promote help-seeking behaviour (Commonwealth Department of Health and Aged Care in Commonwealth of Australia 2001:10–11).

In addition, Queensland has enacted legislative constraints on suicide reporting. Section 41(1) of the Coroners Act 2003 allows coroners discretion in relation to the prohibition of the publication of information about self-inflicted deaths.

It is not known whether or not the media had an impact on the suicides of any of the young people in the current reporting period. However, research findings in this area highlight the importance of sensitive reporting of suicide in the news media. Consequently, depictions of suicide that do not glorify or romanticise it, and do not provide visual detail of the exact method, are preferable. Likewise, reporting that stresses the consequences for others, identifies the potential hazards of particular methods and refers to sources of help for vulnerable individuals is desirable (Pirkis et al. 2006:2885).

**Day and time of incident**

Children and young people in this reporting period were more likely to suicide early in the week (Monday and Tuesday; 6 deaths). Consistent with the findings of the Child Death Annual Report, 2004–05, suicides occurred most frequently in the afternoon between 12pm and 5.30pm, representing half of the known incident times (6 deaths). Figure 10.2 illustrates the most frequent time of incidents for the reporting period.

![Figure 10.2: Time of incident](Image)

Data source: Queensland Child Death Register (2005–06)

210 These legislative constraints also exist in New South Wales and the Northern Territory.
211 In one case, the day of incident is unknown.
212 Incident times are approximate. For 2 deaths, the approximate time of the incident was not known.
It is of note that, while no incidents occurred on the same day, 2 suicides occurred within 24 hours of each other. It is not known whether any of the children and young people were friends or associates. In addition, 2 incidents were recorded to have occurred on a public or school holiday213 and most incidents occurred in the autumn months214 (7 deaths, 46.7%).

Classification issues
The Commission has identified a number of factors that influence the classification of suicide among children and young people, and the subsequent under-reporting of childhood suicide in official statistics. Issues suggested to have the greatest impact on under-recording and misclassification of suicides among youth are detailed below.

Children and intent
While uncertainty of some degree is probable in most cases of suicide ordinarily, ambiguity surrounding the intention of children and younger adolescents is particularly problematic. For a death to be considered a suicide, a significantly high standard of proof and substantial evidence are necessary to support the classification of a death as intentionally self-inflicted. For children, it has been suggested that death is a psychologically difficult concept to comprehend until a certain age of maturity (Agritmis et al. 2004:25) and that the pattern of development for appropriate subconcepts of death215 differs from child to child (Lazar & Torney-Purta 1991:1321). Consequently, how a child perceives their suicidal act and under what circumstances they take their own lives are almost always subject to debate.

In Queensland, a number of child and adolescent suicides are being coded as accidents.216 This has been attributed to the belief that children do not understand the consequences of their actions and are therefore incapable of suiciding, even when their self-inflicted injuries result in death (Cantor et al. 1999:12–14; Greene 1994:231; Mishara 1999:106). The effect of this belief is that the misclassification of self-inflicted deaths among children and younger adolescents has resulted in childhood suicide being largely overlooked in Queensland.

A number of studies have investigated intent in children and younger adolescents. The capacity for, and prevalence of, children under 15 years taking their own life is increasingly documented in the suicide literature (Agritmis et al. 2004:25; Beautrais 2001:647; Fritz n.d.; Greene 1994:230; Horsburgh & Fowler 2003; Mishara 1999:105; Mishara 2003:128; O’Leary et al. 2006:33; Shaw, Fernandes & Rao 2005:309; Wise & Spengler 1997). More specifically, research has found that children between the ages of 8 and 10 years know that an intentional act of suicide will result in death and understand that death is permanent and final (Mishara 1999:114). The results from these studies, together with the increasing body of knowledge being produced on this issue, suggest that it is “naïve to think that children do not know about suicide” (Mishara 1999:114) or to think that children are incapable of taking their own lives. Consequently, there needs to be clear recognition among caregivers, teachers, counsellors and others that children do know enough about suicide to take their own lives (Beautrais 2001:652), regardless of whether their understanding is equivalent to an “adult understanding” (Mishara 1999:115). Hence, recognising the potential for suicide, even in very young children, is an essential prerequisite to providing effective prevention and early suicide intervention.

Coroners
It is well documented that coroners may be reluctant to classify self-inflicted deaths in children as suicides (Cantor et al. 1999:12–14; Mishara 1999:106). In particular, Queensland coroners mostly confine their findings to a medical cause of death and rarely provide behavioural descriptions of fatality (Cantor & Neulinger 2000:370).

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213 School holiday comparisons based on public school holidays.
214 Representing the months of March to May inclusive.
215 Made up of irreversibility, cessation, causality and inevitability.
216 In the absence of a clear statement of intent before the child’s death (e.g. a note or orally) and where coroners do not specify that the death was self-inflicted (e.g. cause of death is listed as ‘hanging’).
Australian states and territories in general take an inherently conservative approach to suggesting that deaths were intentionally self-inflicted, particularly in the case of child and youth suicides. This is consistent with the Commission’s findings from the Child Death Annual Report, 2004–05, with updated findings for this period indicating that only 7 out of 17 coronial findings received in the reporting period clearly indicated the intent of the child or young person (41.2%).\textsuperscript{217} For 8 deaths a coronial finding named ‘hanging’\textsuperscript{218} as the cause of death, with no clear statement made about whether the injury was self-inflicted, accidental or otherwise.

A number of reasons have been suggested for coroners’ apparent reluctance to classify self-inflicted deaths in children as suicides, including:

- the general belief that children do not understand the finality and irreversibility of their actions (as detailed in the above section)
- the repealed \textit{Coroners Act 1958} prohibiting coroners from making a finding of suicide and limiting coroners to a verdict on the medical cause of death only; in contrast, the new \textit{Coroners Act} does not make any reference to deliberate self-harm resulting in death, and so there could be a ‘follow-on’ effect from the repealed \textit{Coroners Act}
- the \textit{Births, Deaths and Marriages Registration Act 2003} currently prohibiting entry of the word ‘suicide’ or similar words into the register, and
- a wish to avoid embarrassment and guilt in family members, or the influence of religious values and/or cultural attitudes (Australian Bureau of Statistics 2000:35; Tatz 1999:49).

In response, the Queensland State Coroner has indicated that, if a coroner considers a death to be accidental or undetermined, then this will be expressly stated in the coroner’s findings (for example, ‘accidental hanging’). In cases where the finding simply states the cause of death as, for example, ‘hanging’ (and the Form 1 indicates a suspected suicide), the absence of the term ‘accidental’ or ‘undetermined’ should be taken to imply that the death was intentional (Child Death Annual Report, 2004–05).

On 13 September 2005 the State Coroner issued guidelines (under section 14(1)(b) of the \textit{Coroners Act 2003}) to all coroners in relation to a number of issues, including the findings of suicide. Specifically the State Coroner has instructed Queensland coroners to “find whether the deceased intended to kill him/herself”. The State Coroner reports in this guideline that remaining silent on the issue of suicide is “likely to lead to an under estimate of the extent of the terrible public health problem suicide represents”.

Non-specific reference to intentional self-harm in Queensland continues to have implications for the classification of childhood suicides (with many still being coded to accidents) and subsequently the undercounting of these deaths in official statistics (these issues will be discussed in more detail in the following section). Therefore the Commission suggests that, to reduce the undercounting and misclassification of suicide occurring among children and young people, individuals coding and classifying deaths should liaise with representatives from state and national coronial systems and relevant child death review teams to ensure that consistency in coding and classification of suicide is achieved. The Commission has liaised with the Australian Bureau of Statistics (ABS) to discuss this approach and ensure a consistency of coding for Queensland. (Refer to Appendix 10.2.)

It is noted that coroners are in the unique position to bring about awareness among parents, practitioners, policy makers and the community in relation to the occurrence of suicide in children, and to influence suicide prevention and intervention strategies to target children and young people. Currently, the under-reporting (and non-reporting) of childhood suicide in Queensland has resulted in a lack of attention to children in suicide prevention approaches. Although it is noted that coroners may not be experts in the suicide field, they can act as catalysts through inquisitorial and investigative processes by means of which specialist information can be converted to broad community use and understanding (Hallenstein 1990:175).

\textsuperscript{217} For 1 death, the coroner clearly indicated that the death was the result of the deceased’s actions, but noted that the death was an ‘accident’.

\textsuperscript{218} Or a similar or like term, including but not limited to ‘asphyxia, hanging’ and ‘death by strangulation’.
Thus there is significant advantage which may be derived from effective use of the coronial processes to bring about awareness and understanding of the issue of suicide in children and young people.219

Coding
Most official statistical bodies in Queensland use the International Classification of Diseases (ICD-10) to code underlying causes of death. However, it is noted that this classification system is based on a legal premise requiring a high threshold of proof in order for a death to be coded to a suicide. In cases where police indicate that a death is a suspected suicide, a clear statement of intent has not been made by the young person before their death (in the form of a suicide note or oral statement of intent) and where the coroner does not specify the intent of a person in coronial findings, deaths are coded to accidents (ABS 2005, pers. comm., 20 December; Cantor et al. 1999:14; National Centre for Classification in Health 2005, pers. comm., 18 May). This has resulted in the number of childhood suicides, in particular, being misclassified as accidents in official statistics, and contributes to the neglect of the issue of childhood suicide on the basis that the deaths do not appear to be occurring.

The Commission has sought to clarify this issue through the Health Information manager contracted by the Commission from the National Centre for Classification in Health (NCCH).

The Commission placed a query with both the Mortality Reference Group and the Australian Mortality Data Interest Group forums in an attempt to clarify the opinions of national and international coders in relation to assigning intent in circumstances where there is insufficient evidence to code the death as a suicide. The question placed with the forums stated the following:

In cases of suspected suicide (as reported by police), coroners are notably silent when it comes to stating intent on their findings for young people. (Nor is intent stated on the death certificate.) Additional police or agency documentation may indicate that there was a precipitating incident (e.g. argument with parents) or a history of self-harm or depression; however, the death certificate and findings tend to read as in the following example:

Death certificate: 1a) Hanging
Coroners findings: 15 year old female found hanging from belt tied to ceiling beam.

Both MMDS and the index (volume 3) default to accidental for hanging unless there is any further information available from the entity legally responsible for certifying the death (in this case the coroner). I would like to ask for your opinion on how you would code this or similar situations.

Responses to this question varied across the board, with some coders indicating that they would code this death as a suicide and others as an accident. As a result of discussion on this question, several coders did identify the need for an ‘unspecified’ code to be created that is distinguishable from the ‘undetermined intent’ code. Further, the issues raised by the Commission, and the responses provided by coders, were discussed at the Mortality Reference Group meeting held on 5 May 2006. The comments made at this meeting in relation to the query were as follows:

Accidents, so stated and accidents, unknown are very different. The legal systems in countries are very different. When data other than death certificates are used, each country has to develop its own instructions. In ICD-11, we need a block for unknown cause of injury and one for injuries of undetermined intent.

Action item: No change in ICD-10.

In an attempt to overcome these problems the Commission, in consultation with the National Centre for Classification in Health (NCCH), has developed and implemented a new code for use in the Queensland Child Death Register. The new ‘Y20A – Hanging, strangulation and suffocation, unspecified intent’ code represents cases where police indicate that the death is a suspected suicide but the deceased had not made a statement of intent before death and the coroner is silent on this issue (for example, the cause of death is assigned

219 For an example of this, see the ‘Prevention and intervention’ section below for recommendations/comments made by a Queensland coroner in relation to a youth suicide last year.
The use of this additional character allows cases to be analysed as undetermined both as per the World Health Organisation definition and for the purposes of the Commission. In addition, consistency with other coding bodies, both nationally and internationally, is able to be maintained by rolling back the additional character to the original ‘undetermined cause’ code.

As the Commission’s child death functions are research functions, legal classifications of suicide are not required to be met. Consequently, the creation of this new ‘unspecified intent’ code allows the Commission to identify all cases of suspected suicide (where, on the basis of police information, the death is suggested to be a suicide) and reduces the under-reporting of childhood suicide occurring in the Queensland Child Death Register (as the majority of these deaths were previously coded as accidents). The following is an example of a case which would be classified as unspecified intent (but would ordinarily be coded as an accident).

**Case study**

Sally, an Indigenous 15 year old, died as a result of hanging. In the days before her death, Sally had arguments with her parents in relation to her alcohol use and non-attendance at her educational institution. The Form 1 indicated that this death was a suspected suicide. Coronial findings stated that the child died by “cerebral hypoxia” caused by “hanging”. No statement was made by the coroner in relation to the intent of the child.

In accordance with ICD-10 coding rules, suicide is coded when intent is evident in documentation from a medical or legal authority. Therefore, in circumstances where intent is unclear, the default category that coders use is ‘accidental death’. The Commission suggests that classification of a death to an ‘accidental’ cause is making assumptions relating to intent – it is making a statement of no intent.

As discussed, coroners often do not state intent and the Births, Deaths and Marriages Act 2003 strictly prohibits the use of the word ‘suicide’ or ‘words to that effect’. Consequently, historical and legislative barriers at a local and state level impede medical or legal authorities from stating intent to suicide to meet International Classification (ICD-10 and World Health Organisation) requirements. Therefore the Commission recommends that statistical agencies (such as the ABS) consult with the NCCH, other child death review teams and coronial systems in Australia to discuss and resolve the status quo specific to the Australian context. The Commission also strongly recommends consideration of an additional character to the standard ICD code so that cases can be analysed as undetermined intent as per the World Health Organisation definition and as suggested by the Mortality Reference Group.

**Australian Bureau of Statistics**

The ABS provides the official national, state and regional suicide statistics for Australia, using the ICD-10 to code deaths (Cantor & Neulinger 2000:371). In a meeting with the ABS in December 2005, the Commission sought clarification about the information required and used to code a death as a suicide. It was confirmed that deaths were only coded to suicides in circumstances where the young person had either stated their intent before death or left a suicide note, or where the coroner clearly indicated the intent of the deceased (Australian Bureau of Statistics 2005, pers. comm., 20 December). Therefore, deaths which police note to be suspected suicides, but which do not meet the above conditions, are often coded to ‘accidental’ deaths.

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220 This code specifically relates to deaths as a result of ‘strangulation, suffocation and hanging’. However, suspected suicides (where intent is not clear or is unstated) that occur by other means are also classified according to the new code (for example, a case of falling, jumping or pushed from a high place, unspecified intent = Y30A). The ‘A’ added to the end of the ‘undetermined cause of death’ classification can therefore be transposed across all mechanisms of undetermined death, with the classification being changed from undetermined to unspecified.

221 Sally is a pseudonym.

222 The NCCH provided information to the Commission in relation to suicide coding. This information is included in Appendix 10.2.
Cantor et al. (1999:90) note that the ABS's suicide data are likely to underestimate the true suicide numbers, as there has been an increase in the use of the ‘undetermined’ and ‘accidental’ death categories in more recent years. Further, delays in resolving cases also affect the accuracy of the suicide data recorded by the ABS. For cases which are not finalised or where findings are not available to the ABS in time for publication of causes-of-death statistics, deaths are coded to other accidental, ill-defined or unspecified causes rather than suicide (Australian Bureau of Statistics 2006:14). Moreover, it is noted that cases which are not resolved before the ABS cut-off date will remain coded to accidental, regardless of the likelihood of the death being deemed a suicide at a later date (Cantor & Neulinger 2000:371). These cases are never reported on and contribute to a significant under-representation of suicide numbers in Queensland and across Australia.

It is also noted that the ABS does not report on suicides for children aged under 15 years of age in the official statistics. For example, the most recent suicide publication released by the ABS, Suicides: 1994 to 2004, does not include any data specific to children under 15 years. This non-reporting of childhood suicide has been identified by the Commission as a key factor in the under-appreciation of suicide in children. If these deaths are not reported on, it does not appear that they are occurring.

Further, Cantor et al. (1999:90) have identified a number of deficiencies in official data systems reporting suicide statistics, resulting in:

- underestimates of suicide rates
- unknown numbers of suicides being classified as undetermined and accidental deaths
- additional under-reporting of child suicides, and
- serious contemporary problems in relation to drug overdose deaths.

Recommendation 4
The Commission recommends that the Australian Bureau of Statistics works with training bodies such as the National Centre for Classification of Health (a body responsible for the training of mortality coders in Australia), mortality coders, child death review teams in Australia and relevant national representatives of the coronial system to develop a method of coding intentional self-harm, for research and policy development purposes in Australia, that more accurately reflects causes of death where coroners have not clearly stipulated intent or cause because of coronial practices and constraints.

Recommendation 5
The Commission recommends that the Australian Bureau of Statistics publicly report on suicides of children and young people under 15 years of age.

The Australian Bureau of Statistics has provided a written response to the Commission in regards to these recommendations. Refer to Appendix 10.3.

Impact of under-recording of suicide numbers
The under-reporting of childhood suicides in official statistics has a significant impact on research and resource allocation as well as awareness of this phenomenon. A number of studies have suggested that childhood suicide is rare (Beautrais 2001:647; Wise & Spengler 1997:318) and “not clearly noticeable until the age of 15 years” (Cantor et al. 1999:34). This under-reporting has also resulted in neglect of childhood suicide as an area that requires prevention and intervention. More specifically, while the Queensland Government Suicide Prevention Strategy (QGSPS) 2003–2008 notes that two of the key priority areas are young people and Indigenous young people, information, data and rates are only reported for children aged over 15 years. Moreover, the QGSPS notes that the Indigenous youth focus is for young people aged 15–24 years in particular. 223
In contrast, the Commission’s Annual Report: Deaths of children and young people, Queensland, 2004–05 identified suicide as the leading cause of death for children aged 10–14 years, and the second leading cause for 15–17 year olds. This is a finding which has again been made in the current reporting period. The Commission will work with the Queensland Government Suicide Prevention Steering Committee to provide this information and recommend that children under 15 years are also considered as a priority group under the strategy.

When the Queensland Coroners Act 1958 was repealed in 2003, the use of the term ‘suicide’ or any reference to self-harming was amended and now is permitted. However, the Registry of Births, Deaths and Marriages Act (BDMR Act) did not include a similar revision in relation to the use of the word ‘suicide’ when it was amended in 2003. Section 37 of the Registration of Births, Deaths and Marriages Act 1962 (repealed) stipulated that “where an entry of the cause of death is made in any registry of death pursuant to this Act, and the death in question was self-inflicted, there shall not be added to the entry the word ‘suicide’ or any other word expressly indicating that the death was self-inflicted”.

Similarly, section 41(5)(b) of the current BDMR Act stipulates that, when registering an event, the Registrar must not enter the word ‘suicide’ or ‘words to that effect’ into the register.

No other equivalent legislation in Australia has a similar clause to that of the Queensland legislation and, given the recent amendment to the Coroners Act 2003, the policy basis for retaining it in the BDMR Act is unclear.

As reported in the Annual Report: Deaths of children and young people, Queensland, 2004–05, the reluctance of coroners to make a finding of intent to suicide has been attributed to the historical reluctance and legislative direction prohibiting the use of the term ‘suicide’.

The prohibition of the word ‘suicide’ or ‘words to that effect’ contributes to the under-appreciation and under-reporting of suicide, particularly childhood suicide, and also contributes to the reluctance of coroners and mortality coders to attribute a death to suicide – particularly for young children.

There appears to be a sound basis on which to request the Registry to give consideration to amending section 41(5)(b) of the BDMR Act to remove the stipulation that, when registering an event, the Registrar must not enter the word ‘suicide’ or words to ‘that effect’ into the register.

Recommendation 6
The Commission recommends that by 31 December 2006 the Registry of Births, Deaths and Marriages review section 41(5)(b) of the Births, Deaths and Marriages Registration Act 2003 and provide advice to the Minister, Justice and Attorney General, about amending the restrictions on entering the word ‘suicide’ or words to ‘that effect’ in the register so as to more accurately reflect coronial findings.

Self-harming and suicide attempts

Queensland Injury Surveillance Unit data

The QISU provided the Commission with intentional self-harm data for children and young people aged 10–17 years for the financial year 2004–05. During this period, 171 children were recorded as having self-harmed or attempted suicide. Given that not all emergency departments took part in the survey and that not all young people who self-harm are taken to hospital, the real figure is likely to be higher. The details of the QISU data are as follows.

Demographics

The majority of presentations were of females, representing 79.5%. The data also indicated that young people aged 15–17 years (107 injuries, 62.6%) were more likely than 10–14 year olds to intentionally self-harm (64 injuries, 37.4%).

Mechanism of injury

The most common form of self-harm presentations were from poisoning through drug or medicinal substance abuse (53.8%), followed by cutting and

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224 The QISU currently collects data from 14 hospitals in Queensland which are located in three sample regions: metropolitan (South Brisbane), regional (Mackay and Moranbah Health Districts) and remote (Mt Isa).
Annual Report Deaths of children and young people Queensland 2005–06

Prevention and intervention

Queensland Government Suicide Prevention Strategy (QGSPS)

Reducing Suicide: The Queensland Government Suicide Prevention Strategy 2003–2008 was developed to reduce suicide mortality and morbidity in Queensland, particularly in priority populations. The QGSPS aims to assist both government and the community to work towards suicide prevention by:

- providing a better understanding of suicide and suicidal behaviour
- identifying priorities for program development
- implementing these priorities in responsive programs that achieve clear outcomes, and
- building frameworks for robust evaluation and monitoring.

Taking a whole-of-lifespan approach, the strategy recognises that there are different rates of suicide and attempted suicide across age groups, and some specific populations are at higher risk than the general population (Queensland Government 2003:7). Young people are recorded as a key priority area in this strategy. To date, information and rates are only sought for children over 15 years. Indigenous people are also a key target area within this strategy, especially males aged 15–24 years. The Commission is now represented on the Queensland Government Suicide Prevention Steering Committee (QGSPSC) as a supporting agency and is assisting with the evaluation of this strategy and the provision of key data relating to the suicides of Indigenous and non-Indigenous children under 15 years of age.

The Commission would argue that prevention strategies for children under 15 years of age should be considered by the QGSPSC, as the Commission has identified suicide as the leading cause of death for children aged 10–14 years.
Education Queensland: District Spectrum Plans proposal

Education Queensland has submitted a proposal to carry out a District Spectrum Plan project, approved to be piloted across three geographic districts in Queensland. The District Spectrum Plans aim to provide communities and government and non-government service providers with a plan to work together to support the mental health and wellbeing of young people. It is acknowledged that school communities, in particular, are under an increasing pressure to provide responses to a range of health and wellbeing problems. The District Spectrum Plans will help coordinate mental health and wellbeing promotion, prevention, management and postvention services for young people across all government departments and relevant non-government service providers. More specifically, the District Spectrum Plans aim to:

- ensure consistent and coordinated responses by schools/districts in addressing and responding to suicide and mental health issues for students
- improve interdepartmental understanding, cooperation and working partnerships in response to suicide and mental health issues in young people
- build the capacity of the community to support and respond to the mental health, wellbeing and suicide concerns of their young people, and
- improve services provided to suicidal young people or those affected by suicide.

The pilots for this project were implemented in July 2006 and will run until June 2007.

Education Queensland: Suicide Prevention in Schools – Good Practice Guidelines

Education Queensland has recently drafted new suicide prevention guidelines to be implemented in schools across the state. In the past, there has been a significant amount of debate about how to deal with suicide prevention within school settings and, more specifically, within the classroom. These guidelines have been developed on the basis of national and international research to provide clarification and direction for this often difficult and uncertain area.

In particular, recent studies of suicide prevention programs have raised some serious concerns about the safety and worth of addressing suicide directly when working with students in anything other than a therapeutic context. More specifically, the guidelines identify three areas of a school setting that need to be included in a whole-of-school approach to health issues: curriculum, teaching and learning; policies, procedures, ethos and environment; and partnerships and services.

Education Queensland’s guidelines are based on ensuring that schools do no harm. The guidelines are currently in draft form. The Commission has provided feedback on this document and will continue to collaborate with Education Queensland in the development and implementation of the guidelines.

Queensland Police Indigenous Suicide Awareness and Skills Development Training Program

In January 2006, the Queensland Police Service employed a Senior Project Officer until 30 June 2007 to develop a training package for Police Liaison Officers and Queensland Aboriginal and Torres Strait Islander police to raise their awareness of suicide and self-harm in Aboriginal and Torres Strait Islander people in communities throughout Queensland. As at 30 June 2006 a draft project plan had been submitted to the Steering Committee of the QGSPS and endorsed, with a time line of 18 months from 1 January 2006 to 30 June 2007.

The project aims to develop and deliver culturally appropriate suicide awareness, prevention and skills training to Queensland Police Service personnel who have regular contact with Aboriginal and Torres Strait Islander people and communities. This training will focus on identification, early intervention and referral to the appropriate services for Indigenous people who are at risk of suicidal behaviour.
Queensland coronial inquests

As reported in the coronial findings section of this chapter, an inquest was carried out into one of the deaths recorded by the Commission in the Child Death Annual Report, 2004–05. Comments made by the presiding coroner specifically related to the need for improvement of current Education Queensland policies, including:

- the need to review the minimum requirement to communicate with parents of students on each day that a student is absent (truant) from school
- consideration of the compulsory use of software options generating automated SMS messages to parents to tell them that a student is absent, and
- reviews of all Queensland schools’ requirements for communication with parents on the issue of truancy, in light of the evidence identified in this inquest.

National Suicide Prevention Strategy (NSPS): Suicide Bereavement Project

In response to the identification of the significant risk that a family history of suicide, or suicidal behaviour, and/or significant personal grief is often associated with increased suicide risk, the NSPS has developed the Suicide Bereavement Project. The project will undertake four key studies which will:

- evaluate the usefulness and effectiveness of the suicide bereavement support document Information and Support Pack for Those Bereaved by Suicide or Other Sudden Death
- conduct a national scoping study of existing bereavement/postvention literature, support, resources, activities and models
- identify options for national coordination of bereavement/postvention activities, and
- provide secretariat support to the National Bereavement Reference Group.

The outcomes of this project will form the basis of a national policy response/strategy for suicide bereavement.

The breadth of these prevention and intervention strategies illustrates that it is the responsibility of everyone who comes in contact with children, including mental health professionals, teachers, nurses, social workers, physicians and parents, to be aware of the possibility of suicide among children, so that timely intervention toward prevention by evaluation and referral to counselling is successfully achieved. The Commission supports all of the above strategies and recommendations, and commends the relevant Queensland Government Departments and organisations on their work in helping to prevent suicide.

Future directions

The Commission has found that the problem of childhood and adolescent suicide is a key concern in Queensland. The repetition of these trends in 2005–06 reinforces the importance of understanding the epidemiology and characteristics of children who suicide. In response, the Commission has commenced an in-depth research project into the circumstances surrounding the suicides of Queensland children and young people from 1 January 2004 to 31 December 2006, to be publicly released in mid-2007.

The purpose of this research project is to conduct an in-depth study analysing all cases of suicide and suspected suicide of children and young people under 18 years in Queensland over a 3-year period (1 January 2004 to 31 December 2006). Analysing the demographics, risk factors and circumstances surrounding the deaths of a larger group of cases will make the trends and patterns more easily identifiable and more accurately represented than is the case with year-to-year analysis (in the Commission’s annual report of child deaths).

This research project also aims to identify and examine suicide prevention and intervention strategies which target children and young people in Queensland and will identify gaps which may exist in the current delivery of these services. The Commission will make recommendations to reduce the likelihood of these deaths occurring.
Chapter 11
Fatal assault

“... there is probably no other type of homicide that is as disturbing and produces the greatest loss in terms of productive years of life as the killing of children” (Mouzos, 2000:132)

Key issues

- Nine children died as a result of fatal assault in Queensland between July 2005 and June 2006.
- Child deaths from fatal assault in 2005–06 were a heterogeneous group: 3 deaths were the result of fatal child abuse, 2 were the result of domestic homicide, 2 resulted from domestic violence and 2 were classified as ‘other’.
- Six of the 9 children who died due to child fatal assault were known to the Department of Child Safety.

Between 1 July 2005 and 30 June 2006, 9 children and young people died from assault in Queensland, a rate of 0.9 deaths per 100,000 children aged birth to 17 years. Fatal assaults accounted for 9.7% of child deaths from external causes during the reporting period.

Defining fatal child assault

The Commission has adopted the following working definition of fatal child assault: the death of a child or young person under the age of 18 from “acts of violence perpetrated upon him or her by another person” (Lawrence 2004: 838). This definition is intended to be child focused insofar as the perpetrator's intention is not relevant – the definition includes violence leading to the child’s death even though the perpetrator may not have intended the outcome, as well as cases in which the perpetrator intended to kill the child. Thus fatal child assault includes cases where a child’s death is the sequela of assault, even if the death occurred some time later.

As discussed below, the Commission is currently undertaking in-depth research into the fatal assault and neglect of Queensland children and young people. In the interim, it is intended that this definition is a minimum criterion for the inclusion of cases in the fatal assault research category.

Child death review teams in other Australian jurisdictions (most notably the New South Wales Child Death Review Team) have developed screening procedures to identify child deaths caused by assault, neglect or suspected assault and neglect. These screening processes have enabled such teams to report significantly greater numbers of child deaths from fatal assault and neglect than are reported in other official statistics, such as Australian Bureau of Statistics data.

It is intended that a more inclusive set of criteria will be developed as part of the Commission’s forthcoming research into fatal child assault and neglect. The development of screening procedures applicable to the Queensland context will enable greater numbers of fatal child assault and neglect deaths and deaths which occur in suspicious circumstances to be identified and analysed in future reports.

Fatal assault trends and patterns, 2005–06

Table 11.1 presents the gender and age of the children and young people who were fatally assaulted.
The newborn was delivered at 21 weeks gestation as a result of injuries sustained by her mother in a domestic violence incident.

### Table 11.1: Fatal assaults by gender and age

<table>
<thead>
<tr>
<th>Age at death</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1–4 years</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5–9 years</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10–14 years</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15–17 years</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

### Gender

Of the 9 children killed, 4 were male (44.4%) and 5 were female (55.6%).

### Age

The children who died from fatal assaults ranged in age from newborn to 17 years. The highest number of fatal assaults was in the 1–4 year age group (3 deaths).

From a developmental perspective, two patterns of fatal assault are evident: assaults of infants and very young children (birth to 4 years) and adolescent assaults (13–17 years). Five children aged from birth to 4 years (55.6%) were fatally assaulted, a rate of 2.0 deaths per 100,000 children aged birth to 4 years. Two children aged between 13 and 17 (22.2%) were also fatally assaulted and 2 victims were in middle childhood (5–12 years).

This is consistent with national and international literature on developmental theories of child fatal assault.

Infants and very young children (4 years and under) are at particular risk of lethal violence. Children of this age can be picked up and shaken or thrown, and just a small amount of force can cause serious injury (Finkelhor 1997:22). They are small, vulnerable and totally dependent on a caregiver for survival, and have no means of defending themselves. Violence perpetrated on children in this age group is therefore more likely to be fatal.

Between the ages of 5 and 12, the rates of fatal abuse decrease markedly, leading researchers to describe middle childhood as a period of transition (Finkelhor 1997:26). Although children may face considerable violence in the home or at school during these years, it is usually not lethal. Children in this age group have outgrown the vulnerability of the very young: they are less dependent and increasingly robust, making them better able to hide, avoid blunt force injuries and escape from aggressive parents. More force is also required for an injury to be lethal. Moreover, most children in middle childhood have not yet begun to engage in risk-taking activities, and are therefore protected from some of the dangers that contribute to the higher rates of homicide during the adolescent years.

When adolescents are the victims of lethal violence, the circumstances and cause of death have been found to resemble those of adult homicides. In these incidents, confrontational violence occurs in the context of relationships with friends, acquaintances, boyfriends and strangers (Lawrence 2004:845; Cohle & Byard 2004:77).

### Aboriginal and Torres Strait Islander status

There were no Indigenous children fatally assaulted.

Despite the extremely high levels of violence in some Aboriginal communities, it appears that children are not usually the focus of it and may be able to avoid the violence between adult family members (Strang 1996:3).

### Geographic distribution (ARIA+)

Three of the 9 children fatally assaulted were living in metropolitan areas (33.3%) and 5 were living in regional areas (55.6%). There was only 1 fatal assault of a child from remote Queensland (11.1%).

The rate of fatal assault in regional areas was 1.3 deaths per 100,000 children aged birth to 17 years living in regional areas. Rates of death from fatal assault in metropolitan and remote Queensland could not be calculated because of the small numbers.

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225 The newborn was delivered at 21 weeks gestation as a result of injuries sustained by her mother in a domestic violence incident.
Socio-economic status (SEIFA)

Four of the 9 children and young people who died from fatal assault were living in the lowest socio-economic areas in Queensland (44.4%); 4 were living in high or very high areas (44.4%), while 1 child was living in a moderate area (11.1%).

The rate of death from fatal assault was 1.0 death per 100,000 children aged birth to 17 years living in low socio-economic areas and was 1.1 deaths per 100,000 children in high socio-economic areas. Rates of death from fatal assault in moderate socio-economic areas could not be calculated because of the small numbers.

Child protection population

Six of the 9 children were known to the Department of Child Safety (DChS). The Department’s involvement with these children will be considered by the Child Death Case Review Committee (CDCRC).226

Fatal assaults of children known to the DChS accounted for 66.7% of all fatal assaults. This group were significantly over-represented in deaths from fatal assault, accounting for 9.9 deaths per 100,000 children and young people in the child protection population, compared with 0.9 deaths per 100,000 children aged from birth to 17 years in Queensland.

Studies have found that between 24% and 45% of child abuse fatalities occur in families known to child protective services and in as many as 1 in 8 the case was currently active (Finkelhor 1997:25).

Coronial findings

At the time of reporting, coronial findings were pending in 8 of the 9 cases of fatal assault (88.9%). Coronial findings had been finalised in 1 case. Autopsies had been conducted in 8 cases. Autopsy test results (cause of death) were also pending in 1 case.

Circumstances of fatal assaults

Multiple victims

The 9 children fatally assaulted died in 9 separate incidents. Two of these incidents involved the death of more than 1 victim: a total of 13 people (9 children and 3 adults) died in the 9 incidents. In 2 incidents a further 2 people suffered injuries inflicted by the perpetrator of the assault. In 1 case the victim was an adult sibling of a child who died, while in the other incident the victim was the child’s mother.

Strang (1996:2) reports that, between July 1989 and December 1996 in Australia, 20% of homicides involving children aged less than 15 years involved more than 1 victim (compared with 5% of all homicides which involved multiple victims). In almost all of these cases, the offender was the child's father.

In the reporting period, in one of the incidents involving multiple victims the perpetrator was the child's father; in the other incident, the perpetrator was the child’s mother.

Category of assault

The following categories of fatal child assault are intended as a working system of classification only. It is envisaged that a more comprehensive classificatory system will be developed in light of the findings of the Commission’s in-depth research into fatal child assault and neglect, and that previously categorised cases may change as further information becomes available to the Commission.

Fatal assault is a heterogenous class of acts (Mouzos 2000:4). Although the child dies from violence in each case, the social context surrounding these incidents differs substantially.

While there is no internationally or nationally accepted means of classifying the circumstances of child fatal assaults, all fatal assaults can be classified either as familial or non-familial. Other classifications are based on the scenario around the child’s death.

Following a review of the existing literature, the New South Wales Child Death Review Team (2002; 2003) and Lawrence (2004:842–43) report six categories of fatal child assault based on the most common scenarios surrounding the death:

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226 Since 1 August 2004, the DChS has been required to conduct a review of its involvement with a child if the child was known to the Department within the 3 years before their death. The CDCRC is an independent committee responsible for considering the Department’s review. The committee is multi-disciplinary and is chaired by the Commissioner.
infanticide
• fatal child abuse
• domestic homicide
• psychiatric illness (of the perpetrator)
• fatal sexual assault, and
• teen fatal assault.

Through its child death research activities, the Commission has also identified two further categories of fatal assault that warrant attention: fabricated or induced illness – formerly Munchausen syndrome by proxy (a form of fatal child abuse) – and deaths that occur in the context of domestic and/or family violence.227

Seven of the 9 child deaths from fatal assault were able to be classified with the information available to the Commission at the time of reporting.

Table 11.2 classifies the deaths according to the major categories of fatal assault found in the research literature. The perpetrator, the child’s age category and the cause of death are also included.

Table 11.2: Category of assaults by perpetrator, age category and cause of death

<table>
<thead>
<tr>
<th>Category</th>
<th>Perpetrator</th>
<th>Age category</th>
<th>Cause of death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal child abuse</td>
<td>Parent/step-parent*</td>
<td>Under 1 year</td>
<td>Pending test results (police report death resulted from head trauma)</td>
</tr>
<tr>
<td>Fatal child abuse</td>
<td>Parent/step-parent</td>
<td>1–4 years</td>
<td>Contact with hot tap-water</td>
</tr>
<tr>
<td>Fatal child abuse</td>
<td>Mother</td>
<td>5–9 years</td>
<td>Assault by hanging, strangulation and suffocation</td>
</tr>
<tr>
<td>Domestic homicide</td>
<td>Father</td>
<td>1–4 years</td>
<td>Assault by smoke, fire and flames</td>
</tr>
<tr>
<td>Domestic homicide</td>
<td>Mother</td>
<td>15–17 years</td>
<td>Assault by sharp object</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>Father</td>
<td>Under 1 year</td>
<td>Foetus and newborn affected by maternal injury</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>Boyfriend</td>
<td>15–17 years</td>
<td>Assault by blunt object</td>
</tr>
<tr>
<td>Other**</td>
<td>Family member</td>
<td>1–4 years</td>
<td>Assault by sharp object</td>
</tr>
<tr>
<td>Other</td>
<td>Unknown</td>
<td>10–14 years</td>
<td>Other ill-defined and unspecified causes of mortality</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* ‘Parent or step-parent’ has been used when the available evidence indicates that a parent (including a step-parent) was responsible for the child’s death but it cannot be determined whether the death was caused by the child’s mother, father or both parents.
** Deaths have been categorised as ‘other’ when details of circumstances were insufficient to otherwise classify the death.

### Fatal child abuse

In the reporting period, fatal child abuse was the most common category of assault, accounting for 33.3% of all fatal child assaults (3 deaths).

In 2 of the 3 cases of fatal child abuse the child was under 4 years of age. One 5 year old child was also killed. One infant died as a result of head trauma, including a fractured skull and retinal haemorrhaging, a child aged between 1 and 4 died from severe hot-water burns, and a child aged between 5 and 9 died from suffocation.

A parent or parents were the perpetrators in all 3 cases. All 3 children were also reported to have suffered previous abuse and/or neglect and all were known to the DChS.

Fatal child abuse occurs predominantly in infants and very young children (birth to 4 years), who lack the power or resources to defend themselves. The perpetrator is usually a parent or caregiver and the death is most commonly the result of blunt force injury; children are punched, hit, kicked, shaken or thrown. Such deaths are also caused by suffocation, strangulation, or intentional burns or scalds. Cohle and Byard (2004:77) report that the precipitating event often involves disciplinary action. Studies
have found that in over 50% of cases of fatal child abuse the child had experienced prior abuse by the perpetrator (Lawrence 2004:844; Wilczynski in Mouzos 2000:138–39).

**Domestic homicide**

Domestic homicide and domestic violence were the second most common categories of assault, each accounting for 22.2% of fatal child assaults (2 deaths).

Of the 2 deaths categorised as domestic homicides, in 1 case the assault appeared to have been associated with a breakdown in the parent’s relationship. In the other case, while no precipitating factors have been identified, the child’s parents were known to be separated and the child’s mother is reported to have made previous threats to harm her children. Although in 1 case the child sustained head injuries causing death, both domestic homicides involved intentionally lit house fires. In 1 case the perpetrator suicided after the assault.

Domestic homicides are usually precipitated by a breakdown in or termination of the parents’ relationship. These incidents are frequently associated with the wife leaving the relationship (and taking or leaving behind the children) or with legal proceedings over residence or contact (Johnson 2002; Mouzos 2000:143).

Johnson (2002) reports that domestic homicides are always premeditated and usually follow months or years of dysfunctional behaviour by the perpetrator, including threats to harm themselves or other family members.

Domestic homicides are characterised by very high rates of suicide among offenders; an offender who kills their children is nearly 10 times more likely to suicide than an offender who kills someone other than their own child (Carach & Grabosky in Mouzos 2000:143; Strang 1996:4).

**Domestic violence**

One infant and 1 teen aged between 15 and 17 years died as a result of domestic violence. The infant killed was born at approximately 21 weeks gestation and as such was not viable. The infant was born as a result of injuries sustained by the mother during a domestic violence incident perpetrated by the father. The infant’s parents were known to have a significant history of alcohol abuse and severe domestic violence. It is reported that the mother had been hospitalised previously and was considered at high risk of domestic homicide because of both the severity of the injuries inflicted by the father and her unwillingness to make complaints against the father.

The teenager killed in a domestic violence incident died from severe blunt force head injuries after being physically assaulted by a boyfriend 11 years her senior. The young person was reported to have engaged in a range of promiscuous behaviour, including truancy, under-age drinking and sexual activity. The young person was also known to the DChS.

Teen dating violence is emerging as a concern in the research literature. While dating violence (and other intimate partner violence) affects women irrespective of age, teens are particularly vulnerable, with studies in the United States finding that women aged 16–24 experience the highest per capita rate of intimate partner violence (Silverman et al. 2001:572; Rennison & Welchans 2003). Australian research has found that over a third of young people (aged between 12 and 20 years) who have been in a dating relationship had experienced physical violence (Indermaur 2001:4). Teens and young adults who are socially and economically disadvantaged and/or disconnected from social supports such as school, family and work are at particular risk of domestic violence. The Centers for

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228 In the reporting period a third house fire occurred in circumstances which suggest that it could have been the result of domestic homicide. At the time of reporting, a coronial inquest into this case was in progress and therefore this death has been reported in Chapter 8, ‘Fire’.

229 The teen death from domestic violence can also be classified as falling within the broader category of ‘teen homicide’, but as the incident was the result of intimate partner violence it has been categorised more specifically as due to domestic violence.

230 Under section 294 of the **Criminal Code Act 1899**, when a child dies in consequence of an act done or omitted to be done by any person before or during its birth, the person who did or omitted to do such act is deemed to have killed the child. Section 313 provides that any person who unlawfully assaults a female pregnant with a child and destroys the life of the child is guilty of a crime and is liable to imprisonment for life.
Disease Control’s 2003 Youth Risk Behavior Survey (United States) also found teen dating violence to be associated with a wide range of serious risk-taking behaviour and problems: adolescents who are physically hurt by a boyfriend or girlfriend are more likely to report binge drinking, sexual activity, physical fights and suicide attempts.

Other

In 2 of the cases of fatal child assault, the information available was insufficient to categorise the assault.

Method of assault

Table 11.3 shows the method of assault by age of the children and young people who died in the reporting period.

Table 11.3: Method of assault by age at death

<table>
<thead>
<tr>
<th>Method of assault</th>
<th>Age category</th>
<th>&lt;1</th>
<th>1–4</th>
<th>5–9</th>
<th>10–14</th>
<th>15–17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical assault</td>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Blunt object</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sharp object</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1*</td>
<td>2</td>
</tr>
<tr>
<td>Suffocation</td>
<td></td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Fire</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hot water</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other/unknown</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

*Death also involved a house fire

Data source: Queensland Child Death Register (2005–06)

In the reporting period, 2 of the 5 children under the age of 5 years were killed as a result of physical assaults not involving weapons, with 1 infant presenting injuries consistent with being shaken. One child died from smoke inhalation in an intentionally lit house fire, and 1 as a result of burns sustained by contact with hot tap-water. Only 1 child under the age of 5 was killed with a weapon – this death involved a bladed instrument.

Studies have found that the fatal assault of infants and young children is infrequently accomplished with the use of weapons commonly classified as dangerous (Finkelhor 1997:22; Mouzos 2000:135). Rather, children under the age of 5 years are most likely to be beaten to death, and the youngest victims are more likely to be suffocated, violently shaken or thrown (Mouzos 2000:136).

Two children in middle childhood (5–12 years) were fatally assaulted: 1 was suffocated and in the other case the precise mechanism of death is unknown.

The 2 adolescents who died were killed with weapons – 1 by blows with a blunt object and 1 by blows with a sharp object. One of the adolescent fatal assaults also involved a house fire; however, this did not kill the child.

When you research you find that older children and teenagers (like adult men and women) are most likely to be killed with a weapon, most frequently a knife or other sharp instrument (Mouzos 2000:136).

Victim–offender relationship

In the reporting period, 5 of the 7 children under the age of 15 were killed by a parent (or step-parent) (71.4%). An additional child was killed by another family member. In 1 case the perpetrator is unknown.

Most research indicates that the greatest risk of fatal assault to young children is from family members, usually a parent, and that killings by people unknown to the child are relatively rare. In Australia between 1989 and 1993, only 4% of fatal assaults of children aged 14 and under were committed by strangers (Strang 1996:3). Child deaths resulting from parental abuse are reported to be unique among homicides in terms of the high proportion of women offenders, usually biological mothers (National Child Protection Clearinghouse 2005).
In the reporting period, 2 of the 6 children killed by a parent were killed by their mother. Both mother and father were responsible for the death of 1 child and in another case, while it is clear that the child’s death was caused by a parent or step-parent, the information held by the Commission is insufficient to determine the perpetrator.

In contrast to fatal assaults of young children and children in the middle years, most adolescent assaults are non-familial and, like adult homicide, the perpetrators of teen homicides are predominantly male (Finkelhor 1997:19; Lawrence 2004:843; Cohle & Byard 2004:77).

One of the teenagers fatally assaulted was killed by her mother; in the other case the perpetrator was the young person’s boyfriend.

**Location**

In the reporting period, 7 of the 9 fatal assaults (77.8%) were committed on residential premises. Six of the assaults that occurred on residential premises occurred in the victim’s home (85.7%),\(^\text{231}\) and 1 occurred at the home of a relative. One assault took place on a street/road/highway. The location of 1 death is unknown.

Australian research has found that homicide most commonly occurs in residential premises (60.2%) (Mouzos 2000:19, 135). Similarly, when children are killed they are most likely to be killed in a residential location.

**Forthcoming research on fatal assault and neglect**

The conduct of in-depth child death research was identified by the Crime and Misconduct Commission as an important means of understanding the reasons why children in Queensland die, and thereby ensuring that government action directed towards the prevention of child deaths is better informed and more effective.

Child deaths from assault and neglect are sentinel events which should trigger serious social reflection regarding social policy for children. In recognition of this, the Commission is undertaking an in-depth study examining the fatal assault and neglect of children and young people in Queensland.

The purpose of this project is to produce an in-depth research report analysing all child deaths from fatal assault and neglect, or which occurred in suspicious circumstances, registered in the period 1 January 2004 to 31 December 2006, and to make recommendations for reducing the likelihood of these child deaths. By studying the population of deaths over this length of time, trends are more apparent in the larger group of cases than in year-to-year analysis (as in the Commission for Children and Young People and Child Guardian’s annual reports of child deaths).

It is envisaged that the study will provide a statewide profile of fatal assault and neglect. The profile will include the characteristics of the victim children, families and living situations; socio-economic status; the victim–offender relationship; and precipitating factors contributing to the fatal event. The aim of the project will be to identify the circumstances that place children at increased risk of assault or neglect, to support the development of targeted interventions.

The project scope will include:

- a detailed literature review of theories of fatal child assault and neglect, including analysis of the undercounting of fatal child assault and neglect in many official data sources
- the development of a screening procedure to identify cases of fatal child assault and neglect and suspected fatal child assault and neglect in Queensland
- analysis of all cases of fatal child assault and neglect or suspected fatal child assault and neglect in Queensland, including identification of risk factors, and
- formulation of strategies/recommendations to reduce or remove risk factors associated with fatal child assault and neglect.

\(^\text{231}\) Cases where the parents are separated and the death occurred in the home of one or other of the parents have been classified as occurring at home.
In undertaking this study, the Commission’s data sources will consist of documents and files from key state government agencies.

Section 48A of the Births, Deaths and Marriages Registration Act 2003 and sections 10A, 45 and 46 of the Coroners Act 2003 impose an obligation on these agencies to provide the Commission with:

- death registration data
- Police Reports of Death to a Coroner (Form 1s), and
- coroners’ findings and comments.

The Commission has also entered into administrative arrangements with these agencies (under s. 54A of the Coroners Act and under s. 48B of the Births, Deaths and Marriages Registration Act) to gain access to additional information and documents concerning the deaths of children and young people in Queensland.232

Section 89ZG of the Commission for Children and Young People and Child Guardian Act also enables a government entity to enter into an arrangement with the Commission to provide information or documents reasonably needed to perform the Commission’s child death functions. It is intended that this legislation will facilitate access to the full range of information needed to undertake seminal child death research.

The Commission is in the process of finalising administrative arrangements with the Queensland Police Service and Queensland Health to access information that will assist with the identification of all child deaths caused by assault, neglect or suspected assault and neglect. Administrative arrangements with other key government agencies such as the Department of Housing, Department of Education and the Arts, Department of Child Safety and Department of Communities will also be developed as required.

Part V: Sudden unexpected death in infancy

Chapter 12

This section provides information on the sudden deaths of infants under 1 year of age. Sudden unexpected death in infancy (SUDI) is an initial classification for infant deaths sharing similar characteristics. These deaths are later assigned an official cause of death (such as SIDS, respiratory illness or accidental asphyxiation) by a pathologist. This section therefore counts deaths which have also been included in the data for natural and other non-intentional injury-related deaths.
**Chapter 12**

**Sudden unexpected deaths in infancy**

“Because such a high proportion of child deaths occur during infancy, the identification of causes and risk factors has potential to make substantial inroads into reducing the overall rate of child deaths”

(New South Wales Child Death Review Team 2005:1)

**Key issues**

- Infant death rates are higher than for any other age group across the lifespan. Between 1 July 2005 and 30 June 2006, 263 infant deaths were registered in Queensland, a rate of 509.1 per 100,000 infants (5.1 per 1000 live births). This compares with an infant death rate of 612.3 per 100,000 infants in 2004–05 (6.1 per 1000 live births).

- Indigenous infants died suddenly and unexpectedly at 7 times the rate of non-Indigenous infants (351.6 deaths per 100,000 Indigenous infants, compared with 49.7 deaths per 100,000 non-Indigenous infants).

- In 19.4% of SUDI cases, the infants were known to the child protection system. Infants known to the Department of Child Safety died suddenly and unexpectedly at a rate of 134.9 deaths per 100,000 infants in the child protection population, compared with 52.3 deaths per 100,000 infants across Queensland.

- In the majority of infant deaths, multiple risk factors were evident in each case, such as smoking, unsafe shared sleeping environments, prone/side sleeping, chaotic social circumstances or evident use of drugs or alcohol.

- Low socio-economic circumstance continues to be an evident marker of these families, particularly Indigenous families.

- The Commission has again identified concerns in relation to unsafe sleeping practices such as smoking parents who share a sleep surface with their infant, or leaving young infants unattended on adult beds, and highlights this issue for parents, professionals working with families and caregivers.

- The Commission has observed that use of recent terminology such as ‘unclassified sudden infant death’ and ‘sudden unexpected infant death’ may have caused confusion among pathologists, coroners and health professionals. The Commission will work with Queensland Health and SIDS and Kids Australia to resolve ambiguities and confusion in relation to the appropriate use of these terms in identifying causes of death.

**Deaths in infancy**

The rate of death during infancy is higher than at any other time of life, although the cause of many deaths in this period remains unclear. Infant mortality is widely considered a measure of social prosperity; as the standard of living rises, infant mortality falls. Populations with more advanced social circumstances, education and income levels have considerably lower rates of infant mortality than those affected by more adverse conditions (Lin 2006:2138; Stanley 2001:368–69). The impact of social circumstances, particularly in relation
to sudden unexpected deaths in infancy, is well documented. For example, Fleming and colleagues (2000:xi) note that an infant born to a young mother who smokes and is welfare dependent is 40 times more likely to die than an infant of a 35 year old non-smoking mother in a home where she or her partner has a stable income. The high infant mortality rates among Aboriginal and Torres Strait Islander people and other marginalised groups, and the disparities in mortality between the rich and the poor in Australia, are therefore indicative of the life stressors faced by these groups, not only in the first year of life but throughout their entire life course.

Between 1 July 2005 and 30 June 2006, 263 infant deaths were registered in Queensland, a rate of 509.1 per 100,000 infants (5.1 per 1000 live births). Figure 12.1 shows the present distribution of the main causes of infant death. As discussed in Chapter 5, ‘Deaths Due to Diseases and Morbid Conditions’, for perinatal conditions and congenital anomalies (the most common causes of death) death usually occurs within the first week of life. In other categories where cause is explained, such as infectious and parasitic diseases and deaths due to external causes, deaths are distributed throughout the first 12 months.

**Figure 12.1: Main categories of infant death in Queensland**

```
<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain infectious and parasitic diseases</td>
<td>7</td>
<td>3%</td>
</tr>
<tr>
<td>External causes</td>
<td>9</td>
<td>3%</td>
</tr>
<tr>
<td>SIDS &amp; undetermined</td>
<td>16</td>
<td>6%</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>55</td>
<td>21%</td>
</tr>
<tr>
<td>Perinatal conditions</td>
<td>143</td>
<td>55%</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
<td>7%</td>
</tr>
</tbody>
</table>
```

Data source: Queensland Child Death Register (2005–06)

**Sudden unexpected deaths**

Of the total infant deaths each year, a significant proportion occur suddenly and unexpectedly. As indicated by the use of the term ‘unexpected’, infants have generally appeared either completely well or have been suffering from an apparently minor illness. In some of these unexpected deaths, a natural or external cause of death may be determined after a full investigation involving scrutiny of the circumstances and autopsy. For example, it may become apparent from the death scene examination that the baby died from accidental suffocation, or the autopsy may reveal a congenital abnormality that was not identified before death. More frequently, however, no clear cause can be established and the death is categorised as due to sudden infant death syndrome (SIDS) or an undetermined cause. SIDS comprises the largest category of deaths occurring in Queensland in the postneonatal period (between 28 and 364 days).

**The classification of sudden unexpected deaths in infancy (SUDI)**

The grouping for the deaths reported in this chapter – sudden unexpected deaths in infancy (SUDI) – is a research classification and does not correspond with any single medical definition, International Classification of Diseases (ICD) categorisation, or Australian Bureau of Statistics (ABS) categorisation. Rather, the aim of this grouping is to report on the deaths of that group of apparently normal infants who would be expected to thrive yet, for reasons often unknown, do not survive. It is hoped that such analysis will assist in the identification of possible risk factors and associations for sudden infant death, and, most significantly, those factors that may be preventable or may be amenable to change.

There is currently no internationally agreed definition of SUDI and researchers apply different criteria when grouping infant deaths for analysis. For example, different age ranges may be used, including birth to 52 weeks (infant deaths), 1 to 52 weeks (postperinatal deaths) or 4 to 52 weeks (postneonatal deaths). Studies have also extended

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233 In this chapter an infant has been accepted as being well or only mildly unwell if the information contained in the Police Report of Death to a Coroner (Form 1) did not provide any evidence of serious disease such that before death the infant was hospitalised or required emergency treatment.
their reviews to include children aged over 1 year.\textsuperscript{234} The criteria currently used by the Commission have been based on the criteria developed by the Confidential Enquiry for Stillbirths and Deaths in Infancy’s SUDI Studies 1993–96 (hereafter referred to as CESDI SUDI Studies) (Fleming et al. 2000).

The Commission classifies a death as SUDI using the Police Report of Death to a Coroner (Form 1), which includes a narrative providing a summary of the circumstances surrounding the death as initially reported.\textsuperscript{235} The Commission has adopted the following working criteria for the inclusion of cases in the SUDI grouping – deaths of infants less than 1 year of age that:

- were sudden in nature,\textsuperscript{236} and
- were unexpected, with no previously known condition that was likely to cause death, and
- have no immediately obvious cause of death.

The vast majority of these deaths occur after the infant has been placed to sleep, but although usual this is not invariable.\textsuperscript{237}

The SUDI grouping therefore includes deaths associated with infections or anatomical or developmental abnormalities not recognised before death, sleep accidents due to unsafe sleep environments, and deaths which 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.\textsuperscript{238}

All infant deaths that appeared on initial presentation to have occurred suddenly and unexpectedly are discussed in this chapter. Cases of SUDI that were explained at post-mortem (such as sleep accidents and deaths due to infections and congenital anomalies) are also counted and discussed in the chapter appropriate to their cause of death.\textsuperscript{239} Cases of SUDI that remained unexplained (that is, deaths from SIDS and undetermined causes and where cause of death was pending) are the subject of detailed analysis in this chapter.

The use of the grouping SUDI acknowledges the complex distinction between various causes of sudden unexpected deaths in infancy. The possibility of overlap in causes of death has given rise to the concern that a considerable proportion of deaths that would have been attributed to SIDS as recently as 10 years ago are now commonly labelled as cause of death undetermined or accidental suffocation (Kemp et al. 2000:42). Studying sudden unexpected infant deaths under the broader SUDI grouping therefore facilitates the recognition of factors common to a range of sudden unexpected infant deaths that may otherwise be missed because of the oftentimes arbitrary distinction between causes of death. It also acknowledges the finding that all cases within the SUDI grouping share similar epidemiological profiles, including the fact that all groups evidence markers of social disadvantage (Fleming et al. 2000:80).

\textsuperscript{234} Côté, Russo and Michaud’s (1999:442) review of 623 cases of sudden unexpected infant death in the Canadian province of Quebec between 1987 and 1996 included children aged up to 18 months because “although sudden death is known to occur after one year of age, very little is known about the prevalence of the various causes of death in the 12 to 18 month age group”.

\textsuperscript{235} In Queensland, section 8 of the Coroners Act 2003 requires that all violent or unnatural/unnatural 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 the clinical history.

\textsuperscript{236} The definition of ‘sudden death’ varies considerably in the research literature, with limits of between zero and 24 hours between the onset of symptoms and signs of illness and death (Byard 2004:3; Fleming et al. 2000:20). However, studies generally exclude infant deaths that occur within the first 24 hours after birth.

\textsuperscript{237} As stated above, the Commission’s definition of SUDI is a working definition. The Commission modified the criteria used in the Annual Report: Deaths of children and young people, Queensland, 2004–05. The most notable change has been to remove the requirement that deaths be associated with sleep (that is, occur after the infant has been placed to sleep). The removal of this criterion ensures that cases where both parent and child are believed to have fallen asleep during feeding are included in the SUDI grouping. The Commission’s criteria may be subject to further revision in the interests of national reporting consistency.

\textsuperscript{238} There are two fundamental differences between the CESDI and the Commission’s criteria for SUDI. First, the age range for the CESDI SUDI Studies was limited to infants who die between 7 and 365 completed days. The Commission includes all infants (under 1 year) to capture the deaths of infants aged less than 7 days which occur suddenly and unexpectedly and may be later certified as SIDS. Second, the CESDI SUDI Studies included deaths resulting from any form of accident, trauma or poisoning. The Commission’s criterion that no cause of death is obvious at the time of death excludes deaths where the cause of external injury is apparent, as is the case in transport accidents, drowning and fires.

\textsuperscript{239} Cases of SUDI found at autopsy to be due to accidental suffocation in bed are also counted in Chapter 9, “Other” Non-Intentional Injury-Related Deaths. Deaths found at autopsy to be due to previously unrecognised illnesses or congenital anomalies are also counted in Chapter 5, ‘Deaths Due to Diseases and Morbid Conditions’. 
SUDI has been a significant focus of the Commission’s child death research since 2005. A detailed review of the contemporary literature on the changing definitions of SIDS, potentially modifiable SIDS risk factors, and sleeping with an infant was provided in the *Annual Report: Deaths of children and young people, Queensland, 2004–05*.

**Sudden unexpected death in infancy: trends and patterns, 2005–06**

Between 1 July 2005 and 30 June 2006, there were 36 cases of SUDI in Queensland, a rate of 69.7 deaths per 100,000 infants (0.7 per 1000 live births). This rate represents a decrease in the rate of SUDI from 2004–05, when there were 89.9 deaths per 100,000 infants (0.9 deaths per 1000 live births).

In the reporting period, 12 of the 36 infant deaths identified as meeting the criteria for SUDI were fully explained following a post-mortem examination (33.3%), most commonly as a consequence of previously unrecognised infections or sleep accidents. Additionally, 16 deaths were attributed to SIDS and undetermined causes (44.4%). Within the SUDI grouping, SIDS and undetermined deaths are generally considered to be a SUDI whose cause is unexplained. In the remaining 8 cases a cause of death was not available at the time of reporting (22.2%). In this chapter, cases where cause of death was pending have been analysed as unexplained SUDI.

Figure 12.2 shows the cause of death breakdown for cases of SUDI in the reporting period by ICD-10 chapter level.

**Figure 12.2: Sudden unexpected deaths in infancy – causes of death**

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS &amp; undetermined</td>
<td>44.4%</td>
</tr>
<tr>
<td>Respiratory system diseases</td>
<td>5.6%</td>
</tr>
<tr>
<td>Nervous system diseases</td>
<td>5.6%</td>
</tr>
<tr>
<td>Circulatory system diseases</td>
<td>2.8%</td>
</tr>
<tr>
<td>Digestive system diseases</td>
<td>2.8%</td>
</tr>
<tr>
<td>Diseases of the ear and mastoid process</td>
<td>2.8%</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases</td>
<td>5.6%</td>
</tr>
<tr>
<td>External causes</td>
<td>5.6%</td>
</tr>
<tr>
<td>Perinatal conditions</td>
<td>22.2%</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

**Gender**

Of the 36 infants who died, 21 were males (58.3%) and 15 were females (41.7%). Male deaths occurred between the ages of 2 days and 11 months, while female deaths occurred between the ages of 12 days and 10 months.

Male infants were significantly more likely to die suddenly and unexpectedly than females, with a rate of 79.2 deaths per 100,000 male infants, compared with 59.7 deaths per 100,000 female infants.

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240 There are an additional 3 deaths that have not been accounted for in this chapter as they have not been registered with the Registry of Births, Deaths and Marriages (2 Indigenous and 1 non-Indigenous). The cause of death for 1 of these deaths was SIDS, while the causes of death for the other 2 infants were pending test results and coronial findings. Refer to Chapter 2, ‘Methodology’, for further details regarding registration.

241 In the 2004–05 reporting period, of the 63 cases of SUDI, 23 were pending a cause of death at the time of reporting; 19 of these 23 cases were subsequently found at autopsy to be due to SIDS and undetermined causes (82.6%).
Age at death

Figure 12.3 shows SUDIs by age at death.

**Figure 12.3:** Sudden unexpected death in infancy by age at death

The infants ranged in age from 2 days to 11 months when they died. Most were aged 2 months and under (63.9%). This is consistent with the Commission’s findings presented in the *Annual Report: Deaths of children and young people, Queensland, 2004–05*.

Geographical distribution (ARIA+)

Seventeen infants who died lived in metropolitan Queensland (47.2%), 15 in regional areas (41.7%) and 4 in remote areas (11.1%).

The rate of sudden unexpected deaths in infancy in remote areas was more than one and a half times higher than the overall rate, with 118.1 deaths per 100,000 infants in remote areas, compared with 69.7 deaths per 100,000 infants in all areas.

The rate of SUDI in regional areas was also above the overall rate, with 79.5 deaths per 100,000 infants, while the metropolitan rate was 57.8 deaths per 100,000 infants.

Socio-economic status (SEIFA)

Of the 36 infants who died, 20 lived in low or very low socio-economic areas (55.6%), including 12 in the lowest socio-economic areas in Queensland; 11 infants were from high or very high socio-economic areas (30.6%), while 5 lived in a moderate area (13.9%).

The rate of sudden unexpected deaths in infancy in low socio-economic areas was considerably higher than the overall rate, with 97.7 deaths per 100,000 infants in low socio-economic areas, compared with 69.7 deaths per 100,000 infants in all areas.

The rate of SUDI in high socio-economic areas was 54.4 deaths per 100,000 infants, while the metropolitan rate was 45.6 deaths per 100,000 infants.


Spencer and Logan’s review of case-control and cohort studies (2004:366–70) found that, in 51 of 52 studies since 1965, the risk of infant death increased with greater exposure to adverse social circumstances. The review also found that socio-economic status has an effect on sudden infant death independent of other major risk factors such as maternal smoking in pregnancy, birth weight and infant sleeping position, which are also socially patterned.

Following the general decline in deaths attributed to SIDS in the early 1990s, the sociodemographic profile of families affected by SUDI has changed. Mitchell and colleagues (2000:313) found that a significant percentage of families that experience a SUDI have chaotic, itinerant lives characterised by social problems such as substandard housing,
unemployment, illicit drug use, multiple partners and domestic violence. Studies of social inequalities in SIDS before and after the ‘Back to Sleep’ campaign\(^{242}\) have also found that social class inequalities in SIDS have widened since the campaign's introduction (Pickett, Lou & Lauderdale 2005:1979). It is possible that the disparity in SIDS rates reflects social inequalities in known and unknown risk factors for infant death that were previously masked by the prevalence of stomach-down sleep position.

There is some evidence that these inequalities are in part due to information about risk factors for infant death not being equally disseminated to women in disadvantaged social groups. Studies have also found that women in disadvantaged social groups are less receptive to advice about infant care practices, although further research is needed to elucidate how parents in high-risk groups come to make decisions contrary to the advice they have been given by health professionals (Pickett, Lou & Lauderdale 2005:1980). Such research points to the importance of cultural and institutional barriers in attempts to reduce the incidence of sudden infant death among disadvantaged groups.

Social and economic disadvantage is an important factor when considering the epidemiology of SUDI and should not be dismissed as an unmodifiable variable. Economic hardship can impact on those least able to protect themselves, such as infants, and is likely to result in deterioration in their health status. Preventative programs need to address the social circumstances into which infants are born, in addition to promoting parental behaviour change. Reducing death among this cohort of infants may require investigating the merits of targeting disadvantaged populations with specific interventions aimed at health promotion, as well as broader macroeconomic initiatives aimed at reducing relative poverty (Petrov et al. 2006:15).

The Commission intends to research effective interventions for ‘high-risk’ infants more fully in the future.

**Aboriginal and Torres Strait Islander status**

Twelve\(^{243}\) of the 36 infants who died suddenly and unexpectedly were Indigenous (33.3%); 10 were Aboriginal, 1 was Torres Strait Islander and 1 infant was both Aboriginal and Torres Strait Islander. In 1 of these cases, the Police Report of Death to a Coroner (Form 1) indicated that the child was Aboriginal but the death registration data provided by the Registry of Births, Deaths and Marriages listed the child’s Indigenous status as unknown.

Aboriginal and Torres Strait Islander infants died suddenly and unexpectedly at 7 times the rate of non-Indigenous infants, with 351.6 deaths per 100,000 Indigenous infants (3.3 deaths per 1000 Indigenous live births), compared with 49.7 deaths per 100,000 non-Indigenous infants (0.5 deaths per 1000 non-Indigenous live births).

**Geographical distribution (ARIA+)**

Seven of the 12 Aboriginal and Torres Strait Islander infants who died (58.3%) were living in regional areas and 2 of the infants were living in remote or very remote areas (16.7%). Three of the Aboriginal and Torres Strait Islander infants were living in metropolitan areas (25%).

By comparison, for non-Indigenous SUDI deaths, 33.3% involved infants living in regional areas, with 8.3% in remote areas and 58.3% in metropolitan areas.

The high concentration of Indigenous infants living in regional and remote areas (47.4% Indigenous) may in part account for the regional and remote bias in SUDI deaths.

**Socio-economic status (SEIFA)**

Ten of the 12 Aboriginal and Torres Strait Islander infants who died were living in low and very low socio-economic areas (83.3%) and 6 of these were living in the lowest socio-economic areas in Queensland (60%). Two Indigenous infants were living in moderate areas (16.7%). No Indigenous infants were living in high or very high socio-economic areas.

\(^{242}\) The ‘Back to Sleep’ campaign is the US and UK equivalent of the ‘Reduce the Risk of SIDS’ campaign initiated by SIDS and Kids Australia.

\(^{243}\) There are an additional 2 Indigenous deaths that have not been accounted for in this chapter as the death has not been registered by the Registry of Births, Deaths and Marriages. The cause of death for 1 of these deaths is SIDS, while the cause of death for the other infant is pending test results and coronial findings. Refer to Chapter 2, ‘Methodology’, for further details regarding registration.
By comparison, 41.7% of non-Indigenous SUDI deaths involved infants living in low or very low socio-economic areas, with 45.8% in high or very high socio-economic areas and 12.5% in moderate areas.

Aboriginal and Torres Strait Islander infants living in low or very low socio-economic areas were 9 times more likely to die suddenly and unexpectedly than their non-Indigenous counterparts (479.6 deaths per 100,000 Indigenous infants living in low socio-economic areas, compared with 54.4 deaths per 100,000 non-Indigenous infants).

Aboriginal and Torres Strait Islander people live in conditions of clear social and economic disadvantage and the health status of Indigenous peoples compares unfavourably with the rest of the population and with that of Indigenous groups in other countries such as New Zealand, the United States and Canada (Paradies & Cunningham 2002:11; AIHW & ABS 2005:73). Several reasons have been suggested for the higher mortality rates among Indigenous people, including social, economic, political and environmental factors. Compared with non-Indigenous Australians, Indigenous people remain disadvantaged across a range of areas of social concern. Specifically, Indigenous people experience lower levels of employment, lower levels of educational participation and attainment, lower levels of home ownership, and lower incomes than non-Indigenous people (AIHW & ABS 2005:xxi–xxii). Aboriginal and Torres Strait Islander people are more likely to be exposed to poor living conditions, poor nutrition, tobacco, excessive alcohol consumption, other drugs and harmful substances and violence (Paradies & Cunningham 2002:15). They also experience high levels of stress caused by factors such as separation (especially of children), trauma, grief, loss of culture and ongoing effects of poverty, discrimination and racism (HREOC 1997).

These factors interact to contribute to the disparity in health status between Indigenous and non-Indigenous peoples, as evidenced by an Indigenous infant mortality rate that is at least twice that of non-Indigenous infants (1025.4 deaths per 100,000 Indigenous infants, compared with 472.5 deaths per 100,000 non-Indigenous infants).

**Child protection population**

Seven of the 36 infants who died suddenly and unexpectedly were known to the Department of Child Safety (DChS) in the three years before their deaths (19.4%). The Department’s involvement with these infants will be considered by the Child Death Case Review Committee (CDCRC). In a further 2 cases the Police Report of Death to a Coroner (Form 1) indicated that the family had a history of departmental involvement with the deceased infant’s siblings only. Four of the 9 cases where the infants or their siblings were known to child protective services were Indigenous (44.4%).

Infants known to the DChS were significantly over-represented in SUDI deaths, accounting for 134.9 deaths per 100,000 infants in the child protection population, compared with 52.3 deaths per 100,000 infants in Queensland.

As this population is often characterised by chaotic and dysfunctional social circumstances which include many risk factors for infant death, the Commission considers this population to be ‘at risk’ for SUDI. The social conditions of these families make them difficult to reach through traditional public health education channels; therefore they may require more direct intervention to ensure that messages are understood and implemented (Office for Children 2004).

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244 Since 1 August 2004, the DChS has been required to conduct a review of its involvement with a child if the child was known to the Department within the 3 years before death. The CDCRC is an independent committee responsible for considering the Department’s review. The committee is multi-disciplinary and is chaired by the Commissioner.

245 These cases have not been considered by the CDCRC to date (refer to Chapter 4 for further information).
The Commission is concerned about the rate of SUDI for children known to the DChS. As a result of recommendations made by the DChS and endorsed by the CDCRC as an outcome of a child death case review, the Department is developing a Practice Paper focusing on high-risk infants. The Commission will work with the DChS to ensure that due consideration is given to risk factors for infant death in this cohort of children.

**Coronial findings**

At the time of reporting, coronial findings were pending in 22 of the 36 cases of SUDI (61.1%). Coronial findings had been finalised in 14 cases (38.9%). Autopsy test results (cause of death) were also pending in 8 cases (22.2%).

**Cause of death**

In the reporting period, cases that presented as a SUDI when initially reported were subsequently classified into five categories of death:

- sudden infant death syndrome (SIDS)
- sleep accidents, including accidental suffocation and deaths caused by unsafe cots and bedding
- unrecognised morbid processes or congenital abnormalities, and
- deaths where the autopsy findings were insufficient to determine the cause of death (undetermined/unsuspected).

Cases of SUDI for which a cause of death was pending at the time of reporting have also been counted in this chapter.

Table 12.1 shows the cause of death (as determined by a coroner and/or pathologist) for the 36 cases of SUDI in the reporting period.

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS and other ill-defined causes of mortality</td>
<td>11</td>
</tr>
<tr>
<td>Sudden infant death syndrome</td>
<td>11</td>
</tr>
<tr>
<td>Undetermined</td>
<td>5</td>
</tr>
<tr>
<td>External causes of accidental injury</td>
<td>2</td>
</tr>
<tr>
<td>Accidental suffocation and strangulation in bed</td>
<td>2</td>
</tr>
<tr>
<td>Diseases and morbid conditions</td>
<td></td>
</tr>
<tr>
<td>Acute bronchiolitis</td>
<td>1</td>
</tr>
<tr>
<td>Acute epiglottitis</td>
<td>1</td>
</tr>
<tr>
<td>Enteroviral encephalitis</td>
<td>1</td>
</tr>
<tr>
<td>Gastro-oesophageal reflux disease</td>
<td>1</td>
</tr>
<tr>
<td>Myocarditis</td>
<td>1</td>
</tr>
<tr>
<td>Otitis media</td>
<td>1</td>
</tr>
<tr>
<td>Sepsis of newborn due to Staphylococcus aureus</td>
<td>1</td>
</tr>
<tr>
<td>Streptococcal infection</td>
<td>1</td>
</tr>
<tr>
<td>Streptococcal meningitis</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Anoxic brain damage (unknown cause)</td>
<td>1</td>
</tr>
<tr>
<td>Pending test results</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

As discussed in Chapter 2, ‘Methodology’, the Commission has entered into an interim arrangement with the Registry of Births, Deaths and Marriages under which updated cause of death is provided to the Commission. In the Annual Report: Deaths of children and young people, Queensland, 2004–05 the Commission did not have cause-of-death information for 36.5% of cases of SUDI registered between 1 January 2004 and 30 June 2005. A retrospective review of these cases is provided in Appendix 12.1. In the current reporting period, a cause of death was not provided for 8 of the 36 cases of SUDI (22.2%).

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246 This paper is due to be finalised in June 2006.
247 The Victorian Child Death Review Committee (VCDRC) has noted the prevalence of SIDS in the child protection population and has expressed concern that SIDS deaths in this population have not decreased over time. The VCDRC has conducted a detailed group analysis of SIDS in the child protection population which is due to be released in the latter half of 2006.
Under section 48A of the Births, Deaths and Marriages Registration Act 2003, the Registrar must notify the Commission of, and provide information about, all registered child deaths, including the child’s cause of death to the extent it is known to the Registrar. For reportable child deaths,248 the Registry of Births, Deaths and Marriages receives an Autopsy Certificate (in accordance with section 24A of the Coroners Act 2003) as soon as practicable after the completion of an autopsy, usually within 28 days of the death. However, updated cause-of-death information as provided on the Autopsy Certificate is not routinely sent on to agencies.

It is the Commission’s view that cause-of-death data are provided to the Registry in its capacity to record life events accurately and securely, and to enable the provision of accurate, reliable data for planning and research to agencies such as the Australian Institute of Health and Welfare (AIHW), the ABS and other government authorities and research bodies. The Commission is therefore recommending that the Registry of Births, Deaths and Marriages provide updated cause-of-death information as detailed on the Autopsy Certificate to the Commission (see Chapter 2, ‘Methodology’, for further information on this recommendation). It is the Commission’s view that the Registry should also give due consideration to sending these updates to other research agencies as a matter of course.

Unexplained sudden unexpected deaths in infancy

Unless otherwise stated, the following analyses data from the 16 unexplained SUDI (infant deaths from SIDS and undetermined causes and where cause of death was pending).

SIDS and undetermined causes

In 1969, American pathologist Bruce Beckwith formulated the definition of SIDS, introducing the term (partly for humanitarian reasons) as a recognised category of natural death (Fleming et al. 2000:2). Until 2004, SIDS was generally defined using the National Institute of Child Health and Human Development 1989 revision of Beckwith’s original definition: “the sudden death of an infant under one year of age, which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene and review of the clinical history” (Willinger, James & Catz 1991:681).

In 2003, Beckwith proposed a re-examination of the definition of SIDS to include positive diagnostic criteria and to establish a distinction between typical and atypical SIDS cases. In response, an international expert panel of paediatric and forensic pathologists, paediatricians and epidemiologists convened the SIDS Redefinition Conference in San Diego in January 2004, at which a new definition of SIDS was developed:

\[
\text{the sudden, unexpected death of an infant under one year of age, with onset of the fatal episode apparently occurring during sleep, that remains unexplained after a thorough investigation including performance of a complete autopsy and review of the circumstances of death and the clinical history} \quad (Krous et al. 2004:235). 
\]

It was agreed that stratifying cases of SIDS into subcategories would provide diagnostic guidelines, identify and include cases that had previously been excluded because of shared sleeping or stomach-down sleep position, and separate cases based on the degree of certainty with which a diagnosis of SIDS can be made (Krous et al. 2004:236–37). Thus the San Diego definition includes the following subcategories:

- **Category IA SIDS**: The classic features of SIDS are present and completely documented, including the typical age range of 21 days to less than 9 months. Cases in this category show no evidence of trauma, disease or lesions at autopsy and all toxicology results are negative. Normal clinical history growth and development and the death scene show nothing that could have contributed to the death.
- **Category IB SIDS**: As above, except an investigation of death scenes was not performed and at least one the following analyses was not performed: toxicologic, microbiologic, radiologic, vitreous chemistry, or metabolic screening studies, and

248 Section 8 of the Coroners Act 2003 defines a ‘reportable death’ as a death where the identity of the person is unknown; that occurred in violent, unnatural or suspicious circumstances; that was not the reasonably expected outcome of a health procedure; where a cause of death certificate was not issued nor likely to be issued; or where the death occurred in custody or care.
• **Category II SIDS:** Meets the criteria for IA or B, except the infant was outside the typical age range; had abnormal growth or development; an autopsy reveals an abnormality that appears significant, but whose precise role in the death is difficult to determine; or mechanical asphyxia due to overlay cannot be excluded.

In addition, the San Diego forum proposed that those cases that do not fall into the above categories, but in which “alternative diagnoses of natural or unnatural conditions are equivocal (including cases for which autopsies are not performed)”, be attributed to ‘unclassified sudden infant death’ (USID) (formerly undetermined or unascertained) (Krous et al. 2004:236).

Cases of SUDI should therefore be classified as undetermined if:

- natural disease processes were detected that are not considered sufficient to cause death but that preclude a diagnosis of SIDS
- there are signs of significant stress
- non-accidental but non-lethal injuries were present, or
- toxicologic screening detects non-prescribed but non-lethal drugs (Mitchell et al. 2000:311).

In March 2004, SIDS and Kids Australia (the peak non-government body on SIDS) hosted the first National SIDS Pathology Workshop. The workshop brought together paediatric and forensic pathologists from each state and territory with the aim of obtaining a national consensus for a common definition of SIDS and a recommended standard autopsy protocol for infant deaths. Participants agreed to implement the San Diego definition of SIDS. It was also agreed that the ill-defined terms ‘unascertained’ and ‘undetermined’ would be replaced by ‘unclassified sudden infant death (USID)’.

The Commission is concerned that the introduction of the acronym USID and the similarities between this and the terms ‘sudden unexpected deaths in infancy (SUDI)’ and ‘sudden infant death syndrome (SIDS)’ may cause unnecessary confusion among pathologists, coroners and health professionals. To demonstrate, the Commission notes that, since the First Australian Pathology Workshop, in addition to certifying deaths as due to SIDS or as undetermined or unascertained, pathologists in Queensland have certified the cause of infant deaths as ‘sudden unexpected infant death syndrome’ (2 deaths), ‘unclassified sudden infant death syndrome’ (1 death) and ‘unclassified sudden infant death’ (1 death).

The Commission intends to work with Queensland Health and SIDS and Kids Australia to resolve these ambiguities. In the interim, in the interests of clarity, the Commission will continue to use the term ‘undetermined’ to refer to those infant deaths where, following a post-mortem examination, a cause of death was unable to be ascertained.

**Risk factors for SIDS**

Many studies compare the epidemiological characteristics of infants who died from SIDS with other infants in an attempt to identify risk factors. Infant, parental and environmental factors have been associated with a statistically increased risk of SIDS.

Infant factors relate to the vulnerability of the infant and include:

- prematurity (less than 37 weeks gestation) and low birth weight (less than 2500 grams)
- multiple gestation (twins, triplets)
- neonatal health problems
- male sex, and

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249 SIDS and Kids Australia also reports that extensive progress was made towards the development of an agreed Australian SIDS Autopsy Protocol.

250 One of these deaths was of an infant over the age of 1 year. This death was given the ICD-10 code ‘other and ill-defined causes of mortality’ (R99) as the definition of SIDS precludes its application to children over the age of 1 year. The other death was coded as ‘sudden unexpected infant death syndrome’ (R95) as the infant’s autopsy was unremarkable and the Commission considered this to be the pathologist’s intention when certifying the death.

251 This death was coded as ‘other and ill-defined causes of mortality’ (R99) because of the presence of the word ‘unclassified’.

252 This death was coded as ‘other and ill-defined causes of mortality’ (R99) in line with the outcomes of the First Australian Pathology Workshop.

253 Risk factors should not be conflated with causes. Keens (2002:3) defines the difference between risk factors and causes: “When risk factors are found in a population the statistical risk of SIDS occurring in that population increases. However, risk factors are not causes of SIDS. They may provide clues for researchers to the cause of SIDS. Therefore they are important for research. However, no risk factor, singly or in combination, is sufficiently precise to predict the baby who will die from SIDS” (emphasis included in original).
• history of minor viral respiratory infections and/or gastrointestinal illness in the days leading up to death.254

Parental factors include:
• 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, and
• high-risk lifestyles, including alcohol and illicit drug abuse.

These parental risk factors are similar to the risk factors associated with child abuse and neglect (VCDRC 2006:44).

Environmental factors include:
• poor socio-economic status (social disadvantage and poverty)
• sleeping on soft surfaces and loose bedding
• prone (on stomach) sleeping position and side sleeping position
• winter months
• over-wrapping/overheating, and
• some forms of shared sleeping.


During the past two decades, research has identified several risk factors relating to parental behaviour and the environment (particularly an infant’s sleep environment) that can be modified. Understanding risk factors for SIDS that can be reduced through behavioural, social and environmental changes can help health professionals and public policy makers educate and support high-risk infants and families.

**Incidence of SIDS and undetermined causes, 2005–06**

Over the past decade, the rate of SIDS in Queensland has fallen slightly, although there have been more impressive reductions in other Australian jurisdictions since the introduction of the ‘Reduce the Risks of SIDS’ campaign in the early 1990s. While previously claiming one of the lowest SIDS rates, Queensland now has one of the highest rates in Australia.

Between 1 July 2005 and 30 June 2006 there were 24 infant deaths attributed to SIDS and undetermined causes and where cause of death was pending (11 SIDS, 5 undetermined, 8 cause of death pending), a rate of 46.5 deaths per 100,000 infants (0.5 deaths per 1000 live births). When considering SIDS alone, the rate of death was 21.3 per 100,000 infants.

As 82.6% of the deaths where ‘cause of death was pending’ in last year’s Child Death Annual Report, 2004–05 were attributed to SIDS and undetermined causes, these deaths are analysed and discussed together with deaths attributed to SIDS and undetermined causes.

A number of known SIDS risk factors were found in these deaths.

Table 12.2 provides a summary of known risk factors for the 24 infants who died from SIDS and undetermined causes and where cause of death was pending. The information provided in the table and the analysis has been drawn from the Police Report of Death to a Coroner (Form 1), autopsy reports and coronial findings.

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254 There is some conjecture surrounding reported symptoms of illnesses in the period preceding infant death, as ‘sniffl es’ and other conditions (whether infections or physiologic) are common in this age group and are often reported by concerned family members after the unexpected death of an infant (Knight, Hunsaker & Corey 2005:30).
Table 12.2: Summary of SIDS risk factors for infants who died from SIDS and undetermined causes

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Indigenous</th>
<th>Shared sleeping</th>
<th>Sleep surface</th>
<th>Prone/side sleeping</th>
<th>Low birth weight</th>
<th>Pre-term birth</th>
<th>Young maternal age*</th>
<th>Smoking</th>
<th>Drugs/alcohol</th>
<th>Chaotic social circumstances**</th>
<th>Living in low socio-economic areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS</td>
<td>✓</td>
<td>double bed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
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<td>double bed</td>
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<td>SIDS</td>
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<td>double bed</td>
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<td>N/A</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pending</td>
<td>✓</td>
<td>lounge chair/parent’s lap</td>
<td>N/A</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pending</td>
<td></td>
<td>cot</td>
<td>N/A</td>
<td>N/A</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pending</td>
<td>✓</td>
<td>double bed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pending</td>
<td>✓</td>
<td>double bed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pending total</td>
<td>8</td>
<td>3 5 1 1 1 1 4 2 4 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>6 15 5 3 4 4 15 8 10 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)
✓ = SIDS risk factor present
* = < 20 years old
** = child or siblings known to the DCHS and/or family have a history of criminal activities and/or domestic violence issues and/or mental health issues
N/A = information not recorded
**Infant factors**

**Gender**

Of the 24 infants who died from SIDS, from undetermined causes and where cause of death was pending, 14 were male (7 SIDS, 3 undetermined, 4 pending) and 10 were female (2 SIDS, 4 undetermined, 4 pending).

Males accounted for a significantly higher proportion of infants who died from SIDS and undetermined causes and where cause of death was pending (58.3%), and died at a higher rate than that of female infants (52.8 deaths per 100,000 male infants, compared with 39.8 deaths per 100,000 female infants).

Male sex has consistently been associated with a statistically increased risk of SIDS.

**Preterm birth and low birth weight**

Infant birth data were not available or incomplete for 10 of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending. Therefore the figures presented here are likely to under-represent preterm and low birth weight infants.\(^{255}\)

Four of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending were preterm (less than 37 weeks gestation) (16.7%) and 3 were of low birth weight (weight of less than 2500 grams) (12.5%).\(^{256}\) Two of these were very low birth weight infants. (The 3 low birth weight infants were also born preterm).

Preterm birth and low birth weight are critical risk factors for infant mortality (Austin Rickets, Murray & Schwalberg 2005:1952). Preterm birth is the most frequent cause of perinatal morbidity and mortality, generally accounting for more than 70% of perinatal mortality in foetuses without anomalies (Vintzileos et al. 2006:1254).

Low birth weight can be attributed to two major phenomena: preterm birth and intra-uterine growth restriction, usually due to problems with the placenta, maternal health or congenital anomalies. Any baby born prematurely is likely to be very small, but other factors that contribute to the risk of low birth weight include multiple births, non-white race, unmarried status, teenage motherhood and poor maternal health (women exposed to drugs, alcohol and cigarettes during pregnancy are significantly more likely to have low birth weight or very low birth weight babies). Low birth weight has also been associated with indicators of socio-economic disadvantage such as minimal education and low income, as well as with stress during pregnancy. Socially disadvantaged mothers are also more likely to have poor pregnancy nutrition, inadequate prenatal care and complications of pregnancy – all of which are factors that can contribute to low birth weight (Austin Rickets, Murray & Schwalberg 2005:1952; McAnarney 1987:1054; Petrou et al. 2006:14–15).

A considerable body of research identifies the effectiveness of early, consistent prenatal care in preventing low birth weight and preterm birth, and program evaluations have found that low birth weights for specific high-risk populations can be reduced with enhanced psychosocial prenatal care programs (Austin Rickets, Murray & Schwalberg 2005:1952).

**Parental factors**

**Young maternal age**

Figure 12.4 shows the age range of mothers whose infants died of SIDS and undetermined causes and where cause of death was pending.

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\(^{255}\) This information was not consistently recorded across all Police Reports of Death to a Coroner (Form 1). This information may not always be available to police when initially investigating the death, or before submitting the form to the coroner.

\(^{256}\) Low birth weight infants can be further subdivided into very low birth weight (≤ 1500g) and extremely low birth weight (≤ 1000g).
Figure 12.4: SIDS and undetermined causes and cause of death pending by maternal age

<table>
<thead>
<tr>
<th>Maternal age in years</th>
<th>Number of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>2</td>
</tr>
<tr>
<td>20–24</td>
<td>3</td>
</tr>
<tr>
<td>25–29</td>
<td>4</td>
</tr>
<tr>
<td>30–34</td>
<td>5</td>
</tr>
<tr>
<td>35+</td>
<td>6</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Four of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending were born to mothers less than 20 years of age (16.7%), 1 of whom was aged between 15 and 17 years. In an additional 3 cases, although the mother was over the age of 20 at the time of the infant’s birth, the infant had a sibling or siblings born before the mother’s 20th birthday.

Young maternal age is a marker for one or more other maternal risk factors known to be associated with adverse neonatal outcomes. Compared with infants born to older mothers, infants born to teenage mothers are at an increased risk of prematurity, low birth weight and death in the first year of life, with young (15–17 years) and very young (< 15 years) adolescents at the highest risk. Studies have also found this elevated risk to be consistent across racial and ethnic groups (Glennon Phipps, Blume & DeMonner 2002:481; McAnarney 1987:1053). Teenage mothers thus have a disproportionate share of all adverse outcomes of pregnancy.

The poor outcomes of teenage pregnancy can be partially attributed to two features of biologic immaturity: a young gynaecologic age (defined as conception within 2 years after the first menstrual period) and the effect of a girl becoming pregnant before her own growth has ceased – adolescent mothers whose own growth continues during pregnancy may compete with the developing foetus for nutrients to the detriment of the foetus (Fraser, Brockert & Ward, 1995:1117).

In addition to the effect of biologic immaturity, studies indicate that the poor outcomes of young maternal age are also a result of the sociodemographic environment generally associated with adolescent pregnancy. Teenage mothers are more likely than older mothers to be non-white, poor, unmarried and have only minimal education. They are also less likely to have received early prenatal care. Babies born to mothers who have these risk factors are frequently preterm, low birth weight or small-for-gestational-age (Fraser, Brockert & Ward 1995:1113; Glennon Phipps, Blume & DeMonner 2002:481).

Efforts to improve the poor social conditions of pregnant teenagers may reduce their risk of poor reproductive outcomes.

Smoking

The Police Report of Death to a Coroner (Form 1) identifies whether there were “signs of habitual smoking at [the] location of [the] event” for all cases of unexpected infant death. However, the form does not require officers to identify which of the parents smoked, whether they smoked in the same room as the infant, whether the mother smoked during pregnancy, or the amount of smoke to which the infant was exposed.

There was evidence of habitual smoking in the homes of 15 of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending (62.5%).

There have been numerous studies of the relationship between smoking and SIDS, and a strong, independent association between maternal smoking during pregnancy and SIDS has been established (Haglund & Cnattingius 1990; Malloy et al. 1988; McGlashan 1989 Golding 1997; Byard

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257 Single marital status includes all mothers without a supportive partner, whereas married includes legally married and stable de facto relationships.
Evidence suggests that exposure to cigarette smoke after birth further increases the risk of SIDS. Although there are methodological difficulties in identifying independent effects of postnatal exposure to tobacco smoke, studies examining paternal smoking where the mother is a non-smoker suggest that infants who are exposed to environmental cigarette smoke are almost one and a half times more likely to die of SIDS than other infants (Mitchell 2000).

Recent evidence also suggests that the risk of death doubles if an infant shares a bed with a mother who smokes (Byard 2004:501).

Byard (2004:499) reports that infants who have been exposed to cigarette toxins during pregnancy and after birth have a five times greater risk of SIDS.

**Parental drug and/or alcohol use**

The Police Report of Death to a Coroner (Form 1) identifies whether there was “any evidence of alcohol or drug use at [the] location of [the] event”. However, the form does not require officers to record the extent of alcohol or drug use.

There was evidence of drug and/or alcohol use in the homes of 8 of the 24 infants who died of SIDS or undetermined causes and where cause of death was pending (33.3%). In 4 cases, household drug and alcohol use was unknown.

A number of studies have consistently identified increased risks of infant death with parental substance abuse. For example:

- Maternal alcohol use during pregnancy has been associated with an increased risk of SIDS. Intake of alcohol by the mother after birth has also been associated with an increased risk of infant death, particularly when combined with bedsharing (Alm et al. 1999; Byard 2004; Friend, Goodwin & Lipsitt 2004)
- Maternal abuse of opiates increases the risk of infant death, and breastfed infants exposed to opioids in breast milk have increased risks of apnoea, and
- Maternally ingested amphetamines may also contaminate breast milk and increase the risk of infant death (Byard 2004:503).

**Prenatal care**

Inadequate prenatal care has been identified as a ‘high-risk’ factor strongly associated with adverse outcomes. Mothers who do not receive early and consistent prenatal care have been found to be twice as likely to deliver low birth weight babies and nearly three times as likely to have premature babies (Fraser, Brockert & Ward 1995:1114; McAnarney 1987:1054; Vintzileos et al. 2006:1254).

The information currently contained in the Commission’s data sources does not identify the amount of prenatal care, if any, received by mothers during the course of their pregnancy.

Section 89ZG of the Commission for Children and Young People and Child Guardian Act provides that a government entity may enter into an arrangement to provide the Commissioner with information reasonably needed to perform the Commission’s child death research functions. The Commission has requested access under this section to valuable perinatal data held by Queensland Health. In addition to antenatal care details, Queensland Health’s perinatal data collection provides accurate data on the infant’s birth weight, gestation and suspected congenital abnormalities, as well as information on any maternal medical conditions likely to have affected the foetus. Queensland Health has agreed in principle to enter into an administrative arrangement to provide the Commission with this information. The Commission is currently liaising with Queensland Health to finalise this agreement.
Environmental factors

Sleeping practices

There is considerable evidence that some infant sleeping practices significantly increase the risk of SIDS, and that some sleep environments are unsafe and may cause fatal sleeping accidents.

Sleep surface

Four of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending were sleeping in cots, cradles or bassinets (16.7%); 18 died on adult beds\(^{258}\) (75.0%) and 2 infants died while sleeping on a lounge chair. Fourteen of the 18 infants who died while sleeping on an adult bed were sharing the surface at the time of death (77.8%). One infant was sleeping in his father's arms on a lounge chair at the time of death.

Infant sleep position

Table 12.3 shows the position of infants who died of SIDS and undetermined causes and where cause of death was pending when placed for sleep and when found.

Table 12.3: SIDS and undetermined causes and cause of death pending by sleep position

<table>
<thead>
<tr>
<th>Sleep position</th>
<th>SIDS</th>
<th>Undetermined</th>
<th>Pending</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position when placed to sleep</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Side</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Stomach</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>5</td>
<td>8</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sleep position</th>
<th>SIDS</th>
<th>Undetermined</th>
<th>Pending</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position when found</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Side</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Stomach/face down</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
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</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>5</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

Of the 24 infants who died of SIDS and undetermined causes and where cause of death was pending, 13 were placed for sleep on their backs (54.2%), including 1 infant placed to sleep propped up against two pillows. Five infants were placed to sleep on their sides or stomachs (20.8%) (2 on their sides and 3 on their stomachs). One was lying on top of his mother breastfeeding when both mother and infant fell asleep. In another case the infant was being nursed by his father (in a lounge chair) when both infant and father fell asleep. Information on sleep position was not available in 4 cases.

Ten of the infants were found on their backs, including 1 infant who was found entirely covered by adult bedding (41.7%). Three of the infants were found on their sides, and 8 were found on their stomachs, including 1 infant found face down entirely covered by adult bedding and 2 infants found wedged between the bed and the wall. The position of the infant when found was not available in 2 cases.

It is now widely accepted that there is a causal association between stomach-down (prone) sleeping position and SIDS; numerous studies have found that infants who sleep stomach down are between 3.5 and 9.3 times more likely to die of SIDS.\(^{259}\) This association is maintained and in some studies

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258 Deaths that occur on beds that are folded out from a couch (sofa beds) or on a mattress on the floor are categorised as occurring on adult beds.

Although it is often assumed that stomach-down sleeping is dangerous because it causes suffocation, Byard (2004:498) warns that such an interpretation is overly simplistic. “Suffocation may certainly occur if an infant slips between a mattress and cot side and the upper airway obstructs, but whereas all infants placed in this position for long enough will die, 99% of infants who sleep prone will survive.” The mechanism of death in stomach-down infant sleep position is therefore believed to be more complex than simple smothering, involving a number of factors.

Other postulated benefits of close contact between infants and parents include improved cardiorespiratory stability and oxygenation and better thermoregulation (Blair et al. 1999:1457).

According to McKenna and Mosko (2001:140, 141) co-sleeping takes place when a responsible adult and the infant use at least two senses (such as touch, sight, sound, smell) to communicate with each other. Safe co-sleeping occurs when the space is as safe as current knowledge permits, and when at least one adult is both physically capable of detecting and responding to changes in the infant’s status, and also motivated to respond. Safe co-sleeping is therefore a proactive arrangement in which at least one responsible adult takes safety precautions unique to the shared sleep practice, regardless of the surface.

The risk associated with shared sleeping is a vexed issue in the SIDS literature. Queensland studies have found that around 45% of infants share a bed with a parent or siblings, with shared sleeping reported to be significantly more common among Indigenous families than non-Indigenous families (Panaretto, Whitehall et al. 2002:137; Young, Battistutta & O’Rourke 2005). Research in the United States has also found the prevalence of shared sleeping to be increasing and that as many as 50% of infants routinely spend some time at night in an adult bed (Willinger et al. 2000:44).

Research indicates that sensory contact and proximity between mother and infant encourage potentially beneficial behavioural and physiological changes in infants. Mothers report less crying, more maternal and infant sleep and increased milk supply (due to the increased frequency of nighttime breastfeeding) when sleeping close to their infant (McKenna & McDade 2005:135). Increasing evidence also indicates that infants who sleep near their parents have a reduced risk of SIDS, because of increased arousals. Infants experience more arousals and have less deep sleep (slow-wave sleep) when bed sharing than when sleeping alone (Byard 2004; McKenna & Mosko 1993; McKenna, Mosko & Richard 1997; McKenna & Mosko 2001; Mosko, Richard & McKenna 1996). In response to findings that extra simulation may reduce deep sleep, alter breathing patterns and enhance neurological maturation, McKenna, Mosko and Richard (1997:218) suggest that bed sharing may protect infants against SIDS. However, the social and biological connection between an infant and its caregiver is of critical importance if shared sleeping is to be protective to the infant.
Controversy continues over whether shared sleeping increases the risk of SIDS because, while the number of SIDS cases has decreased, the number of deaths of infants while bed sharing has increased (Arnestad et al. 2001). However, most studies have found that there is an increased risk of SIDS only when mothers who smoke share a bed with their infant. For example, both the New Zealand Cot Death Study and the CESDI SUDI Studies revealed an interaction between smoking and bed sharing, with the relative risk from bed sharing only significantly increased when the mother smoked (Scragg et al. 1993; Fleming et al. 2000). Similarly, a case-control study by Blair and colleagues (1999) found no association between SIDS and shared sleeping for infants whose parents do not smoke, infants older than 14 weeks, or when an infant is returned to its cot after a period of bed sharing. This led the authors to conclude that “there is no evidence that bed sharing is hazardous for infants of parents who do not smoke”.

While there is strong evidence that shared sleeping increases the risk of SIDS in infants of smokers, “the data are currently insufficient to provide complete reassurance to non-smoking parents that bed sharing is safe” (Henderson-Smart, Ponsonby & Murphy 1998:216). The Commission considers that, given the known benefits of shared sleeping for the promotion of breastfeeding and maternal bonding, and the considerable hazards for infants and children associated with smoking, it would seem better to encourage smoking cessation rather than to discourage bed sharing (Eades, Read & the Bibbulung Gnarneep Team 1999:543).

Chaotic social circumstances and multiple risk factors

The Commission considers an infant to have been living in chaotic social circumstances if they or their siblings were known to the DChS and/or Form 1 information indicates that the family had a history of criminal activities (including drug abuse issues) and/or domestic violence and/or mental health issues.

Ten of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending were living in chaotic social circumstances (41.7%), with 5 of these infants meeting two or more of the above criteria. Six of the infants living in chaotic social circumstances were also living in socio-economically disadvantaged areas (60.0%).

Twenty of the 24 infant deaths from SIDS and undetermined causes and where cause of death was pending had at least two known risk factors for infant death (83.3%). In 18 cases, three or more risk factors were present (75.0%), 12 cases had four or more risk factors (50.0%) and in a further 6 cases between five and six risk factors were evident (25.0%).

While SIDS is seen in all social groups, the syndrome is now largely confined to deprived families. Blair and colleagues’ (2006:318) 20-year population-based study reviewing the major epidemiological changes in SIDS noted that, while markers of socio-economic deprivation were seen at a higher frequency in SIDS families in the mid-1980s, all markers had become increasingly prevalent in SIDS families over the past 20 years.

It has also been noted elsewhere that, since the introduction of the ‘Back to Sleep’ and ‘Reduce the Risk’ campaigns, the sociodemographic profile of affected families has changed markedly. A significant percentage of families in which sudden infant deaths occur have chaotic, itinerant lifestyles characterised by poor living circumstances, multiple partners, frequent changes of address, intravenous drug use and a history of domestic violence (Krous et al. 2004; Mitchell et al. 2000).

Consistent with contemporary research, the Commission has found that a significant number of deaths since 1 January 2004 appear to have occurred in chaotic, poor households, characterised by significant social problems, where multiple independent SIDS risk factors converge.

263 The risk of infant death is reported to double if an infant sleeps with a mother who smokes (Byard 2004:501).
264 The risk linked with shared sleeping for younger infants appears to be associated with recent parental consumption of alcohol, overcrowded housing, parental tiredness, and the infant being under a duvet or other covers.
Aboriginal and Torres Strait Islander status

Six of the 24 infants who died from SIDS and undetermined causes and where cause of death was pending were Aboriginal (25.0%).

Aboriginal infants were over-represented in cases of unexplained SUDI (that is, deaths from SIDS and undetermined causes and where cause of death was pending), dying at a rate four times that of non-Indigenous infants (175.8 deaths per 100,000 Indigenous infants, compared with 37.3 deaths per 100,000 non-Indigenous infants).

In Queensland, Aboriginal and Torres Strait Islander infants have a statistically increased risk of SIDS. The rate of SIDS peaked in the late 1980s and fell significantly after the ‘Reduce the Risk’ campaign. However, the success of the campaign did not extend to Indigenous infants: the rate of SIDS in Indigenous infants remained high even after the campaign (Eades et al. 1999:541). Western Australian studies have found that the disparity between Indigenous and non-Indigenous infants in fact increased after the ‘Reduce the Risk’ campaign (Read 2002:122). The ABS estimates that the SIDS rate for Indigenous infants is almost six times higher than for non-Indigenous infants in Australia (ABS 2003:25). This raises the issue of why the intervention campaign was successful with non-Aboriginal children but did not decrease the prevalence of SIDS in Indigenous children.

As identified in the Child Death Annual Report, 2004–05, SIDS risk factors are reportedly more prevalent in the Indigenous population than in the non-Indigenous population. Compared with non-Indigenous mothers, Indigenous mothers:

- are at least two times more likely to smoke during pregnancy and after birth
- are 16 times more likely to consume high or risky levels of alcohol
- have a higher incidence of reported drug abuse
- are more likely to be under 20 years of age
- have more babies
- have lower levels of nutrition, leading to infant growth retardation in the early stages of gestation

- have poor antenatal care,265 and

Gender

Of the 6 Aboriginal infants who died from SIDS and undetermined causes and where cause of death was pending, 2 were male and 4 were female.

Preterm and low birth weight

Infant birth data were not available or incomplete for 4 of the 6 Aboriginal infants who died from SIDS and undetermined causes and where cause of death was pending.

Two of the 6 Aboriginal infants who died from SIDS and undetermined causes and where cause of death was pending were preterm and one was both preterm and low birth weight.

Young maternal age

Three of the 6 Aboriginal infants who died from SIDS and undetermined causes and where cause of death was pending were born to mothers less than 20 years of age (50.0%). One mother was aged between 15 and 17 years. In an additional case, although the mother was over the age of 20 at the time of the infant’s birth, the infant had a sibling or siblings born before the mother’s 20th birthday.

Smoking

There was evidence of habitual smoking in the homes of all 6 of the Aboriginal infants who died from SIDS and undetermined causes and where cause of death was pending.

Parental drug and/or alcohol use

There was evidence of drug and/or alcohol use in the homes of 2 of the Aboriginal infants who died

265 Around 10% of Aboriginal and 6% of Torres Strait Islander mothers report fewer than two antenatal visits to a general practitioner, clinic or midwife.
266 Thirteen percent of Aboriginal mothers, compared with 6% of non-Indigenous mothers.
from SIDS and undetermined causes and where cause of death was pending. In 3 cases, household drug and alcohol use was unknown.

Sleep surface
All of the Aboriginal infants who died from SIDS and undetermined causes and where cause of death was pending were sleeping on adult beds.

Infant sleep position
Of the 6 Aboriginal infants who died of SIDS and undetermined causes and where cause of death was pending, 4 were placed for sleep on their backs. One infant was lying on top of his mother breastfeeding when both mother and infant fell asleep. The sleep position of 1 Aboriginal infant was unknown.

Shared sleeping
All 6 of the Aboriginal infants who died of SIDS and undetermined causes and where cause of death was pending were sharing a sleep surface with one or more people. Two infants were sleeping with the mother only, 1 with the father only, 1 with both parents, 1 with both parents and an older sibling, and 1 with the mother and an older sibling.

Evidence of habitual smoking was found in all Aboriginal homes in which shared sleeping was reported, and drug or alcohol use was noted in 2 of these homes.

Only 1 of the Aboriginal infants who died from SIDS and undetermined causes where cause of death was pending and was sharing a sleep surface was currently being breastfed.

Chaotic social circumstances and multiple risk factors
Four of the 6 Indigenous infants who died from SIDS and undetermined causes and where cause of death was pending were living in chaotic social circumstances (66.7%). One infant met three of the Commission’s criteria for determining chaotic social circumstances and another infant met all of the Commission’s criteria.

Five of the 6 Aboriginal cases had four or more known SIDS risk factors. The other infant had three known SIDS risk factors.

Explained sudden unexpected deaths in infancy
Unless otherwise stated, this analysis uses the data from the 12 explained SUDIs (2 sleep accidents, 9 deaths from unrecognised illness and 1 case of anoxic brain damage of unknown cause).

Sleep accidents
During the reporting period, 2 cases of SUDI were caused by accidental asphyxia. Neither of the infants was sharing a sleep surface at the time of death. Both infants were sleeping on an adult bed and both were found wedged, 1 between the mattress and the headboard and 1 between the mattress and the foot of the bed.

Research indicates that unsafe sleep environments can result in accidental suffocation, choking or strangulation. Use of unsafe cots, cot mattresses, infant bedding and sleeping places has been shown to lead to fatal infant sleeping accidents (VCDRC 2006:44). Scheers, Rutherford and Kemp (2003:883) found that the deaths of infants from suffocation on sleep surfaces other than those designed for infants were increasing. Results indicated that the risk of suffocation was approximately 40 times higher for infants in adult beds than in cots.

Infants are at risk of asphyxia if they sleep alone in unsafe situations, a major danger being entrapment due to wedging. Wedging deaths occur when an infant slips down into a gap between the side of an adult mattress and the wall, between a mattress and the side of a cot, or down the side of a drop-sided cot. In this situation asphyxiation may occur from covering of the face or compression of the chest. Deaths due to asphyxia have been reported in association with overhead-suspended rocking cradles, plastic pillow and mattress coverings, defective strollers, beanbags, U-shaped pillows, defective or badly constructed cots, seat or bouncinette harnesses, port-a-cots and partly filled waterbeds.
Unrecognised infant illness

During the reporting period, 9 of the 36 cases of SUDI were found at autopsy to be caused by an illness or disease that was not recognised before the infant’s death (25.0%). Table 12.4 shows the breakdown of unrecognised infant illness by cause of death.

Table 12.4: Unrecognised infant illness, by cause of death

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute bronchiolitis</td>
<td>1</td>
</tr>
<tr>
<td>Acute epiglottitis</td>
<td>1</td>
</tr>
<tr>
<td>Enteroviral encephalitis</td>
<td>1</td>
</tr>
<tr>
<td>Gastro-oesophageal reflux disease</td>
<td>1</td>
</tr>
<tr>
<td>Myocarditis</td>
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<tr>
<td>Otitis media</td>
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<tr>
<td>Sepsis of newborn due to Staphylococcus aureus</td>
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<tr>
<td>Streptococcal infection</td>
<td>1</td>
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<tr>
<td>Streptococcal meningitis</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

In an additional case, although the infant was not considered to be unwell in the days preceding death, she had been discharged from hospital with a possible heart murmur about a month earlier. A later assessment by a general practitioner did not detect any abnormalities and the infant died a day before she was due to attend a specialist appointment to assess her heart condition.

Six of the infants who died from an illness or condition that was not recognised before death were Indigenous (66.7%).

A striking finding of the CESDI SUDI Studies was that 44.3% of the infants who died from explained SUDI were retrospectively assessed to have been in need of medical attention in the 24 hours preceding the death, compared with only 2.8% of controls. Of significant concern, of the infants deemed to have been in need of medical attention, 7.4% had not been seen by a health professional in the week before death, while 36.0% who had been seen were assessed as being in good health (Fleming et al. 2000:19). These findings led the authors to conclude that improvement in parents’ and health professionals’ ability to recognise severity of illness in infants and subsequently seek or provide medical attention may result in a reduction of sudden infant death.

Infant illness is considered a potentially modifiable risk factor for sudden infant death. Consistent with the findings of the CESDI SUDI Studies, it appears that both parents and health professionals underestimated the severity of illness in the infants who died. The Commission is concerned about unrecognised infant illness and has identified it as a focus area for further research. The following case study is illustrative of health professionals’ failure to recognise the severity of illness in an infant.
Case study

A 3 month old Indigenous infant died from gastro-oesophageal reflux disease. The infant had been born prematurely (26 weeks gestation) and as a result had known respiratory, cardiovascular, gastrointestinal and neurological problems. The infant had been discharged from hospital in apparent good health 2 weeks before his death.

The infant’s mother reported that the infant had experienced progressively worsening reflux since his discharge from hospital. On the Friday evening 2 days before his death, the infant’s parents took him to hospital, where he was examined by nursing staff who reportedly found no sign of illness or injury. Hospital staff advised that the infant’s health should be reviewed on the following Monday and the family were sent home. The infant died suddenly during sleep 2 days later.

The infant’s mother was aged 18 and had experienced the death of another infant due to prematurity-related conditions a year earlier.

Other

One infant died as the result of global hypoxic brain damage. It is unknown what caused this damage. The infant was suffering neonatal withdrawal syndrome prior to death.

Initiatives and interventions

In the Child Death Annual Report, 2004–05 the Commission made recommendations in relation to the development and implementation of a state-wide policy to inform all new and expectant parents about safe sleeping practices, with a particular focus for those families identified as being at high risk. The Commission recommended Queensland Health develop and communicate the policy to all relevant health staff and develop a training and communication strategy to convey consistent and appropriate messages about safe infant sleeping and how to share a bed safely with an infant.

Queensland Health have accepted these recommendations and committed to their implementation. Queensland Health’s written response can be viewed in full in Chapter 3: Monitoring previous Child Death Review Team Recommendations.
Part VI: Monitoring recommendations

Chapter 13

Updates the progress of recommendations made by the Commission in the *Annual Report: Deaths of children and young people, Queensland, 2004–05*. 
Chapter 13
Monitoring previous Child Death Review Team recommendations

Under section 89ZE of the Commission for Children and Young People and Child Guardian Act the Commission must maintain a register of all child deaths in Queensland, analyse the information contained in the register and conduct research to identify trends and patterns to help reduce the likelihood of child deaths. The Commission can make recommendations arising from the keeping of the register and conduct research in relation to laws, policies and practices.

Section 89ZF of the Commission for Children and Young People and Child Guardian Act requires that the Commission monitor and report on the extent to which previous recommendations have been implemented. The Commission is also required to include any statements that an entity asks to be included in the report.

In the Annual Report: Deaths of children and young people, Queensland, 2004–05 the Commission made three recommendations broadly aimed at reducing sudden unexplained deaths of infants (SUDI), infant deaths due to low-speed run-overs, and the deaths of infants and young people due to rural hazards such as dams and all-terrain vehicles (ATVs).

In February and April 2006 the Commission contacted relevant agencies and government departments to undertake an analysis of progress made in relation to these recommendations. Relevant agencies were asked to provide a progress report, noting the extent to which each recommendation has been implemented, any plans for continuing implementation and/or reasons for non-implementation, and any alternative action that has been taken.

The Commission would like to acknowledge and thank the organisations which have committed their skills and resources to the ongoing implementation of the 2004–05 recommendations.

Summary of the 2004–05 recommendations and responses by relevant lead agencies

Transport: low-speed (driveway) run-over deaths and injuries of children

The Commission recommends that the Premier request that the Parliamentary Travelsafe Committee investigate and report on ways to reduce fatalities and injuries to children from low-speed driveway run-overs in Queensland.

Reason:
Queensland has a significantly higher rate of low-speed run-overs than the rest of Australia. A lead agency needs to take responsibility for initiatives to prevent these fatalities on private properties. A detailed investigation and analysis of the most appropriate strategies for preventing fatalities in Queensland is also required.

‘Low-speed run-overs’ is the term used to describe incidents where a pedestrian is injured or killed by a slow-moving vehicle in either a traffic or a non-traffic area. Most of these incidents involve younger children between the ages of 1 and 4 years and occur in the driveway of their own home. Drivers tend to be members of the family, with vehicles reversing at the time of impact (Hockey, Miles & Barker 2003:1; Neeman et al. 2002).
Tragically, 1 child, often a toddler, is run over in the driveway of their own home every week in Australia. Research indicates that in Queensland 4 children under 5 years die each year as a result of a low-speed run-overs and 81 children present at hospital emergency departments with injuries, usually serious, with 60% requiring admission. A slow-moving vehicle reversing down a driveway can fatally trap and crush a child. Children who survive are often left with severe long-term injuries (Driveway Runover Factsheet, Child Accident Prevention Foundation of Australia, 2006).

In the 12-month period 1 June 2004 – 30 July 2005, the Commission identified 7 fatalities caused by low-speed run-overs.

In the period 1 June 2005 – 30 July 2006, there were 2 deaths identified as being caused by low-speed run-overs.

In 2003 the Queensland Injury Surveillance Unit reported low-speed run-overs as the third leading cause of injury among 1–4 year olds (Hockey, Miles & Barker 2003:2).

The Commission notes that there was a high level of media attention on low-speed run-overs in 2005–06. This may have contributed to raising the public’s awareness of this issue.

The Commission has liaised with the Parliamentary Travelsafe Committee and ascertained that, although the Committee has not officially commenced an investigation into reducing fatalities due to low-speed driveway run-overs, preliminary investigations of this issue have begun.

The Commission will continue to liaise with the Parliamentary Travelsafe Committee to report on progress on this issue in the future.

**Transport: deaths and injuries caused by all-terrain vehicles**

**Drowning: deaths and injuries caused by dams and other rural hazards**

The Commission recommends that the Queensland Government note the research findings about risks to children and young people posed by all-terrain vehicles (ATVs), dams and other rural hazards, as well as the Commission’s intention to engage with key agencies to:

- encourage agencies to explore options and strategies to assist the rural sector identify and address the risks to children and young people posed by rural hazards, and
- report, in 2005–06, on the strategies identified and outcomes achieved.

*Reason:*

The Commission is concerned about the deaths and injuries to children and young people from ATVs, dams and other rural hazards and believes risk factors can be reduced or eliminated.

As outlined in the Commission’s Child Death Annual Report, 2004–05, the following types of deaths occurred between January 2004 and June 2005 in Queensland:

**Transport-related deaths**

- Four children died in ATV accidents. Two of these children were 4 years old, 1 was 9 years and 1 was 12 years. All of these deaths occurred in regional and remote areas. (The 12 year old was a passenger on an ATV pulling a trailer. The adult driving the vehicle appeared to be undertaking work-related duties at the time of the incident.)
- One toddler fell from a front-end loader. (The adult driving the vehicle appeared to be undertaking work-related duties at the time of the incident.)
- One young person was crushed by heavy machinery. (The young person appeared to be undertaking work-related duties at the time of the incident.)

**Dam drowning and other rural hazards**

- Eight of the 11 non-pool drownings occurred in rural hazards. Four of these deaths occurred in dams, and 1 each in a water trough, a culvert, a
pond and a swollen river. Seven of the 8 deaths occurred at the child’s home/property. All 8 occurred in regional or remote areas. All deaths other than the death in a swollen river appeared to have occurred on working farms.

Other non-intentional injury related deaths

- Rates of other non-intentional injury related deaths (referred to as accidental deaths in the Child Death Annual Report 2004-05) were highest in remote areas, with 3.8 accidental deaths per 100,000 children, compared with 2.4 per 100,000 children in metropolitan areas.
- One child aged between 1 and 4 years died when an object fell on him while he was walking with his father, who was undertaking farm duties.
- Another child aged 1–4 died on a dairy farm when injured by a cow.

In 2005–06 there was a reduction in the rural deaths registered. Of the drowning deaths, 1 of the 2 dam drownings was on a large regional property, while 2 other drowning deaths occurred in water/septic tanks. Fatal transport incidents occurred more frequently in regional and remote areas (32 deaths or 78.1%) compared with metropolitan areas in the reporting period. One incident involved the death of a young child while driving a four-wheel-drive vehicle on their rural property. As well, suicide was more likely to occur in regional and remote Queensland, with 10 of the 18 suicides occurring in these areas in 2005–06.

In November 2005 the National Coronial Information System reported that Queensland accounts for the largest percentage of child deaths by externally caused injuries, as well as the largest percentage of deaths in children who reside in remote locations by external cause injuries.

Mission Australia’s recent publication _Rural and Regional Australia: Change, challenge and capacity_ (2006) reports that Australians living in non-metropolitan areas suffer higher rates of injury, mortality, homicide, suicide, diabetes and coronary heart disease. Those living in non-metropolitan areas have less access to specialised medical services including obstetric and mental health services, and are at increased locational risk as some are engaged in physically dangerous primary industry occupations and driving long distances.

The Commission has also noted the challenge that ‘farms’ pose for policy makers and families, as they blend the family home and the workplace.

In recent years attention has been drawn to the incidence of injuries and fatalities on farms, particularly non-work-related injuries and fatalities. It is noted in research that non-work-related injuries and fatalities are rarely addressed in prevention literature or programs for farm operators. Instead, for example, farm safety programs are often more focused on the training of young workers, or programs are often focused on children and adolescents, as opposed to farm operators who ultimately control the access of children to the farm worksite (Picket et al. 2005). A recent ‘Water Safety in the Bush’ campaign developed by the Commonwealth Department of Health and Ageing that aims to increase water safety awareness on Australian farms and stations is targeted at children enrolled in distance education or home schooling, who do not have access to school-based water safety programs. Although the Commission commends this program, it is of interest that farm operators are not particularly targeted in similar campaigns.

A Farm Safety Survey conducted by Workplace Health and Safety Queensland supports this. The survey found that risk management principles were not understood or widely applied by producers. The survey found that, on average, 37% of farms had children under 15 years living on the property (up to 64% in cotton-growing areas), with 17% reporting that the children received farm safety lessons through the school; 40% of respondents with children under 5 years reported not having a secure fenced play area on the farm.

The Commission has worked with the Department of Industrial Relations, Workplace Health and Safety Queensland in the following manner to progress work in this area.

**Rural Industry Sector Standing Committee**

In November 2005 the Commission presented the findings of the 2004–05 Annual Report to
the Rural Industry Sector Standing Committee for consideration, dissemination and information.

The Rural Committee is one of seven Industry Sector Standing Committees set up under the Workplace Health and Safety Board, which covers all industry sectors in Queensland. The Committee has an equal membership of 10 members, comprising both union and employer organisations as well as experts. The Committee’s role is to provide advice and make recommendations to the Board about workplace health and safety in the rural industry. It may carry out this function by examining the appropriateness of, and need for, setting workplace health and safety standards, considering issues referred to it by the Board and recommending to the Board that working parties be established to respond to workplace health and safety issues.

The Committee also reviews standards, industry codes and advisory products for workplace health and safety; monitors performance in specific areas and recommends strategies to address poor prevention outcomes in those areas; and recommends education and awareness strategies for the rural industry.

The Queensland Workplace Health and Safety Strategy Rural Industry Action Plan 2004–2007 was released in February 2005 and identifies the key workplace health and safety activities to be undertaken in the rural industry from 2004 to 2007. This action plan has a range of goals:

- to improve the skills of all industry stakeholders, and
- to increase incentives for genuine prevention efforts.

The Commission will continue to liaise with the Rural Industry Sector Standing Committee, particularly in relation to the outcomes of the Commission’s future research into this area.

**Workplace Health and Safety Code of Practice**

In early 2006 the Commission advised Workplace Health and Safety Queensland on the development of the Children and Young Workers Code of Practice 2006. This code commenced on 1 July 2006 and provides practical advice to employers and workplaces about ways to manage health and safety at workplaces where children and young workers are likely to be.

Under the *Workplace Health and Safety Act 1995*, there are three types of legislative instruments that aid in meeting workplace health and safety obligations – regulations, ministerial notices and codes of practice. If there is a regulation or ministerial notice that prescribes a way of preventing or minimising exposure to a risk, or prohibits exposure to a risk, the prescribed way must be followed.

If there is a code of practice stating a way of managing exposure to a risk:

(a) the stated way must be adopted and followed to manage the exposure to the risk, or
(b) an alternative way that gives the same level of protection against the risk must be adopted and followed.

The Children and Young Workers Code of Practice 2006 describes some characteristics of children and young workers, and considers the effect of these characteristics on workplace health and safety. The code applies to all Queensland workplaces covered by the *Workplace Health and Safety Act*, which places the responsibility for workplace health and safety on persons conducting a business or undertaking (including employers and self-employed persons) and others responsible for workplace activity (such as persons in control of workplaces and principal contractors).
Under the *Workplace Health and Safety Act*, persons conducting a business or undertaking, principal contractors and others have a general obligation to make sure that people who are not workers are not harmed in any way by the work activity, business or undertaking. The obligation extends to cover children who may be at the workplace for any reason, and at any time.

The Commission provided extensive advice in relation to this code, including, in particular, Section 4.1, which looks at situations where children are in a workplace but are not workers. The code of practice identifies that there are situations where children may be visiting a workplace, may live at a workplace, or may be there as part of a work process. Unfortunately the Commission’s suggestions to bring two types of workplace hazards – ATVs and water hazards such as dams – were removed and provided as an appendix (again focusing on the risk to young people engaged in work activities rather than on those hazards that exist where children are visitors or live). However, the Commission commends Workplace Health and Safety Queensland for undertaking the implementation of this code of practice to reduce the risks to children and young people in the workplace.

**Other initiatives**

Workplace Health and Safety Queensland reports that its inspectors, when visiting rural properties in the central region, will be provided with the FarmSafe Australia documents to give information to individuals at workplaces where children live or visit (such as ‘Safe Play Area Design’, which recommends the inclusion of a safe play area for all rural workplaces, and the transport safety book ‘Get Going’, which recommends that parents/grandparents ensure that child restraints and seatbelts are used for all children in or on farm vehicles).

Workplace Health and Safety Queensland has also committed to giving consideration to including ‘child safety’ in the Rural Action Plan when redrafting it later in 2006. 268

**Memorandum of understanding**

The Commissioner for Children and Young People and Child Guardian and the Director-General, Department of Industrial Relations have entered into a memorandum of understanding (MOU) to establish and implement administrative processes for Workplace Health and Safety Queensland and the Electrical Safety Office to provide notification to the Commission of every fatality or serious bodily injury of a child in Queensland within the coverage of the *Workplace Health and Safety Act 1995* and the *Electrical Safety Act 2002* and notified to Workplace Health and Safety Queensland and the Electrical Safety Office.

The intent of this MOU is to assist the Commission in the execution of its child death functions in relation to the identification of a ‘workplace’ as defined by Workplace Health and Safety Queensland. The Commission’s key data source, the Police Report of Death to a Coroner, does not give clarity to whether a death occurred at a workplace. In particular, children’s deaths may not be recorded or reported as being a workplace death if the child was not engaged in a work activity at the time of their death. The MOU enables the Commission to cross-reference with the Police Report of Death to a Coroner and identify if the death occurred at a workplace, whether work- or non-work-related, for further in-depth analysis.

**Rural research project**

The Commission has commenced a similar research project to that undertaken by the National Coronial Information System (NCIS), 270 analysing all child

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268 Personal communication, 19 July 2006.

269 Serious bodily injury means an injury described in Schedule 3 of the *Workplace Health and Safety Act 1995* as:

(“serious bodily injury” means an injury to a person that causes –

(a) the injured person’s death; or

(b) the loss of a distinct part or an organ of the injured person’s body; or

(c) the injured person to be absent from the person’s voluntary or paid employment for more than 4 days.

270 In 2005 the NCIS identified motor vehicle accidents, drowning and suicide as the leading causes of external deaths of children aged 0–15 years in Australia. As reported, the NCIS found that Queensland accounted for the largest percentage of child deaths by external injury as well as the largest percentage of deaths in children who resided in rural and remote locations by external cause injuries.
deaths in rural and remote areas registered in the period 1 January 2004 to 31 December 2006, with a particular focus on:

- accidental injury-related deaths, and
- farm fatalities experienced by children, particularly those not engaged in work activities.

The report will be developed in a manner that will allow the comparison of deaths between children who live in remote areas and children who live in urban areas.

The aim of the project is to:

- make recommendations to reduce the likelihood of rural and remote child deaths due to external causes, and
- prepare comparable death data to those of other states and jurisdictions to facilitate the application of broader comparative research by other bodies.

### Sudden unexpected deaths in infancy

In the Child Death Annual Report, 2004–05 the Commission reported that 8 of the 19 infants who died due to SIDS and undetermined causes were sleeping in a cot or cradle (42.1%). Eleven (57.9%) died on adult beds (10 infants) or a lounge chair (1 infant). Nine of these 11 infants (sleeping on an adult bed or couch) were sharing the surface at the time of their death (81.8%), including 4 Indigenous infants (36%).

In the 2005–06 reporting period, the Commission reports worsening figures: 4 of the 24 infants who died due to SIDS and undetermined causes and where cause of death was pending were sleeping in cots, cradles or bassinettes (16.7%). Eighteen died on adult beds and 2 died on a lounge chair. Fourteen of the 18 infants who died in an adult bed were sharing the surface at the time of death (77.8%), including all 6 Indigenous infants (33%). One infant was sleeping in his father’s arms on a lounge chair at the time of death.

In the Child Death Annual Report, 2004–05 the Commission reported that a considerable proportion of nurses and midwives were unaware of the potential hazards of various sleep environments, including the risks to young infants associated with sofa sharing (Young & Schluter 2002). Less than half the nurses and midwives surveyed agreed with the recommendation that infant room-sharing with parents for the first 6 months of life helps to reduce SIDS. The Commission’s recommendations to Queensland Health were aimed at increasing health professionals’ knowledge of both modifiable and non-modifiable risk factors, and developing culturally appropriate targeted messages to all parents, including those at high risk.

The most recent survey results from Queensland Health (May 2006) indicate that less than two-thirds of nurses and midwives could identify current safe sleeping messages for infants, a similar result to that in 2002 (Young, O’Rourke & Battistutta 2006).

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The Commission recommends that Queensland Health develop and implement a state-wide policy, to be followed by all relevant staff including midwives and health workers, in relation to information provided to new and expectant parents about safe sleeping practices (such as the UNICEF UK Baby Friendly Initiative).

**Reason:**

*Health professionals are in a position to educate and influence parents about safe sleeping practices and to promote such practices to them.*

After the development of the above policy, it is also recommended that Queensland Health:

- develop a training package in relation to the policy, and
- develop culturally appropriate materials and communication strategies that convey consistent and appropriate messages about safe sleeping to all new and expectant parents, particularly those at high risk.

**Reason:**

*To ensure that consistent messages are being communicated by Queensland Health staff, particularly to parents of high-risk infants.*
Queensland Health

Queensland Health provided the following written response to the above recommendation on 18 July 2006:

Queensland Health released the ‘Queensland Health Safe Infant Care to Reduce the Risk of Sudden Infant Death Syndrome’ in November 2005. An information circular was disseminated and recently re-issued to staff via the newly formed Maternal and Obstetric Clinical networks in Queensland Health. In addition, there are two significant communication strategies for parents and care givers. These include factsheets for parents and updated safe sleeping information which is inserted into the patient held personal health record. This health record is given to parents on the birth of their child.

Child health nurses, midwives and Indigenous health workers currently provide education on risk factors and prevention strategies for SUDI to mothers and families in a variety of settings (home, clinic and hospital) prior to and following birth, as part of routine maternal and child health care. In addition, some high risk families receive more intensive child health interventions via programs such as Family CARE available in metropolitan and regional areas. A formal component of the program is Sudden Infant Death Syndrome (SIDS) education, which is reinforced until the nurse can detect a positive change in behaviour. Through the program, carers and household residents are able to make informed choices to take actions to remove or minimise SUDI risk factors (for example not smoking inside the home).

Queensland Health has recently committed to significant investment to build on current services and new initiatives for Aboriginal and Torres Strait Islander populations:

- Over the next four years the Queensland Government has invested $21 M for specified Indigenous Child Health Worker and other health professionals positions, and for existing staff to be provided with new opportunities for up-skilling. To support this workforce, culturally respectful child health resources will be developed, incorporating SUDI prevention strategies and safe sleeping practices for Aboriginal and Torres Strait Islander families.

- The Cunningham Centre in conjunction with the State-wide Child and Youth Health Unit and Area Health Services is currently developing non-accredited short courses for the new and existing Indigenous Child Health Worker positions to raise awareness with new and expectant parents on risk and protective factors to reduce SIDS. This course will be in place by October 2006.

- Whilst the short course is being developed for Indigenous Child Health Workers the training material in relation to the prevention of SIDS in Indigenous communities will be made available to mainstream health providers.

- In addition to the short courses, a course concept proposal will be submitted to the Training and Employment Recognition Council for approval to develop a Queensland Health Certificate IV in Aboriginal and Torres Strait Islander Children and Young People’s Health. The short course units including the module on SIDS prevention and related competencies will form part of the Certificate IV. It is anticipated that the Certificate IV will be ready for delivery in July 2007. It will be delivered across three sites in Queensland – Cunningham Centre, Yangulla, and North Queensland Workforce Unit.

- A State-wide Reference Group whose membership includes recognised experts in a number of fields will be convened to oversee course development material and delivery. In relation to SIDS management Dr Jeanine Young, Nursing Director – Research, Royal Children’s Hospital, is one of the health professionals who has volunteered to review and recommend content for the Indigenous Child Health Worker course and manual relating to safe infant sleeping.

- The State-wide Child and Youth Mental Health Unit, in conjunction with the Area Health Services, is conducting Health Services District profiles to determine current resource allocation and needs. The development of health promotional SIDS resources for the Aboriginal and Torres Strait Islander communities will be a high priority and will be developed by July 2007.
Queensland Health is implementing staff training programs in relation to the ‘Queensland Health Safe Infant Care to Reduce the Risk of Sudden Infant Death Syndrome’.

- An educational program to facilitate the adoption of safe infant sleep practices by nurses and midwives is being developed, lead by Associate Professor (Adjunct) Jeanine Young, Nursing Director – Research, Royal Children’s Hospital and Health Service District. It supports best practice, as outlined by SIDS and Kids and the Queensland Health policy, and aims to utilise peer intervention to impact on the knowledge, attitudes and practices relating to SUDI. It will be developed into several formats that will be ultimately accessible to all. The efficacy of the program is currently being evaluated. The pilot sites include the Royal Children’s Hospital and Health Service District involving approximately 600 nurses and midwives.

Queensland Health anticipates that with these initiatives in place there will be a positive impact on safe environments and sleeping practices for infants over the coming years, leading to the reduction in the incidence of SIDS and Sudden Unexpected Death in Infancy (SUDI).

The Commission commends Queensland Health on its initiatives to reduce the risk of SIDS and will continue to follow up and report on the implementation of the above initiatives. Of particular interest to the Commission is the state-wide roll-out of the above-mentioned education program to facilitate the adoption of safe infant sleep practices by nurses and midwives in Queensland, and the investment by Queensland Health in promoting SUDI prevention strategies and safe sleeping practices for Aboriginal and Torres Strait Islander families.

**SIDS and Kids Australia**

In February 2006, SIDS and Kids Australia developed a National Information Statement entitled ‘Sleeping with Baby’. This statement outlines strategies to decrease the risk of SIDS and fatal sleep accidents, and specifically addresses issues in relation to when sharing a sleep surface with an infant is not safe. SIDS and Kids Australia does not recommend sharing a sleep surface with infants; however, this statement provides important information for the consideration of those families who do decide to sleep with their infants.

The Commission strongly commends SIDS and Kids Australia for the development of the ‘Sleeping with Baby’ Information Statement for parents and families in Australia and thanks SIDS and Kids Australia for the opportunity to provide input into its development.

SIDS and Kids Australia is also developing a protocol document on Death Scene Investigations particular to sudden unexpected deaths in infancy.

**Implementation of recommendations**

In 2006–07, the Commission will monitor the implementation of the recommendations in this report, including follow-up from the recommendation in the 2004–05 report in accordance with the Commission for Children and Young People and Child Guardian Act. The Commission will ask all relevant agencies to provide progress reports on the extent to which recommendations have been implemented, as well as strategies and timeframes for continued implementation and reasons for any alternative action or non-implementation.

The Commission will continue to encourage and engage in ongoing information exchange and sharing, with the aim of developing a commitment by all levels of government to develop reliable data sources and promote the safety and wellbeing of children and young people.

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271 The ‘Sleeping with Baby’ Information Statement can be viewed in full at www.sidsandkids.org
Appendices
## Appendix 2.1: Unregistered deaths

<table>
<thead>
<tr>
<th>Year of death</th>
<th>Indigenous status</th>
<th>Coroner’s findings finalised</th>
<th>Cause/category of death</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Indigenous</td>
<td>No</td>
<td>Drowning</td>
</tr>
<tr>
<td>2004</td>
<td>Indigenous</td>
<td>Yes</td>
<td>Undetermined*</td>
</tr>
<tr>
<td>2005</td>
<td>Indigenous</td>
<td>No</td>
<td>Drowning</td>
</tr>
<tr>
<td>2005</td>
<td>Indigenous</td>
<td>Yes</td>
<td>SIDS</td>
</tr>
<tr>
<td>2006</td>
<td>Indigenous</td>
<td>No</td>
<td>Natural</td>
</tr>
<tr>
<td>2006</td>
<td>Indigenous</td>
<td>No</td>
<td>Sudden unexpected death in infancy</td>
</tr>
<tr>
<td>2006</td>
<td>Indigenous</td>
<td>Yes</td>
<td>Suicide</td>
</tr>
<tr>
<td>2006</td>
<td>Non-Indigenous</td>
<td>No</td>
<td>Sudden unexpected death in infancy</td>
</tr>
<tr>
<td>2006</td>
<td>Non-Indigenous</td>
<td>No</td>
<td>Drowning</td>
</tr>
</tbody>
</table>

*The Commission is liaising with Queensland Health in relation to this case as the cause of death was determined by the pathologist as sudden infant death syndrome. In accordance with the definition of SIDS, as this child was over the age of 12 months the cause of death cannot be certified as SIDS.
Appendix 3.1: Interstate residents, 2004–05

As mentioned in Chapter 3 of this report, a number of child deaths registered in the 2004–05 12-month period were unable to be classified according to geographical distribution and socio-economic status, as their usual place of residence was outside Queensland. These cases are detailed below.

Deaths of children whose usual place of residence was outside Queensland, 2004–05

<table>
<thead>
<tr>
<th>Case</th>
<th>Gender</th>
<th>Age group</th>
<th>Cause of death</th>
<th>Usual place of residence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>Under 28 days</td>
<td>Natural – neonate</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>1–4 years</td>
<td>Natural</td>
<td>Western Australia</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
<td>Between 28 and 364 days</td>
<td>Transport</td>
<td>New South Wales</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>1–4 years</td>
<td>Transport</td>
<td>New South Wales</td>
</tr>
<tr>
<td>5</td>
<td>Male</td>
<td>15–17 years</td>
<td>Transport</td>
<td>New South Wales</td>
</tr>
<tr>
<td>6</td>
<td>Female</td>
<td>15–17 years</td>
<td>Natural</td>
<td>Fiji</td>
</tr>
<tr>
<td>7</td>
<td>Male</td>
<td>Under 28 days</td>
<td>Natural – neonate</td>
<td>New South Wales</td>
</tr>
<tr>
<td>8</td>
<td>Male</td>
<td>15–17 years</td>
<td>Natural</td>
<td>Victoria</td>
</tr>
<tr>
<td>9</td>
<td>Male</td>
<td>1–4 years</td>
<td>Natural</td>
<td>New South Wales</td>
</tr>
</tbody>
</table>

Data source: Queensland Child Death Register (2004–05)
**Appendix 4.1: Interstate residents, 2005–06**

As mentioned in Chapter 4 of this report, a number of child deaths in the 2005–06 reporting period were unable to be classified according to geographical distribution and socio-economic status, as their usual place of residence was outside Queensland. These cases are detailed below.

Deaths of children whose usual place of residence was outside Queensland, 2005–06

<table>
<thead>
<tr>
<th>Case</th>
<th>Gender</th>
<th>Age group</th>
<th>Cause of death</th>
<th>Usual place of residence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Female</td>
<td>10–14 years</td>
<td>Natural</td>
<td>New South Wales</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>1–4 years</td>
<td>Natural</td>
<td>New South Wales</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
<td>15–17 years</td>
<td>Natural</td>
<td>New South Wales</td>
</tr>
<tr>
<td>4</td>
<td>Male</td>
<td>15–17 years</td>
<td>Transport</td>
<td>New South Wales</td>
</tr>
<tr>
<td>5</td>
<td>Male</td>
<td>Between 28 and 364 days</td>
<td>Transport</td>
<td>New South Wales</td>
</tr>
<tr>
<td>6</td>
<td>Male</td>
<td>1–4 years</td>
<td>Natural</td>
<td>New South Wales</td>
</tr>
<tr>
<td>7</td>
<td>Male</td>
<td>Between 28 and 364 days</td>
<td>Transport</td>
<td>New South Wales</td>
</tr>
<tr>
<td>8</td>
<td>Male</td>
<td>15–17 years</td>
<td>Accidental</td>
<td>New South Wales</td>
</tr>
<tr>
<td>9</td>
<td>Male</td>
<td>10–14 years</td>
<td>Natural</td>
<td>Victoria</td>
</tr>
<tr>
<td>10</td>
<td>Male</td>
<td>Under 28 days</td>
<td>Natural – neonate</td>
<td>New South Wales</td>
</tr>
<tr>
<td>11</td>
<td>Male</td>
<td>Under 28 days</td>
<td>Natural – neonate</td>
<td>New South Wales</td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2005–06)*
### Appendix 5.1: Notifiable diseases

**Complete Notifiable Diseases Schedule (Public Health Act 2005)**

<table>
<thead>
<tr>
<th>Acquired IMM</th>
<th>Hepatitis B (acute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Flaccid Paralysis</td>
<td>Hepatitis B (chronic)</td>
</tr>
<tr>
<td>Acute Rheumatic Fever</td>
<td>Hepatitis B (not otherwise specified)</td>
</tr>
<tr>
<td>Acute Viral Hepatitis</td>
<td>Hepatitis C</td>
</tr>
<tr>
<td>Adverse Event Following Vaccination</td>
<td>Hepatitis D</td>
</tr>
<tr>
<td>Anthrax</td>
<td>Hepatitis E</td>
</tr>
<tr>
<td>Arbovirus Infections:</td>
<td>Hepatitis (other)</td>
</tr>
<tr>
<td>- Alphavirus infections, including Barmah Forest, getah, Ross River and sindbis viruses</td>
<td>Human Immunodeficiency Virus infection (HIV)</td>
</tr>
<tr>
<td>- Bunyaviruses infections, including gan gan, mapputta, termeil and trubanaman viruses</td>
<td>Influenza</td>
</tr>
<tr>
<td>- Flavivirus infections, including alfuy, Edge Hill, Japanese encephalitis, kokobera, kunjin, Murray Valley encephalitis, Stratford and other unspecified flaviviruses (excluding dengue fever and yellow fever)</td>
<td>Invasive Group A Streptococcal infection</td>
</tr>
<tr>
<td>- Any other arbovirus infection (excluding dengue fever and yellow fever)</td>
<td>Lead exposure</td>
</tr>
<tr>
<td>Atypical Mycobacterial Infection</td>
<td>Legionellosis</td>
</tr>
<tr>
<td>Avian Influenza</td>
<td>Listeriosis</td>
</tr>
<tr>
<td>Botulism (Food-Borne)</td>
<td>Lyssavirus (Australian bat)</td>
</tr>
<tr>
<td>Botulism (Intestinal – Adult)</td>
<td>Lyssavirus (Australian bat), potential exposure</td>
</tr>
<tr>
<td>Botulism (Intestinal – Infantile)</td>
<td>Lyssavirus (rabies)</td>
</tr>
<tr>
<td>Botulism (Wound)</td>
<td>Lyssavirus (other)</td>
</tr>
<tr>
<td>Brucellosis</td>
<td>Malaria</td>
</tr>
<tr>
<td>Campylobacteriosis</td>
<td>Measles</td>
</tr>
<tr>
<td>Chancroid</td>
<td>Melioidosis</td>
</tr>
<tr>
<td>Chlamydia Trachomatis Infection (Anogenital)</td>
<td>Meningococcal Infection (Invasive)</td>
</tr>
<tr>
<td>Chlamydia Trachomatis Infection (Lymphogranuloma Venereum)</td>
<td>Mumps</td>
</tr>
<tr>
<td>Chlamydia Trachomatis Infection (Non-Anogenital)</td>
<td>Ornithosis (Psittacosis)</td>
</tr>
<tr>
<td>Cholera</td>
<td>Paratyphoid</td>
</tr>
<tr>
<td>Ciguatera Intoxication</td>
<td>Pertussis</td>
</tr>
<tr>
<td>Creutzfeldt-Jakob Disease</td>
<td>Plague</td>
</tr>
<tr>
<td>Cryptococcosis</td>
<td>Pneumococcal Disease (Invasive)</td>
</tr>
<tr>
<td>Cryptosporidiosis</td>
<td>Poliomyelitis – Wild Type and Vaccine Associated</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>Q Fever</td>
</tr>
<tr>
<td>Dengue Fever</td>
<td>Rotavirus Infection</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>Rubella, Including Congenital Rubella</td>
</tr>
<tr>
<td>Donovanosis Echinococcosis (Hydatid Disease)</td>
<td>Salmonellosis</td>
</tr>
<tr>
<td>Equine Morbillivirus (Hendra Virus) Infection</td>
<td>Severe Acute Respiratory Syndrome (SARS)</td>
</tr>
<tr>
<td>Food-Borne or Waterborne Illness in 2 or More Cases</td>
<td>Shiga Toxin and Vero Toxin Producing <em>Escherichia coli</em> Infection SLTEC/VTEC</td>
</tr>
<tr>
<td>Food-Borne or Waterborne Illness in Food Handler</td>
<td>Shigellosis</td>
</tr>
<tr>
<td>Gonococcal Infection (Anogenital)</td>
<td>Smallpox</td>
</tr>
<tr>
<td>Gonococcal Infection (Non-Anogenital)</td>
<td>Syphilis, Including Congenital Syphilis</td>
</tr>
<tr>
<td>Haemolytic Uraemic Syndrome (HUS)</td>
<td>Tetanus</td>
</tr>
<tr>
<td>Haemophilus Influenzae Type B (Invasive)</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Hansen’s Disease (Leprosy)</td>
<td>Tularaemia</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>Typhoid</td>
</tr>
<tr>
<td>Hepatitis A Virus Infection</td>
<td>Varicella – Zoster Virus Infection (Chickenpox, Shingles or Unspecified)</td>
</tr>
<tr>
<td>Viral Haemorrhagic FEVERS (Crimean-Congo, Ebola, Lassa Fever and Marburg Viruses)</td>
<td>Yellow Fever</td>
</tr>
<tr>
<td>Yersiniosis</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 9.1: Inclusions within the ‘other’ non-intentional injury-related death category

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

- poisonings
- falls
- accidental threats to breathing, including accidental suffocation and strangulation in bed, other accidental hanging and strangulation, threats to breathing due to cave-in, falling earth and other substances, inhalation of gastric contents, food or other object causing obstruction of respiratory tract, and
- exposure to electrical current.

Other inclusions within this category

- misadventure to patients during medical or surgical care
- drugs, medicaments and biological substances causing adverse effects in therapeutic use
- surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure
- injury caused by animals
- lightning
- cataclysmic storms and floods resulting from storms
- foreign body entering into or through eye, other orifice or skin
- struck by falling object or striking against or struck by other objects
- striking against or bumped into by another person (accidental)
- caught, crushed, jammed accidentally between objects
- accidents caused by firearms
- unspecified accidents
- late effects of accidental injury (excluding transport accidents)
- contact with heat and hot substances
- contact with venomous marine animals and plants
- exposure to forces of nature (for example, excessive natural heat), and
- sequelae with surgical and medical care as external.
Appendix 10.1: Suicide classification model

ANY GIVEN DEATH
Examination of Form 1 – Summary of incident

Has the Form 1 indicated that initial police investigations consider it likely to be a possible suicide?

Yes = Possible

Did the method of death have a high likelihood of being a suicide (e.g., hanging, self-inflicted gunshot wound, carbon monoxide) and there were no mitigating circumstances that may indicate that the death was possibly a death by illness, accident or homicide?

Yes = Probable

Any history of psychiatric illness?

Yes = Probable

Any significant stress (e.g., relationship breakdown, death of a loved one)?

Yes = Probable

Did the deceased make an obvious effort to die (complex plan etc)?

Yes = Probable

Any prior suicidal behaviour or attempts?

Yes = Probable

Any witness to the actual suicide event (e.g., saw deceased jump from building)?

Yes = Beyond reasonable doubt

Was the intent stated (orally or written)?

Yes = Beyond reasonable doubt

The coronial findings indicate that the death was intentional (implied or stated).

Classification = Highest probability achieved

No, it is not possibly a suicide (e.g., heart attack)

DO NOT ENTER

Appendix 10.2: Suicide coding

The National Centre for Classification in Health provided the below information in relation to suicide coding.

According to the coding rules implicit in the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10), for deaths due to injuries, the cause of the injury (known as the external cause) is recorded as the underlying cause of death for statistical tabulation purposes. An external cause of death is coded according to the intent behind the incident. There are certain blocks of codes which enable capture of various circumstances according to intent. These relate to external causes described as being an accident (codes V01–X59), intentional self-harm (X60–X84), assault (X85–Y09), event of undetermined intent (Y10–Y34), legal intervention and operation of war (Y35–Y36), and complications of medical and surgical care (Y40–Y84).

Of specific relevance to the capture of suicide is the requirement for specific documentation from a medical or legal authority regarding the self-inflicted nature of the incident in order to assign a code from the intentional self-harm block. Unless the incident is specified by such an authority as self-inflicted with intent to suicide, the classification requires that the codes pertaining to accidents be used. Events of undetermined intent may be thought to be appropriate for cases in which the documentation does not support either the accident or self-inflicted code blocks, but the classification indicates:

Note: This section covers events where available information is insufficient to enable a medical or legal authority to make a distinction between accident, self-harm and assault. It includes self-inflicted injuries, but not poisoning, when not specified whether accidental or with intent to harm.

In the Australian context, a statement on the death certificate by the coroner following a coronial investigation is required before a death can be classified as suicide due to intentional self-harm. All external-cause deaths are referred to a coroner for investigation. Without such a statement, the default accident code block is used, as the classification requires. There has been concern raised that delays in coronial investigations, and a reluctance on the part of coroners to report suicides as such, mean that Australian suicide statistics are under-reported. After representations from the Child Death Review Team, the issue of how to code cases which do not contain a formal statement of intent was investigated by the National Centre for Classification in Health (NCCH). The Causes of Death unit at the Australian Bureau of Statistics confirmed that it codes according to the ICD rules and requires a definitive statement of suicide or self-inflicted injury with intent to inflict fatal injury in order to assign a code from the intentional self-harm block. At a meeting of the Australasian Mortality Data Interest Group (AMDIG), the issue was also raised and concern was expressed at delays in the finalisation of coronial investigations, which mean that often a year’s mortality data must be ‘closed off’ before the coroner reports on all cases. Thus the accidental code is likely to be used more frequently than may be the case if there is documentation of intent following coronial findings.

The Commission also developed a query to the World Health Organisation Mortality Forum, an email discussion list which focuses on difficult problems relating to the international use of ICD-10 for coding causes of death. Participants in the forum are mainly coders and statistics officers who work in national statistical organisations and research institutes.

272 Coders should never make an assumption about intent. The default in the classification is to code the cause as an accident if not otherwise stated. In the Australian context this means that a statement by a medical or legal authority is required in order for the X60–X84 intentional self-harm code block to be used for coding mortality records.


internationally. Although the response to the forum question was that the method of coding in Australia is consistent with both the ICD rules and the use of the ICD-10 in various countries, there was discussion about the appropriateness of the rules and whether it might be relevant to recommend changes to ICD-10.

This discussion was subsequently taken up at the Mortality Reference Group (MRG), a committee tasked with making recommendations for modification to the ICD specifically for coding deaths. The NCCH advised that the issue had been discussed by the MRG several years previously and that an addition to the ICD-10 note reported above was included for the coding of deaths from data year 2005 onwards under the accidental and undetermined intent code blocks. This additional note states: “Follow legal rulings when available.”

In discussions in 2006, the MRG decided that changing the coding rules now would create breaks in statistical series and that, although it agreed that the issue requires consideration, it would be preferable to place this on the work program for the 11th revision of the ICD. The issue has also been discussed informally with the Classification team at WHO Headquarters in Geneva, who have noted it for future ICD development.

In the interim, the NCCH has recommended that the Child Death Review Team assign an additional character at the end of the Y20 code. This character differentiates between cases of hanging of undetermined intent, but which are suspected suicides based on police and other reports, and those cases in which the coroner, after investigation, is unable to make a determination regarding intent. Cases meeting the former definition are designated:

\[ \text{Y20A Hanging, strangulation and suffocation, undetermined intent, suspected suicide} \]

Use of this additional character means that cases can be analysed as undetermined as per the WHO definition, or as suicide as per the analytical requirements of the Commission. Importantly, consistency with other national and international mortality collections is maintained by rolling back the additional character to the standard ICD code.

The Commission recommends that the Australian Bureau of Statistics works with training bodies such as the National Centre for Classification of Health (a body responsible for the training of mortality coders in Australia), mortality coders, child death review teams in Australia and relevant national representatives of the coronial system to develop a method of coding intentional self-harm, for research and policy development purposes in Australia, that more accurately reflects causes of death where coroners have not clearly stipulated intent or cause because of coronial practices and constraints.

The most recent ABS Cause of Death statistics released on 14 March 2005 highlighted a number of data quality issues in relation to external causes of death. Within external causes of death, deaths which relate to suicide or intentional self harm are of particular concern.

The ABS has been investigating a number of issues which may assist in increasing the quality and timeliness of cause of death statistics. These issues range from improvements in processing systems and methods, working with providers of source data and options for alternative methods of releasing cause of death statistics.

The Suicide Coding Review Working Group was established in August 2006 to assist in improving the quality of national cause of death data, with regard to deaths by suicide/intentional self harm. The outcomes sought by the Australian Bureau of Statistics (ABS) include:

- quality suicide data which meet the needs of users and ensures quality outputs and outcomes are delivered
- suicide coding undertaken in accordance with the coding rules of the International Statistical Classification of Diseases and Related Health Problems Tenth Revision (ICD-10)
- consistent application of suicide coding rules and practices in Australia, and
- best practice suicide coding practices are used by the ABS which are understood by providers and users of suicide data.

The ABS has invited a number of key experts in the field of suicide data including representatives from the National Centre for Classification in Health, National Coronial Information System, Queensland Coroners Office, Victorian Coroners Office and the Queensland Child Death Review Team.

The Suicide Coding Review Working Group will undertake a review of current ABS and other Australian organisations’ suicide coding practices. The review will include reviewing the following issues:

- data sources
- ABS interpretation of ICD-10 suicide coding rules
- coroner practices and constraints with regard to making a finding of suicide and how this relates to a statistical definition of suicide
- level of ‘evidence’ required to code a death as suicide, and
- revision of suicide coding practices.

The Suicide Coding Review Group may make recommendations for ABS consideration with regard to the issues investigated. Final responsibility and accountability for practices and data quality will rest with the ABS.
The Commission recommends that the Australian Bureau of Statistics publicly report on suicides of children and young people under 15 years of age.

The Cause of Death collection is a long-standing ABS collection. The main outputs are a detailed initial publication and a unit record file, and there is a large demand for information consultancy services. The Australian Institute of Health and Welfare also publish detailed cause of death information in a product known as ‘GRIM books’. While ABS has previously released detailed datacubes, they are no longer produced due to confidentiality requirements.

A review of Cause of Death products is currently occurring, to ensure that a suite of products is available which better meets user needs, takes advantage of the wealth of information available from the collection, is readily accessible, easy to produce, and provides additional analytical material. A proposal for a revised Cause of Death product suite will be circulated to key users for comment.

The ABS will consider the recommendation regarding publication of suicide data for children and young people under 15 years of age within the scope of the dissemination review outlined above.
Appendix 10.4: Incidence of self-harm – Education Queensland data

Incidence of self-harm: reports 1 January to 30 June 2006

From 1 January 2006 to 30 June 2006, Education Queensland received 204 reports of students engaging in self-harm. Of these reports, 126 (61.8%) detailed incidents of self-harm by female students while 78 (38.2%) detailed incidents of self-harm by male students.

Of the 204 reports of self-harm, 50 (24.5%) described incidents involving students in primary school (Years P–7). One hundred and forty (68.6%) of the reports received described incidents involving students in secondary school. The highest incidence of self-harm was among students in Years 9 and 10, with Education Queensland receiving 41 (20.1%) reports of self-harm pertaining to students in Year 9 and 36 (17.6%) reports pertaining to students in Year 10.

Some students who engaged in acts of self-harm received support and protection from their parents. In 73 (35.8%) cases, students’ parents were judged by principals to be acting protectively and students were not referred to the Department of Child Safety. However, there were 131 (64.2%) cases in which parents were judged not to be acting protectively. In these cases, the incidents of self-harm were reported to the Department of Child Safety.

Education Queensland collects data on the incidence of self-harm and risks of self-harm within particular cultural groups. Of the 204 reports of self-harm received, 38 (18.6%) described incidents involving students of Aboriginal or Torres Strait Islander heritage. Given that Indigenous students comprise only 7.3% of the total student population, these students appear to be at greater risk of self-harm than other students.

Education Queensland also received reports describing incidents in which students were judged to be at risk of self-harm. Of 189 reports received in relation to students at risk of self-harm, 110 (53.9%) described situations in which female students were deemed to be at risk of self-harm. Seventy-nine (38.7%) reports detailed situations in which male students were deemed to be at risk of self-harm. Thirty-four (18.0%) of the 189 reports received pertaining to students at risk of self-harm described incidents involving students of Aboriginal or Torres Strait Islander heritage.

Education Queensland emphasises that the data presented describes reports made in relation to self-harm and may not accurately reflect the true rate of self-harm among students. Caution must be exercised if using the data to draw conclusions about the incidence of self-harm among students from any particular cultural group. Another limitation that should be taken into account is that the data does not account for different degrees of severity but is inclusive of all incidents of self-harm or incidents where a student was deemed to be at risk of harm.
Appendix 12.1: Retrospective cause of death analysis, 2004–05

At the time of 2004–05 reporting, autopsy results were pending in 23 of the 63 cases of SUDI. Thus the cases of SUDI analysed in the Annual Report: Deaths of children and young people, Queensland, 2004–05 included deaths which presented as a SUDI but the pathologist’s or coroner’s findings were pending.

The updated cause of death for the 23 cases of SUDI where cause of death was pending at the time of 2004–05 reporting is given below.

Updated cause of death for cases pending in 2004–05

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIDS and other ill-defined causes of mortality</strong></td>
<td></td>
</tr>
<tr>
<td>Sudden infant death syndrome</td>
<td>16</td>
</tr>
<tr>
<td>Undetermined</td>
<td>3</td>
</tr>
<tr>
<td><strong>External causes of accidental injury</strong></td>
<td></td>
</tr>
<tr>
<td>Accidental suffocation and strangulation in bed</td>
<td>1</td>
</tr>
<tr>
<td><strong>Diseases and morbid conditions</strong></td>
<td></td>
</tr>
<tr>
<td>Bronchopneumonia, unspecified</td>
<td>1</td>
</tr>
<tr>
<td>Pneumonia due to Streptococcus pneumoniae</td>
<td>1</td>
</tr>
<tr>
<td>Pending test results</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23</td>
</tr>
</tbody>
</table>

*Data source: Queensland Child Death Register (2004–05)*
Table 12.6: Summary of SIDS risk factors for infants who died from SIDS and undetermined causes where cause of death was pending at time of 2004-05 reporting

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Indigenous</th>
<th>Shared sleeping</th>
<th>Sleep surface</th>
<th>Prone/side sleeping</th>
<th>Low birth weight</th>
<th>Pre-term birth</th>
<th>Smoking</th>
<th>Drugs/alcohol</th>
<th>Chaotic social circumstances*</th>
<th>Living in low socio-economic areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDS</td>
<td>cot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>cradle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>cot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>cot</td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>mattress on floor</td>
<td>no</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>double bed</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>single bed</td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>cot</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>cot</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>double bed</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS</td>
<td>mattress on floor</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS Total (16)</td>
<td>4</td>
<td>6</td>
<td></td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>11</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Undetermined</td>
<td>mattress on floor</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undetermined</td>
<td>couch</td>
<td>yes</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undetermined</td>
<td>double bed</td>
<td>yes</td>
<td>n/a</td>
<td></td>
<td></td>
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<tr>
<td>Undetermined total (3)</td>
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<td>3</td>
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<tr>
<td>Total (19)</td>
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<td>9</td>
<td></td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>14</td>
<td>4</td>
<td>5</td>
<td>9</td>
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</tbody>
</table>

Data source: Queensland Child Death Register (2005–06)

* = known to DChS and/or Form 1 indicated that family are known to police for criminal activities, and/or domestic violence issues N/A = information not recorded or unknown to police

✓ SIDS risk factors present

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**Executive summary**


**Chapter 1: Child death review in Australia**


**Chapter 5: Deaths due to diseases and morbid conditions**


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